

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 JULY 2018

1. General information

The Chancellor, Masters, and Scholars of the University of Cambridge (the University) is a common law corporation, governed by its Statutes and Ordinances together with applicable United Kingdom and European Union legislation. The University is a public benefit entity and an exempt charity subject to regulation by the Office for Students (OfS) and formerly the Higher Education Funding Council for England (HEFCE) under the Charities Act 2011.

The contact address is: University of Cambridge, The Old Schools, Trinity Lane, Cambridge, CB2 1TN, UK.

The principal activities of the University and its subsidiary undertakings are teaching, research, and related activities which include: publishing services; examination and assessment services; the operation of museums, libraries, and collections; and the commercialisation of intellectual property generated within the University

2. Statement of compliance

The financial statements have been prepared in accordance with Financial Reporting Standard 102, The Financial Reporting Standard applicable in the United Kingdom and the Republic of Ireland (FRS 102), including the public benefit entity requirements of FRS 102, and the Statement of Recommended Practice: Accounting for Further and Higher Education 2015 (the SORP).

The statement of comprehensive income includes captions additional to those specified by the SORP in order to present an appropriate overview for the specific circumstances of the University.

3. Statement of significant accounting policies

(a) Basis of preparation

The financial statements have been prepared under the historical cost convention, as modified by the recognition of certain financial assets and liabilities measured at fair value.

The Group has taken advantage of exemptions in FRS 102:

- from preparing a statement of cash flows for the University, on the basis that it is a qualifying entity and the consolidated statement of cash flows, included in these financial statements, includes the University's cash flows; and
- from the financial instrument disclosures required under FRS 102 paragraphs 11.39 to 11.48A and paragraphs 12.26 to 12.29, in relation to the University, as the information is provided in the consolidated financial statement disclosures.

The preparation of financial statements requires judgement in the process of applying the accounting policies and the use of accounting estimates. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements, are discussed at the end of these policies.

(b) Going concern

The Council has a reasonable expectation that the University has adequate resources to continue to operate for the foreseeable future. In forming this view the Council notes that the University:

- undertakes a robust and detailed annual business planning and budgeting process, including preparation of a five-year financial sustainability review in line with OfS guidance and as such the going concern nature of the University has been considered for a period of greater than twelve months from the date of approval of the financial statements;
- applies prudent financial and cash management in order to ensure that its day-to-day working capital needs can be met out of cash and liquid investments; and
- has considered the potential impact of credit risk and liquidity risk detailed in Note 39.

For these reasons, the University continues to adopt the going concern basis in preparing its financial statements.

(c) Basis of consolidation

The consolidated financial statements include the University and its subsidiary undertakings, details of which are given in Note 35. Intra-group transactions and balances are eliminated on consolidation.

The results of subsidiaries acquired or disposed of in the current or prior years are consolidated for the periods from or to the date on which control passed. The acquisition method of accounting has been adopted for subsidiary undertakings. Amounts attributable to non-controlling interests represents the share of profits on ordinary activities attributable to the interest of equity shareholders in subsidiaries which are not wholly owned by the University.

The University accounts for its share of joint ventures using the equity method. A joint venture is an entity in which the University, or its subsidiaries, holds an interest on a long-term basis and is jointly controlled by the University or its subsidiaries and one or more other entities under a contractual agreement.

The University accounts for jointly controlled assets and operations based upon its share of costs incurred and recognizes its share of liabilities incurred. Income and expenditure is recognized based upon the University's share.

Investments in subsidiaries and joint ventures are accounted for at the lower of cost or net realizable value.

The consolidated financial statements do not include the accounts of the 31 Colleges in the University ('the Colleges'), each of which is an independent corporation. Transactions with the Colleges are disclosed in Note 37.

The consolidated financial statements do not include the accounts of Cambridge University Students' Union or of the Cambridge University Graduate Union, as these are separate bodies in which the University has no financial interest and over whose policy decisions it has no control.

Notes to the accounts for the year ended 31 July 2018 (continued)

3. Statement of significant accounting policies (continued)

(d) Foreign currencies

The Group's financial statements are presented in pounds sterling and in millions.

Transactions denominated in foreign currencies are recorded at the rate of exchange ruling at the date of the transactions. Where foreign branches and subsidiary undertakings accounting in foreign currencies operate as separate businesses, all their assets and liabilities are translated into sterling at year-end rates and the net effect of currency adjustments is included in other comprehensive income. Otherwise, monetary assets and liabilities denominated in foreign currencies are translated into sterling at year-end rates and translation differences are included in income or expenditure.

(e) Recognition of income

Revenue

Income arising from the sale of goods or the provision of services is recognized in income on the exchange of the relevant goods or services and where applicable is shown net of value added taxes, returns, discounts, and rebates as appropriate. In particular:

Tuition fees and education contracts

Tuition fees for degree courses are charged to students by academic term. Income is recognized for academic terms falling within the period. For short courses, income is recognized to the extent that the course duration falls within the period. Professional course fees and other educational contract revenues are recognized in line with the stage of completion/degree of provision of the service, as determined on an appropriate basis for each contract.

Examination and assessment services

Income from examination session-based assessments is recognized when services are rendered and substantially complete. Income from qualifications not based on examination sessions is recognized in proportion to the number of modules required for the qualification that have been achieved by candidates.

Publishing services

Income is recognized when: (a) the significant risks and rewards of ownership have been transferred to the buyer; (b) the Press retains no continuing involvement or control over the goods; (c) the amount of revenue can be measured reliably; (d) it is probable that future economic benefits will flow to the Press; and (e) when the specific criteria relating to each of the relevant sales channels has been met. In the case of books and other print publications this is usually shipping terms or upon delivery of goods to the customer. Income generated from electronic publishing, including the provision of perpetual access, is recognized when the material is initially made available otherwise it is spread evenly over the contract terms. Subscriptions income is recognized evenly over subscription periods. Journals income is recognized when the journals are published and shipped, with the exception of digital elements whereby revenue is recognized when content is made available. Rights and permissions income is recognized on a cash receipt basis. Income in respect of certain co-publishing arrangements is recognized upon the printing of content by the co-publishing partner. Income in respect of project-based contract work is recognized on the basis of progress (percentage of completion), being the ratio of costs incurred at the measurement date and the total expected costs for the programme.

Grant income

All grant funding, including OfS and HEFCE grants, research grants, and capital grants, from government and other sources, is recognized in income when the University is entitled to the funding and any performance-related conditions have been met. Income received in advance of performance-related conditions being met is recognized as deferred income within creditors on the balance sheet and released to income as the conditions are met. Research and development expenditure credits receivable from HM Revenue & Customs are recognized as income when the relevant expenditure has been incurred and there is reasonable assurance of receipt.

Donations and endowments

Donations and endowments are recognized in income when the University is entitled to the funds.

Donations are credited to endowment reserves, restricted reserves, or unrestricted reserves depending on the nature and extent of restrictions specified by the donor:

Donations with no substantial restrictions are included in unrestricted reserves.

Donations which are to be retained for the future benefit of the University are included in endowment reserves.

Endowment funds are classified under three headings:

- Where the donor has specified that the fund is to be permanently invested to generate an income stream for the general purposes of the University, the fund is classified as an unrestricted permanent endowment.
- Where the donor has specified that the fund is to be permanently invested to generate an income stream to be applied for a restricted purpose, the fund is classified as a restricted permanent endowment.
- Where the donor has specified a particular objective other than the acquisition or construction of tangible fixed assets, and that the University must or may convert the donated sum into income, the fund is classified as a restricted expendable endowment.

Other donations with substantially restricted purposes are included in restricted reserves until such time as the restrictions have been met.

Notes to the accounts for the year ended 31 July 2018 (continued)

3. Statement of significant accounting policies (continued)

Investment income

Investment income is recognized in income in the period in which it is earned.

(f) Employee benefits

Short-term benefits

Short-term employment benefits including salaries and compensated absences are recognized as an expense in the period in which the service is rendered to the University. A liability is recognized at each balance sheet date for unused employee holiday allowances with the corresponding expense recognized in staff costs in the statement of comprehensive income.

Pension costs

The University contributes to a number of defined benefit pension schemes for certain employees. A defined benefit scheme defines the pension benefit that an employee will receive on retirement, dependent upon several factors including length of service and remuneration.

- (i) Where the University is unable to identify its share of the underlying assets and liabilities in a multi-employer scheme on a reasonable and consistent basis, it accounts as if the scheme were a defined contribution scheme, so that the cost is equal to the total of contributions payable in the year. Where the University has entered into an agreement with such a multi-employer scheme that determines how the University will contribute to a deficit recovery plan, the University recognizes a liability for the contributions payable that arise from the agreement, to the extent that they relate to the deficit, and the resulting expense is recognized in expenditure.
- (ii) For other defined benefit schemes, the net liability recognized in the balance sheet in respect of each scheme is the present value of the defined benefit obligation at the reporting date less the fair value of the plan assets at the reporting date.

The defined benefit obligation is calculated using the projected unit credit method. Annually the University engages independent actuaries to calculate the obligation for each scheme. The present value is determined by discounting the estimated future payments at a discount rate based on market yields on high quality corporate bonds denominated in sterling with terms approximating to the estimated period of the future payments.

The fair value of a scheme's assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the University's policy for similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income. These amounts together with the return on plan assets, less amounts included in net interest, are disclosed as actuarial gains and losses.

The cost of the defined benefit plan, recognized in expenditure as staff costs, except where included in the cost of an asset, comprises the increase in pension benefit liability arising from employee service during the period and the cost of plan introductions, benefit changes, curtailments, and settlements. The net interest cost is calculated by applying the discount rate to the net liability. This cost is recognized in expenditure as a finance cost.

Further detail is provided on the specific pension schemes in Note 34 to the accounts.

(g) Intangible assets and goodwill

Software development and acquisition costs are capitalized and amortized on a straight line basis over its estimated useful life of between four and ten years.

Goodwill arises on consolidation and is based on the fair value of the consideration given for the subsidiary and the fair value of its assets at the date of acquisition. Goodwill is amortized over its estimated economic life of between five and ten years on a straight line basis.

The carrying value of intangible assets including goodwill is considered in light of events or changes in circumstances which may indicate that the carrying value may not be recoverable. Where there is impairment in the carrying value of these assets, the loss is included in the results of the period.

(h) Fixed assets

Land and buildings

Operational land and buildings are included in the financial statements using the FRS 102 fair value at 1 August 2014 as deemed cost, with subsequent additions at cost.

No depreciation is provided on freehold land. Freehold buildings are written off on a straight line basis over their estimated useful lives, which are between 15 and 60 years, and leasehold properties are written off over the length of the lease.

Assets under construction

Assets under construction are stated at cost. These assets are not depreciated until they are available for use. Financing costs are not capitalized as part of additions to fixed assets.

Equipment

Equipment costing less than £30,000 per individual item is typically written off in the year of purchase. All other equipment is capitalized and depreciated so that it is written off on a straight line basis over its estimated useful life of between three and ten years.

Notes to the accounts for the year ended 31 July 2018 (continued)

3. Statement of significant accounting policies (continued)

(i) Heritage assets

The University holds and conserves a number of collections, exhibits, artefacts, and other assets of historical, artistic, or scientific importance. Heritage assets acquired before 1 August 1999 have not been capitalized, since reliable estimates of cost or value are not available on a cost-benefit basis. Acquisitions since 1 August 1999 have been capitalized at cost or, in the case of donated assets, at expert valuation on receipt. In line with the accounting policy in respect of equipment, the threshold for capitalizing assets is £30,000. Heritage assets are not depreciated since their long economic life and high residual value mean that any depreciation would not be material.

(j) Investments

Non-current investments are included in the balance sheet at fair value, except for investments in subsidiary undertakings and joint ventures which are stated in the University's balance sheet at cost and eliminated on consolidation. All gains and losses on investment assets are recognized in the statement of comprehensive income as they accrue.

Other investments

Marketable securities are valued at midmarket valuation on 31 July. Investments in spin-out companies are valued in accordance with the International Private Equity and Venture Capital Guidelines, and other non-marketable securities are included at valuation by the Council. Current asset investments are included in the balance sheet at the lower of cost and net realizable value.

Investment properties

After initial recognition at cost, investment property shall be measured at fair value at each reporting date with changes in fair value recognized in the statement of comprehensive income.

The North West Cambridge development is subject to an annual valuation based on net discounted projected rental and other revenue-driven cash flows after relevant expenditure has been deducted. The cash flow model used for 2017–18 has been developed internally but utilizes land valuations provided by an independent valuer, Savills.

Other properties held for investment purposes are valued annually on the basis of estimated open market values on an existing use basis by Knight Frank or, in the case of local non-operational properties, by chartered surveyors employed by the University. Recent transfers of operational assets to investment properties have been valued on a combination of estimated open market values and projected rental streams adjusted for any restrictions in use. These valuations have been provided by external valuers, Gerald Eve.

(k) Stocks and work in progress

Stocks are stated at the lower of cost and net realizable value after making provision for slow moving and obsolete items. In respect of publishing services, (a) direct costs incurred prior to publication are included in stocks and work in progress and are written off over a period of up to three years from the publication date; and (b) the University makes full provision against the cost of stock in excess of one-and-a-half times the most recent year's sales on all publications dated more than two years before the reporting date.

(l) Cash and cash equivalents

Cash includes cash in hand, cash at bank, deposits repayable on demand, and bank overdrafts. Deposits are repayable on demand if they are in practice available on call without penalty. Bank overdrafts are shown within borrowings in current liabilities. Cash equivalents are short-term (typically with less than three months notice required) highly liquid investments which are readily convertible into cash and include deposits and other instruments held as part of the University's treasury management activities.

(m) Financial instruments

The University has elected to adopt Sections 11 and 12 of FRS 102 in respect of the recognition, measurement, and disclosure of financial instruments.

Financial assets

Basic financial assets include trade and other receivables, cash and cash equivalents. These assets are initially recognized at transaction price unless the arrangement constitutes a financing transaction, where the transaction is measured at the present value of the future receipts discounted at a market rate of interest. Such assets are subsequently carried at amortized cost using the effective interest rate method. Financial assets are assessed for indicators of impairment at each balance sheet date. If there is objective evidence of impairment, an impairment loss is recognized in the statement of comprehensive income.

For financial assets carried at amortized cost the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows, discounted at the asset's original effective interest rate.

Other financial assets, including investments in equity instruments which are not subsidiaries, associates, or joint ventures are initially measured at fair value, which is typically the transaction price. These assets are subsequently carried at fair value and changes in fair value at the reporting date are recognized in the statement of comprehensive income. Where the investment in equity instruments is not publicly traded and where the fair value cannot be reliably measured the assets should be measured at cost less impairment.

Financial assets are de-recognized when the contractual rights to the cash flows from the asset expire or are settled or substantially all of the risks and rewards of the ownership of the asset are transferred to another party.

Notes to the accounts for the year ended 31 July 2018 (continued)

3. Statement of significant accounting policies (continued)

Financial liabilities

Basic financial liabilities include trade and other payables, bank loans, and inter-group loans. These liabilities are initially recognized at transaction price unless the arrangement constitutes a financing transaction, where the debt instrument is measured at the present value of the future payments discounted at a market rate of interest. Debt instruments are subsequently carried at amortized cost using the effective interest rate method.

Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down.

The University has debt instruments through:

- long-term unsecured fixed-interest Bonds issued in October 2012 and June 2018 and listed on the London Stock Exchange. The Bonds were initially measured at the proceeds of issue less all transaction costs directly attributable to the issue. After initial recognition, the Bonds are measured at amortized cost using the effective interest rate method. Under this method the discount at which the Bonds were issued and the transaction costs are accounted for as additional expense over the term of the Bonds (see Note 27); and
- long term unsecured CPI-linked Bonds issued in June 2018 and listed on the London Stock Exchange. These Bonds are deemed to be complex financial instruments and so are initially recognized at fair value at the transaction date and subsequently re-measured to their fair value at the reporting date. For financial instruments that are subsequently re-measured at fair value through profit or loss, transaction costs (net of any fees paid or received) are not added to or deducted from the amount initially recognized, instead they are expensed immediately on initial recognition.

Trade payables are obligations to pay for goods and services that have been acquired in the ordinary course of business from suppliers. Accounts payable are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognized initially at transaction price and subsequently measured at amortized cost using the effective interest rate method.

Derivatives, including forward foreign exchange contracts, are not basic financial instruments. Derivatives are initially recognized at fair value on the date the derivative contract is entered into and are subsequently re-measured at their fair value at the reporting date. Changes in the fair value of derivatives are recognized in the statement of comprehensive income in finance costs or finance income as appropriate, unless they are included in a hedging arrangement.

To the extent that the University enters into forward foreign exchange contracts which remain unsettled at the balance sheet date the fair value of the contracts is reviewed at that date. The initial fair value is measured as the transaction price on the date of inception of the contracts. Subsequent valuations are considered on the basis of the forward rates for those unsettled contracts at the balance sheet date. The University does not apply hedge accounting in respect of forward foreign exchange contracts held to manage cash flow exposures of forecast transactions denominated in foreign currencies.

Financial liabilities are de-recognized when the liability is discharged, cancelled, or expires.

(n) Related party transactions

The University discloses transactions with related parties which are outlined in detail in Note 36 to the accounts.

(o) Segment information

The Group operates in a number of different classes of business. For the purpose of segmental reporting, classes of business have been identified by reference to the nature of activity, the nature of funding, and the management organization (see Note 17).

(p) Lease commitments

The Group assesses agreements that transfer the right to use assets. Leases are classified as finance leases if they transfer substantially all the risks and rewards incidental to ownership of an asset. The assessment considers whether the arrangement is, or contains, a lease based on the substance of the arrangement.

Leases that do not transfer all the risks and rewards of ownership are classified as operating leases. Payments under operating leases are charged to the income statement on a straight-line basis over the period of the lease.

4. Critical accounting judgements, estimates, and assumptions

Management are required to adopt those accounting policies most appropriate to the circumstances for the purposes of presenting fairly the University's financial position, financial performance, and cash flows. The preparation of the University's financial statements requires management to make judgements, estimates, and assumptions that affect the application of policies and reported amounts of assets and liabilities, income, and expenses. These judgements, estimates, and associated assumptions are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results.

Management consider the areas set out below to be those where critical accounting judgements have been applied and the resulting estimates and assumptions may lead to adjustments to the future carrying amounts of assets and liabilities:

(i) Revenue recognition

Revenues are subject to judgement over when and by how much revenues should be recognized in the financial statements. This includes determining when performance criteria have been met, recognizing research and other funding revenues in line with expenditure once a right to the funding is deemed to have arisen, and determining the revenues associated with partially delivered courses and training where the activities have not been fully completed at the reporting date.

Notes to the accounts for the year ended 31 July 2018 (continued)

4. Critical accounting judgements, estimates, and assumptions (continued)

(ii) *Depreciation and amortization*

The depreciation and amortization expense is the recognition of the use of the asset over its estimated useful life. Judgements are made as to the estimated useful lives of the assets and associated residual values which may be impacted by changes in economic or technological circumstances.

(iii) *Investment valuations* (Note 11)

The Cambridge University Endowment Fund is comprised of a range of asset investment categories where there is not always a clearly observable valuation basis available.

Investments which are not listed or which are not frequently traded are stated at the Valuation Committee's best estimate of fair value. With respect to investments held through pooled funds or partnerships, reliance is placed on unaudited valuations of the underlying listed and unlisted investments as supplied to the CUEF custodian by the administrators of those funds or partnerships. The principles applied by the administrators to those valuations are reviewed to ensure they are in compliance with CUEF policies. With respect to other investments, recognized valuation techniques are used, that may take account of any recent arm's length transactions in the same or similar investment instruments. Where however no reliable fair value can be estimated, investments are stated at cost.

(iv) *Valuation of investment properties*

Properties held for investment purposes are revalued annually by accredited valuers typically on the basis of estimated open market values on an existing use basis. Such valuations are based on assumptions and judgements which are impacted by a variety of factors including changes in market and other economic conditions.

North West Cambridge is subject to an annual valuation based on net discounted projected rental and other revenue-driven cash flows after relevant expenditure has been deducted. The valuation is based on assumptions and judgements which may have a material impact on the fair value of the assets. In particular, rental growth rate assumptions, which may be impacted by changes in market and other economic conditions, have a significant impact on the valuations as determined. The cash flow model used for the valuation is forward-looking and excludes the costs of construction, which are deemed sunk costs.

(v) *Defined benefit pension schemes and funding of pension deficits* (Note 28)

The University has obligations to pay pension benefits to certain employees. The cost of these benefits and the present value of the obligation depend on a number of factors including: life expectancy; salary increases; asset valuations; and the discount rate on corporate bonds. Based on actuarial advice provided, management estimate these factors to determine the net pension obligation in the balance sheet.

Additionally, the University currently recognizes a provision for its obligation to fund past deficits arising within the Universities Superannuation Scheme. The deficit recovery plan currently in place relates to the 2014 actuarial valuation. The 2017 actuarial valuation has not yet formally been completed. Whilst management consider that it remains appropriate to continue to account for the past deficit in accordance with the plan agreed after the 2014 actuarial valuation, there is a significant risk that the year-end provision will increase substantially following the final outcome of the 2017 actuarial valuation.

(vi) *Provisions*

General and specific provisions are made for stock obsolescence including slow moving or defective items and bad debts based on a combination of management's best estimates, historical experience, customer and product specific knowledge, and formula-based calculations.

Notes to the accounts for the year ended 31 July 2018 (continued)

	Group 2018 £m	Group 2017 £m	University 2018 £m	University 2017 £m
5 Tuition fees and education contracts				
Full-time home / EU students	129.2	131.9	129.2	131.9
Full-time overseas (non-EU) students	105.8	87.1	105.8	87.1
Other course fees	30.9	28.5	18.8	15.7
Research Training Support Grants	29.2	28.9	29.2	28.9
	295.1	276.4	283.0	263.6
6 Funding body grants				
Office for Students (OfS)				
Recurrent grant: teaching	18.0	17.9	18.0	17.9
Recurrent grant: research	121.7	121.9	121.7	121.9
Recurrent grant: museum funding	2.1	–	2.1	–
Other revenue grants	8.3	7.3	8.3	7.3
Total revenue grants	150.1	147.1	150.1	147.1
Capital grants recognised in the year	23.5	30.9	23.5	30.9
	173.6	178.0	173.6	178.0
7 Research grants and contracts				
Research councils	174.9	146.8	174.9	146.8
UK based charities	152.7	142.4	152.5	142.4
European Commission	56.0	59.2	56.0	59.2
UK industry	21.0	18.9	19.6	18.9
UK Government	49.0	46.1	48.7	46.1
Other bodies	71.3	52.6	63.8	44.1
	524.9	466.0	515.5	457.5
Total research grants and contracts income includes grants of £20.1m (2017: £8.0m) towards the cost of buildings and £22.2m (2017: £26.7m) for the purchase of equipment.				
8 Examination and assessment services				
Examination fees	386.0	371.1	315.8	296.3
Other examination and assessment services	46.5	40.6	44.6	38.5
	432.5	411.7	360.4	334.8
9 Donations and endowments				
New endowments	21.6	30.4	21.6	30.4
Donations of, and for the purchase of, fixed assets	6.6	10.2	6.6	10.2
Donations of, and for the purchase of, heritage assets	3.0	1.7	3.0	1.7
Other donations with restrictions	23.0	25.4	14.5	18.0
Donations from subsidiary companies	–	–	7.6	10.5
Unrestricted donations	9.6	11.4	9.6	10.2
	63.8	79.1	62.9	81.0

Included within donations from subsidiary companies is £0.8m relating to capital donations received for the purchase of fixed assets.

Notes to the accounts for the year ended 31 July 2018 (continued)

	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
10 Other income				
Other services rendered	48.9	44.5	40.8	37.2
Health and hospital authorities	20.4	20.5	20.4	20.5
Residences, catering, and conferences	11.8	12.7	11.8	12.7
Income from intellectual property	12.0	16.7	4.2	4.3
Rental income	15.7	9.5	15.4	9.5
Grants received (other than those included in notes 6 and 7 above)	5.2	4.8	3.8	3.7
Research and Development Expenditure Credit (RDEC) receivable before deduction of tax	0.6	–	0.6	–
Surplus on disposal on fixed assets	3.9	0.7	3.9	0.3
Share of operating surplus in associates and joint ventures	1.9	0.6	–	–
Sundry income	21.7	20.2	26.3	18.5
	142.1	130.2	127.2	106.7

Other services rendered includes externally generated sales across a wide variety of activities such as University staff and equipment charged out on external projects, the provision of veterinary services, farming sales (crop and milk), and restoration services.

RDEC has previously been claimed from HM Revenue & Customs at a rate of 10% or 11% on qualifying research and development expenditure, and is received net of Corporation Tax (see note 16). The University is not eligible to claim for RDEC in relation to expenditure incurred on or after 1 August 2015. Income received in the current year relates to additional claims made in respect of prior periods.

11 Investment income

The majority of investment income relates to investment returns generated by the Cambridge University Endowment Fund (CUEF). The CUEF is a unitised fund constituted by Trust Deed with the University as sole trustee holding the property of the CUEF on trust for unit holders. Unit holders are the University, a number of its subsidiary undertakings and also UK charities associated with the University (such as Colleges and trusts) provided they meet the necessary eligibility requirements. The University operates the fund through its wholly-owned subsidiary, Cambridge Investment Management Limited, to deliver long-term investment in respect of individual restricted endowments and other balances. The CUEF is managed on a total return basis (i.e. income and net capital gains) and invests in asset classes some of which generate little or no income. Distributions are made to unit holders according to a formula which has regard to the total return reasonably to be expected in the long term, in proportion to the number of units held. Unit holders receive distributions as income.

However, the distributions made to unit holders are funded through both investment income generated on the underlying CUEF assets and an element by drawing on the long-term capital growth of the investments. Accordingly, for the purposes of reporting in the financial statements, it is only the investment income (dividends, interest, rental income etc.) received on the underlying CUEF assets which is treated as investment income. The distributions relating to capital growth are reflected in the statement of comprehensive income as a 'gain on investments' and in the balance sheet in non-current asset investments, 'valuation gain on investment'. For the year ended 31 July 2018 distributions by the CUEF which were funded by drawing on the long-term capital gain in the investments were £79.1m (2017: £78.0m) with the balance of the distributions funded by and reported as investment income. This split is outlined in more detail below:

	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Income from non-current asset investments:				
Distributions credited to unit holders as income	97.0	94.0	73.5	76.0
Less: distributed from long-term capital gain	(79.1)	(78.0)	(63.5)	(63.1)
Investment income on underlying assets reported per the financial statements	17.9	16.0	10.0	12.9
Income from current asset investments and cash equivalents	1.9	1.9	6.3	1.7
Total investment income	19.8	17.9	16.3	14.6

Notes to the accounts for the year ended 31 July 2018 (continued)

11 Investment income (continued)

Credited to:

Group	Total distributions to unit holders	Amounts distributed from capital	Investment income	Investment income
	2018 £m	2018 £m	2018 £m	2017 £m
Permanent endowment reserves	40.8	(38.3)	2.5	0.8
Expendable endowment reserves	17.0	(14.1)	2.9	2.3
Restricted reserves	0.9	(0.6)	0.3	0.1
Unrestricted reserves	40.2	(26.1)	14.1	14.7
	98.9	(79.1)	19.8	17.9
University				
Permanent endowment reserves	40.6	(38.2)	2.4	0.8
Expendable endowment reserves	7.7	(6.3)	1.4	1.2
Restricted reserves	0.9	(0.6)	0.3	0.1
Unrestricted reserves	30.6	(18.4)	12.2	12.5
	79.8	(63.5)	16.3	14.6

Further detail on the asset categories held by the CUEF are outlined below:

	31 July 2018		31 July 2017	
	£m	%	£m	%
Public equity	1,887.6	58.1%	1,758.6	59.0%
Private investment	297.0	9.1%	395.4	13.2%
Absolute return	309.1	9.5%	353.0	11.8%
Credit	183.3	5.6%	11.8	0.4%
Real assets	348.9	10.7%	337.2	11.3%
Fixed interest / cash	226.9	7.0%	128.4	4.3%
Total value of fund	3,252.8	100.0%	2,984.4	100.0%

Public equity includes all equity stocks traded on a liquid market, together with related non-publically traded index funds and derivatives.

Private investment includes investments where initial capital commitments are drawn down over a period, and the proceeds of the investments once disposed of are returned over the life of each fund. The underlying investments include both unlisted equities and corporate credits (such as bonds, loans, and other claims).

Absolute return includes investments in trading strategies which are in some degree independent of overall equity market movements. Funds where different equities are simultaneously held (long) and sold (short) are included in this category.

Credit includes corporate securities (such as bonds and loans) traded on a liquid public market.

Real assets includes investments which are expected in some degree to increase in nominal value to match inflation. This category includes commercial property, and securities which reflect the level of commodity values. Inflation-linked government securities are, however, included in the fixed interest category below.

Fixed interest / cash includes cash at bank and on deposit, government securities, the net value of foreign currency contracts and any amounts receivable in general, less amounts payable, including those arising from holding derivative contracts.

*Notes to the accounts for the year ended 31 July 2018 (continued)***11 Investment income (continued)**

The assets of the CUEF are included in the following balance sheet captions in proportion to the number of units held by the relevant funds:

	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Non current asset investments (see note 21)	2,824.6	2,689.6	2,260.2	2,161.1
Current asset investments (see note 24) - balances held on behalf of:				
Subsidiary undertakings	-	-	564.4	528.5
Colleges	411.6	277.3	411.6	277.3
Other associated bodies	16.6	17.5	16.6	17.5
Total included in current asset investments	428.2	294.8	992.6	823.3
Total value of units	3,252.8	2,984.4	3,252.8	2,984.4

12 Total income

Consolidated total income of £1,964.8m is credited to reserves as follows:

	Group year ended 31 July 2018			Group year ended 31 July 2017		
	Endowments	Restricted	Unrestricted	Endowments	Restricted	Unrestricted
	£m	£m	£m	£m	£m	£m
Tuition fees and education contracts	-	-	295.1	-	-	276.4
Funding body grants	-	23.5	150.1	-	30.9	147.1
Research grants and contracts	-	38.5	486.4	-	7.6	458.4
Research and Development Expenditure	-	-	0.6	-	-	-
Credit receivable	-	-	-	-	-	-
Examination and assessment services	-	-	432.5	-	-	411.7
Publishing services	-	-	313.0	-	-	310.6
Donations and endowments	21.6	33.2	9.0	30.4	29.3	19.4
Other income	-	5.2	136.9	-	4.8	125.4
Investment income	5.4	0.3	13.5	3.1	0.1	14.7
	27.0	100.7	1,837.1	33.5	72.7	1,763.7

Consolidated total income of £1,964.8m is attributable as follows to the three broad categories defined by FRS 102: revenue, government grants, and non-exchange transactions:

	Government			Non-exchange		
	Revenue	grants	transactions	Revenue	Government	Non-exchange
	£m	£m	£m	£m	grants	transactions
Tuition fees and education contracts	265.9	29.2	-	247.5	28.9	-
Funding body grants	-	173.6	-	-	178.0	-
Research grants and contracts	-	279.9	245.0	-	252.1	213.9
Research and Development Expenditure	-	0.6	-	-	-	-
Credit receivable	-	-	-	-	-	-
Examination and assessment services	432.5	-	-	411.7	-	-
Publishing services	313.0	-	-	310.6	-	-
Donations and endowments	-	-	63.8	-	-	79.1
Other income	108.8	5.2	27.5	103.9	4.8	21.5
Investment income	19.8	-	-	17.9	-	-
	1,140.0	488.5	336.3	1,091.6	463.8	314.5

Notes to the accounts for the year ended 31 July 2018 (continued)

13 Staff costs	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Wages and salaries	640.1	606.0	587.3	555.3
Social security costs	67.7	61.9	63.0	58.0
Pension costs:				
Current service cost	137.3	132.4	131.9	126.2
Change in underlying assumptions in calculating USS deficit recovery provision (see note 28)	4.5	(1.5)	5.2	(1.2)
Total pension costs (see note 34)	141.8	130.9	137.1	125.0
	849.6	798.8	787.4	738.3
The average number of staff employed in the year, expressed as full-time equivalents, was:	16,376	15,989		

Remuneration and pay ratios of the Vice-Chancellors

The approach to Vice-Chancellor pay has been to set a common rate for the job which is sensitive to the decisions taken by Council but which also demonstrates the value attached to the Vice-Chancellorship by the University. With the inclusion of Cambridge University Press, Cambridge Assessment, subsidiary undertakings and associated Trusts, the University has an annual group income of almost £2bn and over 16,000 staff. This makes Cambridge one of the largest universities in the UK, and one with a significant global presence. Consequently, the Remuneration Committee undertake detailed analysis of comparable salaries in the UK, North America and Australia in setting the remuneration of the Vice-Chancellor. This was last undertaken in 2016-17 prior to the recruitment of the current Vice-Chancellor, where the salary was set within the financial limit set by the Council for the cost of the total package.

1. Current Vice-Chancellor

The remuneration of the current Vice-Chancellor is detailed in the table below and relates to the period of office from 1 October 2017 to 31 July 2018, and also includes salary for an additional month (September 2017) as Vice-Chancellor Elect.

	2018	2017
	£000	£000
Salary for the period	335	–
Deductions to reflect salary sacrifice arrangements	(8)	–
Net salary paid in the year	327	–
Taxable benefits in kind	12	–
Non-taxable benefits in kind	33	–
Total excluding employer pension contributions	372	–
Employer pension contributions	19	–
Payments made in lieu of pension	37	–
	428	–

The salary for the period is the basic contracted salary before adjusting for salary sacrifice arrangements under which, in common with other employees, the Vice-Chancellor sacrificed an amount of pay relating to enhanced opt-out benefits for Death in Service and Ill Health. The employer pension contributions reflect both the employer payments for these benefits over to the Universities Superannuation Scheme and the Vice-Chancellor's contribution of £8k.

Taxable benefits in kind include relocation expenses of £5,922, private healthcare of £1,902, accommodation costs (heating, lighting and maintenance) of £2,308 and tax consultancy services of £1,486. Non-taxable benefits include the provision of accommodation valued at market rental for a similar property by an independent valuer pro-rated to reflect only the personal usage of the property as opposed to business and entertaining usage (£16,668), relocation flight travel (£7,320) and personal flight travel (£8,890).

Pay ratios:

(a) The Vice-Chancellor's basic salary is 11.3 times the median pay of staff, where the median pay is calculated on a full-time equivalent basis for the salaries paid by the University to its staff. The ratio reflects the full year basic salary equivalent for the Vice-Chancellor.

(b) The Vice-Chancellor's total remuneration is 12.4 times the median pay of staff, where the median pay is calculated on a full-time equivalent basis for the total remuneration paid by the University to its staff. The ratio reflects the full year remuneration equivalent for the Vice-Chancellor.

The median pay calculation reflects over 1,100 agency staff employed on temporary contracts through the University's Temporary Employment Services (TES).

*Notes to the accounts for the year ended 31 July 2018 (continued)***13 Staff costs (continued)****2. Previous Vice-Chancellor**

The remuneration of the previous Vice-Chancellor is detailed in the table below and relates to the period of office from 1 August 2017 to 30 September 2017. The comparative year relates to the period 1 August 2016 to 31 July 2017:

	2018	2017
	£000	£000
Salary for the period	59	343
Deductions to reflect salary sacrifice arrangements	-	-
Net salary paid in the year	59	343
Taxable benefits in kind	4	12
Non-taxable benefits in kind	-	17
Total excluding employer pension contributions	63	372
Employer pension contributions	1	7
Payments made in lieu of pension	-	-
	64	379

Taxable benefits in kind for 2017-18 include accommodation costs of £3,000 and utilities (heating, lighting and maintenance costs) of £583. Non-taxable benefits in 2016-17 include the personal usage element of the provision of accommodation of £16,667.

Pay ratios:

(a) The Vice-Chancellor's basic salary is 11.0 times the median pay of staff, where the median pay is calculated on a full-time equivalent basis for the salaries paid by the University to its staff. The ratio reflects the full year basic salary equivalent for the Vice-Chancellor.

(b) The Vice-Chancellor's total remuneration is 9.9 times the median pay of staff, where the median pay is calculated on a full-time equivalent basis for the total remuneration paid by the University to its staff. The ratio reflects the full year remuneration equivalent for the Vice-Chancellor.

*Notes to the accounts for the year ended 31 July 2018 (continued)***13 Staff costs (continued)****Basic salary bandings for higher paid staff**

The number of staff (FTE's) with a basic salary in excess of £100,000 per annum, before salary sacrifice arrangements is outlined below:

	2018	2017
£100,001 - £105,000	89	92
£105,001 - £110,000	48	32
£110,001 - £115,000	33	36
£115,001 - £120,000	30	22
£120,001 - £125,000	22	22
£125,001 - £130,000	11	12
£130,001 - £135,000	19	12
£135,001 - £140,000	7	7
£140,001 - £145,000	8	9
£145,001 - £150,000	9	9
£150,001 - £155,000	9	5
£155,001 - £160,000	1	1
£160,001 - £165,000	5	2
£165,001 - £170,000	1	3
£170,001 - £175,000	3	3
£175,001 - £180,000	2	2
£180,001 - £185,000	1	1
£185,001 - £190,000	1	1
£190,001 - £195,000	2	1
£195,001 - £200,000	1	3
£200,001 - £205,000	2	1
£205,001 - £210,000	-	-
£210,001 - £215,000	-	-
£215,001 - £220,000	1	-
£220,001 - £225,000	-	-
£225,001 - £230,000	1	-
£230,001 - £235,000	-	1
£235,001 - £240,000	1	2
£240,001 - £245,000	1	-
£245,001 - £250,000	1	-
£250,001 - £255,000	1	2
£325,001 - £330,000	1	-
£330,001 - £335,000	2	-
£340,001 - £345,000	-	2
£365,001 - £370,000	1	1
£405,001 - £410,001	-	1

The above statistics include staff engaged in business and commercial activities, including those of Cambridge Assessment and Cambridge University Press.

Compensation for loss of office

Aggregate payments for compensation for loss of office were paid to 67 members of staff in 2017-18 (120 in 2016-17):	2018	2017
	£000	£000
Payments in respect of loss of office	2,119	2,812

Key management personnel

The total remuneration of both Vice-Chancellors, the Pro-Vice-Chancellors, Chief Financial Officer and Registry for the year (or part thereof), comprising salary and benefits (taxable and non taxable), employer pension contributions and before salary sacrifice arrangements, was:	2,025	1,535
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*Notes to the accounts for the year ended 31 July 2018 (continued)***14 Analysis of consolidated expenditure by activity**

	Staff costs	Other operating expenses	Depreciation	Interest payable	2018 Total	2017 Total
	£m	£m	£m	£m	£m	£m
Academic departments	251.9	76.7	9.4	–	338.0	322.5
Academic services	33.3	13.6	0.8	–	47.7	45.6
Payments to Colleges (see note 37)	–	70.1	–	–	70.1	67.3
Research grants and contracts	223.9	186.7	24.7	–	435.3	392.9
Other activities:						
Examination and assessment services	125.6	212.4	9.6	0.2	347.8	335.7
Publishing services	104.5	186.1	4.0	2.9	297.5	298.9
Other services rendered	15.1	26.1	0.1	–	41.3	40.4
Intellectual property	3.7	2.4	0.1	–	6.2	8.0
Residences, catering and conferences	2.7	11.8	–	–	14.5	14.6
Other activities total	251.6	438.8	13.8	3.1	707.3	697.6
Administration and central services:						
Administration	58.1	8.8	–	–	66.9	56.2
General educational	2.3	58.0	0.1	–	60.4	58.6
Staff and student facilities	3.1	1.1	–	–	4.2	4.0
Development office	6.1	6.8	–	–	12.9	11.9
Other	0.6	0.3	–	–	0.9	4.0
Administration and central services total	70.2	75.0	0.1	–	145.3	134.7
Premises	16.1	72.6	45.6	–	134.3	123.6
Interest payable on bond liabilities	–	–	–	14.8	14.8	13.2
Pension cost adjustments for USS	(3.5)	–	–	2.3	(1.2)	(7.4)
Pension cost adjustments for CPS (see note 34)	6.1	–	–	13.4	19.5	16.5
Total per income and expenditure account	849.6	933.5	94.4	33.6	1,911.1	1,806.5

Other operating expenses include:

Group	Group
2018	2017
£000	£000

Auditors' remuneration

Audit fees payable to the Group's external auditors	1,140	882
Other fees payable to the Group's external auditors	159	23
Audit fees payable to other firms (in respect of certain Trusts and subsidiary undertakings)	47	22

Payments to trustees

Reimbursement of expenses to two (2017: two) external members of Council	4	6
There were no other payments made to trustees for their services to the University.		

These amounts include related irrecoverable VAT.

Notes to the accounts for the year ended 31 July 2018 (continued)

15 Interest and other finance costs	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Interest payable and other finance costs on bond liabilities (see note 27)	14.8	13.2	14.8	13.2
Interest on pension liabilities (see note 28)	18.2	17.3	18.1	17.3
Interest paid on other retirement benefit liabilities (see note 29)	0.6	0.6	0.6	0.6
Other interest payable	–	0.3	–	0.3
	33.6	31.4	33.5	31.4

Interest payable and other finance costs on bond liabilities can be analysed as follows:

Bond liabilities - unsecured 2012 (Fixed interest)	13.2	13.2	13.2	13.2
Bond liabilities - unsecured 2018 (Fixed interest)	0.7	–	0.7	–
Bond liabilities - unsecured 2018 (Index-linked)	0.9	–	0.9	–
	14.8	13.2	14.8	13.2

For further details on these bond liabilities see note 27.

16 Taxation	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
UK Corporation Tax	0.1	–	0.1	–
Foreign taxes	3.0	4.1	2.1	0.8
	3.1	4.1	2.2	0.8

The University has charitable status as one of the exempt charities listed in Schedule 3 to the Charities Act 2011. As such it is listed as a charity within the meaning of Paragraph 1 of Schedule 6 to the Finance Act 2010. Accordingly the University is potentially exempt from Corporation Tax on income and gains falling within section 287 of the Corporation Tax Act (CTA) 2009 and sections 471 and 478-488 CTA 2010 or section 256 of the Taxation and Chargeable Gains Act 1992 to the extent that such income or gains are applied to exclusively charitable purposes.

Most of the University's principal activities are exempt from Value Added Tax 'VAT', but certain activities and other ancillary supplies and services are liable to VAT at various rates. Expenditure includes VAT charged by suppliers to the University where it is not recoverable and is likewise included in the cost of fixed assets.

Commercial trading activities undertaken by the University are operated through its subsidiary companies. This income will attract applicable VAT and the profits are liable to Corporation Tax. However, the taxable profits made by these companies are covenanted to the University and paid under Gift Aid which negates the liability.

Due to its exempt charity status the tax charge for UK Corporation Tax is solely in respect of Research and Development Expenditure Credit grants received in 2017-18 (see note 10 above). The foreign taxes for the University includes foreign income tax paid on overseas trademark licence income and taxes on overseas activities primarily associated with publishing activities.

The Group operates across a variety of different geographical locations with activities which are subject to local tax and regulatory compliance requirements. As such the Group is exposed to a number of tax risks. The tax charge does not reflect assessments to overseas tax of approximately £5m which the Group expects to contest successfully.

17 Segment information

The group's reportable segments are:

Higher Education Institution (HEI)	Teaching and research undertaken by the University
Assessment	Examination and assessment services, carried out by the University of Cambridge Examinations Syndicate and subsidiary undertakings, collectively known as Cambridge Assessment
Press	Publishing services, carried out by the Cambridge University Press Syndicate and subsidiary undertakings
Cambridge University Endowment Fund (CUEF)	The investment fund managed by the group and holding the majority of the group's investments together with some investments of Colleges and other associated bodies (see note 11)
Trusts and other	The combination of smaller segments including the associated trusts and subsidiary companies not included in the Assessment and Press groups

*Notes to the accounts for the year ended 31 July 2018 (continued)***17 Segment information (continued)**

The Council monitors the results of operating segments separately for the purposes of assessing performance and making decisions about the allocation of resources. Segment performance is evaluated based on reported surplus. The Press segment reports for financial years ending 30 April. CUEF reports for financial years ending 30 June and focuses on total return as the measure of income and surplus. The segment information presented below uses the same measures as reported by each segment, adjusted for Press and CUEF to the financial year ended 31 July.

	HEI	Assessment	Press	CUEF	Trusts and other	Eliminations and adjustments	Group
	£m	£m	£m	£m	£m	£m	£m
Year ended 31 July 2018							
Total income							
External	1,150.9	438.6	318.9	289.8	42.2	(275.6)	1,964.8
intersegment	131.3	9.9	1.6	–	149.6	(292.4)	–
Total	1,282.2	448.5	320.5	289.8	191.8	(568.0)	1,964.8
Surplus for the year	175.9	101.8	16.2	289.8	48.5	(362.6)	269.6
Included in surplus for the year:							
Investment income	73.4	8.5	1.4	18.0	15.5	(97.0)	19.8
Depreciation and amortisation	(81.7)	(31.3)	(13.6)	–	(1.3)	0.2	(127.7)
Interest payable	(30.0)	(0.6)	(3.0)	–	–	–	(33.6)
Gain on investments	92.1	14.3	2.6	271.8	29.7	(191.5)	219.0
Additions to intangible assets, fixed assets, heritage assets and investment property	285.8	48.5	10.7	–	17.7	(41.5)	321.2
Assets	6,000.0	781.2	334.5	3,252.8	572.1	(3,000.1)	7,940.5
Liabilities	(1,997.6)	(134.9)	(215.6)	–	(79.7)	(275.3)	(2,703.1)
Net assets	4,002.4	646.3	118.9	3,252.8	492.4	(3,275.4)	5,237.4
	HEI	Assessment	Press	CUEF	Trusts and other	Eliminations and adjustments	Group
	£m	£m	£m	£m	£m	£m	£m
Year ended 31 July 2017							
Total income							
External	1,075.6	412.8	318.3	422.7	52.0	(411.5)	1,869.9
intersegment	104.2	7.6	0.6	–	118.9	(231.3)	–
Total	1,179.8	420.4	318.9	422.7	170.9	(642.8)	1,869.9
Surplus for the year	325.4	104.6	10.3	422.7	63.4	(460.0)	466.4
Included in surplus for the year:							
Investment income	71.9	7.7	1.3	12.1	15.0	(90.1)	17.9
Depreciation and amortisation	(78.2)	(19.0)	(15.4)	–	(0.6)	–	(113.2)
Interest payable	(27.2)	(0.6)	(3.7)	–	–	0.1	(31.4)
Gain on investments	245.7	26.5	1.8	410.5	55.2	(332.6)	407.1
Additions to intangible assets, fixed assets, heritage assets and investment property	332.6	118.8	15.8	–	1.2	(0.8)	467.6
Assets	5,111.8	734.0	326.5	2,984.4	526.1	(2,821.9)	6,860.9
Liabilities	(1,384.4)	(138.6)	(240.5)	–	(78.4)	(171.9)	(2,013.8)
Net assets	3,727.4	595.4	86.0	2,984.4	447.7	(2,993.8)	4,847.1

Notes to the accounts for the year ended 31 July 2018 (continued)

17 Segment information (continued)

Eliminations and adjustments

The following eliminations and adjustments reconcile the totals of segment measures to the consolidated measures reported in these financial statements.

	2018 £m	2017 £m
Total income		
Elimination of intersegment income	(292.4)	(231.3)
Exclude investment gain element of CUEF total return	(271.7)	(410.5)
Exclude CUEF investment income attributable to external investors	(3.9)	(1.0)
Total eliminations and adjustments	<u>(568.0)</u>	<u>(642.8)</u>
Surplus for the year		
Eliminate CUEF surplus recognised in other segments or attributable to external investors	(289.8)	(422.7)
Eliminate transfers from other segments to HEI based on surpluses	(35.1)	(37.2)
Eliminate profit on transfer of Primary School	(15.9)	–
Elimination of intersegment funding commitments	(0.5)	–
Eliminate intersegment surplus on transfer of fixed assets	(23.6)	(0.7)
Eliminate other intersegment balances	2.3	0.9
Total eliminations and adjustments	<u>(362.6)</u>	<u>(460.0)</u>

Assets and liabilities	Assets	Liabilities	Net assets	Net assets
	2018 £m	2018 £m	2018 £m	2017 £m
Eliminate CUEF assets recognised in other segments or attributable to external investors	(2,824.6)	(428.2)	(3,252.8)	(2,984.4)
Eliminate accrual for intersegment funding commitments	–	17.5	17.5	17.0
Eliminate intersegment surplus on transfers of fixed assets	(36.9)	–	(36.9)	(20.4)
Eliminate investments in subsidiaries	(5.2)	5.2	–	(6.0)
Eliminate intersegment balances	(133.4)	130.2	(3.2)	–
Total eliminations and adjustments	<u>(3,000.1)</u>	<u>(275.3)</u>	<u>(3,275.4)</u>	<u>(2,993.8)</u>

*Notes to the accounts for the year ended 31 July 2018 (continued)***18 Intangible assets and goodwill**

Group	Software	Goodwill	Others	2018	2017
	£m	£m	£m	Total	Total
				£m	£m
Cost					
At 1 August	207.8	16.2	9.6	233.6	209.1
Additions	20.5	–	0.1	20.6	24.8
Disposals	(4.8)	–	–	(4.8)	(0.8)
Currency adjustments	(0.5)	(0.1)	–	(0.6)	0.5
At 31 July	223.0	16.1	9.7	248.8	233.6
Accumulated amortisation					
At 1 August	132.8	15.5	8.7	157.0	133.7
Charge for the year	32.3	0.7	0.3	33.3	23.3
Eliminated on disposals	(4.6)	–	–	(4.6)	(0.4)
Currency adjustments	(0.3)	(0.1)	–	(0.4)	0.4
At 31 July	160.2	16.1	9.0	185.3	157.0
Net book value					
At 31 July	62.8	–	0.7	63.5	76.6
At 1 August	75.0	0.7	0.9	76.6	75.4
University					
	Software	Goodwill	Others	2018	2017
	£m	£m	£m	Total	Total
				£m	£m
Cost					
At 1 August	198.6	1.1	13.6	213.3	189.9
Additions	19.9	–	0.1	20.0	24.1
Disposals	(4.7)	–	–	(4.7)	(0.8)
Currency adjustments	(0.1)	–	–	(0.1)	0.1
At 31 July	213.7	1.1	13.7	228.5	213.3
Accumulated amortisation					
At 1 August	125.8	1.1	12.4	139.3	116.0
Charge for the year	30.9	–	0.4	31.3	23.6
Eliminated on disposals	(4.6)	–	–	(4.6)	(0.4)
Currency adjustments	(0.1)	–	–	(0.1)	0.1
At 31 July	152.0	1.1	12.8	165.9	139.3
Net book value					
At 31 July	61.7	–	0.9	62.6	74.0
At 1 August	72.8	–	1.2	74.0	73.9

Amortisation of intangibles is included within 'other operating expenses' in the statement of comprehensive income.

Notes to the accounts for the year ended 31 July 2018 (continued)

19 Fixed assets	Assets in				2018	2017
	Land	Buildings	construction	Equipment	Total	Total
Group	£m	£m	£m	£m	£m	£m
Cost						
At 1 August	422.1	1,736.6	369.9	368.9	2,897.5	2,576.0
Additions	–	16.5	175.3	57.2	249.0	329.1
Transfers	(0.3)	228.5	(228.7)	0.5	–	–
Transfers (to)/from investment properties	(42.6)	(39.0)	–	–	(81.6)	1.6
Disposals	(1.7)	(3.9)	–	(10.1)	(15.7)	(8.4)
Currency adjustments	–	(0.3)	–	(0.2)	(0.5)	(0.8)
At 31 July	377.5	1,938.4	316.5	416.3	3,048.7	2,897.5
Accumulated depreciation						
At 1 August	–	139.6	–	269.7	409.3	327.0
Charge for the year	–	53.7	–	40.7	94.4	89.9
Transfers (to)/from investment properties	–	(3.1)	–	–	(3.1)	(0.2)
Elimination on disposals	–	(1.0)	–	(10.0)	(11.0)	(7.9)
Currency adjustments	–	(0.1)	–	(0.1)	(0.2)	0.5
At 31 July	–	189.1	–	300.3	489.4	409.3
Net book value						
At 31 July	377.5	1,749.3	316.5	116.0	2,559.3	2,488.2
At 1 August	422.1	1,597.0	369.9	99.2	2,488.2	2,249.0

The net book value of leasehold land and buildings included in the above table is £242.7m (2017: £248.8m).

University	Assets in				2018	2017
	Land	Buildings	construction	Equipment	Total	Total
	£m	£m	£m	£m	£m	£m
Cost						
At 1 August	422.1	1,731.0	371.6	363.5	2,888.2	2,565.7
Additions	–	16.3	175.9	55.2	247.4	327.8
Transfers	(0.3)	229.5	(229.3)	0.1	–	–
Transfers (to)/from investment properties	(42.6)	(39.0)	–	–	(81.6)	1.6
Disposals	(1.7)	(3.9)	–	(9.6)	(15.2)	(5.8)
Currency adjustments	–	(0.2)	–	–	(0.2)	(1.1)
At 31 July	377.5	1,933.7	318.2	409.2	3,038.6	2,888.2
Accumulated depreciation						
At 1 August	–	138.0	–	266.0	404.0	322.6
Charge for the year	–	53.3	–	40.3	93.6	86.9
Transfers (to)/from investment properties	–	(3.1)	–	–	(3.1)	(0.2)
Elimination on disposals	–	(1.0)	–	(9.5)	(10.5)	(5.4)
Currency adjustments	–	–	–	–	–	0.1
At 31 July	–	187.2	–	296.8	484.0	404.0
Net book value						
At 31 July	377.5	1,746.5	318.2	112.4	2,554.6	2,484.2
At 1 August	422.1	1,593.0	371.6	97.5	2,484.2	2,243.1

Notes to the accounts for the year ended 31 July 2018 (continued)

20 Heritage assets	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Opening balance	67.3	65.1	67.3	65.1
Additions in the year	3.3	2.2	3.3	2.2
Closing balance at 31 July	70.6	67.3	70.6	67.3

The University holds and conserves certain collections, artefacts and other assets of historical, artistic or scientific importance. Most of these are housed in the University's nationally accredited museums and collections and in its libraries, providing a valuable research and educational resource locally, nationally and internationally as well as an unrivalled opportunity to present the University's work to a wide audience. Other collections are held in academic departments or are on display as public art. Major collections include those held by the University Library, a legal deposit, the Botanic Garden, and the Fitzwilliam Museum.

In respect of its major collections, the University's practice, in accordance with the national accreditation standards, is: to preserve, conserve, and manage the objects in its care; to augment the collections where appropriate and within the resources available; to enable and encourage access to and use of the collections for teaching and research; and to enable wide access to and engagement with the collections by members of the public.

As stated in the statement of significant accounting policies, heritage assets acquired since 1 August 1999 have been capitalised. The majority of assets held in the University's collections were acquired before 1 August 1999; because reliable estimates of cost or valuation are not available for these on a cost-benefit basis they have not been capitalised. As a result the total included in the balance sheet is partial.

Additions for the current and previous four years were as follows:

	2018	2017	2016	2015	2014
	£m	£m	£m	£m	£m
Acquisitions purchased with specific donations	1.1	1.3	1.2	1.1	0.4
Value of acquisitions by donation	2.2	0.4	2.5	0.4	0.1
Total acquired by, or funded by, donations	3.3	1.7	3.7	1.5	0.5
Acquisitions purchased with University funds	–	0.5	0.5	–	0.5
Total acquisitions capitalised	3.3	2.2	4.2	1.5	1.0

21 Non-current asset investments

a) Other investments	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Opening balance	2,766.1	2,616.4	2,239.3	2,151.8
Additions in the year	79.8	65.1	72.3	66.6
Disposals in the year	(184.1)	(317.2)	(162.6)	(299.7)
Transfers (to)/from other balance sheet accounts	–	(0.1)	–	(0.1)
Valuation gains on investments	250.1	401.9	197.7	320.7
Closing balance at 31 July	2,911.9	2,766.1	2,346.7	2,239.3
Represented by:				
CUEF units (see note 11)	2,824.6	2,689.6	2,260.2	2,161.1
Securities	17.3	21.7	11.0	11.3
Spin-out and similar companies (see note 35)	62.9	49.5	40.6	31.4
Investments in subsidiary undertakings	–	–	33.9	34.8
Other	7.1	5.3	1.0	0.7
	2,911.9	2,766.1	2,346.7	2,239.3

Other investments primarily relates to investments in joint ventures and associates of £7.0m (2017: £5.2m).

Notes to the accounts for the year ended 31 July 2018 (continued)

21 Non-current asset investments (continued)

b) Investment properties	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Opening balance	407.1	288.0	407.1	288.0
Additions in the year	48.3	116.2	48.3	116.2
Disposals in the year	(1.4)	(0.5)	(1.4)	(0.5)
Transfers (to)/from other balance sheet accounts	78.5	(1.8)	78.5	(1.8)
Net gains / (losses) from fair value adjustments	(31.1)	5.2	(31.1)	5.2
Closing balance at 31 July	501.4	407.1	501.4	407.1
Represented by:				
North West Cambridge development	327.2	332.1	327.2	332.1
Other investment property	174.2	75.0	174.2	75.0
	501.4	407.1	501.4	407.1

Phase 1 of the North West Cambridge development is mostly complete and includes accommodation for University staff and students, infrastructure and community facilities. As the development has previously been in its construction phase it has been carried at cost. For 2017-18 the properties are required to be measured at fair value at the reporting date. A valuation has been undertaken based on a net discounted cash flow model of future revenue streams, net of associated expenditure. The result is a devaluation in the carrying value of the investment of £50.4m. This is reflected as a valuation loss on investment and reduces the carrying value of the investment from £377.6m to £327.2m. Other investment property is also revalued annually which has resulted in a gain on investment of £19.3m.

22 Stocks and work in progress

	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Goods for resale	23.6	25.2	19.1	20.9
Pre-publication costs and other work in progress	22.6	23.1	20.5	21.5
Other stocks	1.2	1.3	1.2	1.3
	47.4	49.6	40.8	43.7

23 Trade and other receivables**Amounts due within one year**

Research grants recoverable	124.0	105.6	120.7	105.4
Amounts due from subsidiary undertakings	-	-	45.8	30.2
Debtors re examination and assessment services	111.7	88.4	108.9	86.3
Debtors re publishing services	113.3	112.7	87.2	88.6
Other debtors	69.2	73.2	61.6	58.7
	418.2	379.9	424.2	369.2

24 Current asset investments

CUEF units held on behalf of other entities (see note 11)	428.2	294.8	992.6	823.3
Money market investments	63.1	43.5	63.1	43.5
Other	7.6	6.5	7.6	6.5
	498.9	344.8	1,063.3	873.3

25 Cash and cash equivalents

Money market investments with maturity less than three months	793.6	194.3	793.6	194.3
Cash at bank and in hand and with investment managers	75.7	87.0	21.9	51.6
	869.3	281.3	815.5	245.9

Notes to the accounts for the year ended 31 July 2018 (continued)

26 Creditors: amounts falling due within one year	Group	Group	University	University
	2018	2017	2018	2017
	£m	£m	£m	£m
Bank overdraft	14.0	–	14.0	–
Current portion of long-term bank loan	–	0.8	–	0.8
Finance leases	1.4	1.3	1.4	1.3
Research grants received in advance	216.2	192.7	211.1	192.7
Amounts due to subsidiary undertakings	–	–	30.9	11.7
Creditors re examination and assessment services	78.1	85.1	26.8	63.8
Creditors re publishing services	112.6	111.3	100.0	99.5
Other creditors	233.7	206.1	233.5	178.2
Investments and cash equivalents held on behalf of subsidiary undertakings	–	–	592.8	557.7
Investments and cash equivalents held on behalf of Colleges and other associated bodies	440.8	298.7	440.8	298.7
	1,096.8	896.0	1,651.3	1,404.4
27 Creditors: amounts falling due after more than one year				
Bond liabilities - unsecured 2012 (Fixed interest)	342.6	342.5	342.6	342.5
Bond liabilities - unsecured 2018 (Fixed interest)	297.8	–	297.8	–
Bond liabilities - unsecured 2018 (Index-linked)	296.7	–	296.7	–
Bank loans	–	0.7	–	–
Finance leases	1.2	2.6	1.2	2.6
Accruals and deferred income	11.3	10.5	–	–
	949.6	356.3	938.3	345.1

On 17 October 2012 the University issued £350m of 3.75% unsecured Bonds due October 2052. The Bonds were issued at 98.168% of their principal amount. The proceeds of issue, less directly attributable transaction costs, amounted to £342m. Interest at 3.75% p.a. is payable on 17 April and 17 October each year and commenced on 17 April 2013. In addition, on 27 June 2018 the University issued £300m of 2.35% unsecured Bonds due June 2078. The Bonds were issued at 99.552% of their principal amount. The proceeds of issue, less directly attributable transaction costs, amounted to £297.8m. Interest at 2.35% pa is payable on 27 June and 27 December each year commencing on 27 December 2018.

The Bonds will be redeemed at their principal amounts of £350m and £300m on 17 October 2052 and 27 June 2078 respectively. The Bonds are initially measured at the proceeds of issue less all transaction costs directly attributable to the issue. After initial recognition, the Bonds are measured at amortised cost using the effective interest rate method. Under this method the discount at which the Bonds were issued and the transaction costs are accounted for as additional interest expense over the term of the Bonds.

Also on 27 June 2018 the University issued £300m of Index-linked Bonds (the "Indexed Bonds") due June 2068. The Indexed Bonds were issued at 98.893% of their principal amount. Interest is payable annually in arrears on 27 June each year commencing 27 June 2019. The interest charged will be calculated as the product of 0.25% p.a. and the Limited Index Ratio. The Indexed Bonds will be redeemed in accordance with the Amortisation Schedule multiplied by the Limited Index Ratio or may be redeemed earlier at the option of the University. The Indexed Bonds are accounted for as complex financial instruments and are initially recognised at fair value at the transaction date and subsequently re-measured to their fair value at the reporting date. Transaction costs are immediately expensed on initial recognition. The fair value of the Indexed Bonds at the reporting date is deemed to be the face value (net of discount) of £296.7m.

All the Bonds referred to above are listed on the London Stock Exchange.

Notes to the accounts for the year ended 31 July 2018 (continued)

28 Pension liabilities

Group	CPS	Press	Defined benefit total	USS deficit recovery	Total 2018	Total 2017
	£m	£m	£m	£m	£m	£m
Opening balance	522.4	96.6	619.0	120.1	739.1	756.5
Movement in year:						
Current service cost	33.5	1.6	35.1	–	35.1	33.4
Contributions	(28.4)	(4.6)	(33.0)	(8.0)	(41.0)	(41.4)
Administration expenses	1.0	–	1.0	–	1.0	1.0
Interest on liability	13.4	2.5	15.9	2.3	18.2	17.3
Currency adjustments	–	0.1	0.1	–	0.1	0.1
Change in underlying assumptions	–	–	–	4.5	4.5	(1.5)
Actuarial gain	(99.1)	(22.8)	(121.9)	–	(121.9)	(26.3)
Closing balance at 31 July	442.8	73.4	516.2	118.9	635.1	739.1
University						
Opening balance	522.4	96.6	619.0	115.1	734.1	750.9
Movement in year:						
Current service cost	33.5	1.6	35.1	–	35.1	33.4
Contributions	(28.4)	(4.6)	(33.0)	(7.7)	(40.7)	(41.1)
Administration expenses	1.0	–	1.0	–	1.0	1.0
Interest on liability	13.4	2.5	15.9	2.2	18.1	17.3
Currency adjustments	–	0.1	0.1	–	0.1	0.1
Change in underlying assumptions	–	–	–	5.2	5.2	(1.2)
Actuarial gain	(99.1)	(22.8)	(121.9)	–	(121.9)	(26.3)
Closing balance at 31 July	442.8	73.4	516.2	114.8	631.0	734.1

The net liabilities in respect of the Cambridge University Assistants' Contributory Pension Scheme (CPS) and the Press defined benefit schemes represent the present value of the schemes' obligations to provide future benefits in relation to past service, less the assets of the schemes. For additional information please refer to note 34.

In accordance with the requirements of the SORP, the University currently recognises a provision for its obligation to fund past deficits arising with the Universities Superannuation Scheme (USS). The recovery plan in the 2014 actuarial valuation requires employers to contribute 2.1% of salaries towards repairing the deficit over a period of 17 years, of which 14 years remain. Details of this provision, which has been discounted at a rate of 2.20% as at 31 July 2018 (2017: 1.89%), are included in note 34 to the financial statements.

The 2017 actuarial valuation of the USS has been undertaken but this has not yet been formally completed. The 2017 valuation has set out the challenges currently facing the scheme and the likelihood of significant increases in contributions being required to address these challenges.

In the judgement of the University, as the 2017 valuation has not formally completed, and there remains various stages of consultation around the key factors specifically relating to the funding of the past deficit, including the level of contributions required, the period of the recovery plan and the level of asset performance over the period, it remains appropriate to continue to account for the past deficit obligation in accordance with the plan agreed after the 2014 actuarial valuation.

However, there is a significant risk that the year end provision as calculated will not reflect the position following the final outcome of negotiations, potentially by a significant amount depending on what is finally agreed as regards future deficit contributions and their duration. The University expects to have greater clarity in this respect during the next financial year. Based on the inputs to the model, the following sensitivity analysis outlines the potential impact on the existing liability of £118.9m (assuming the same discount rate of 2.20%):

- a) Impact of a 1% increase in the deficit recovery plan contribution from 2.1% to 3.1%. (Liability increases by £56m to £175m)
- b) Impact of a 3.9% increase in the deficit recovery plan contribution from 2.1% to 6.0%. (Liability increases by £220m to £339m)
- c) Impact of extending the duration of deficit repayment by 3 years to 2035. (Liability increases by £44m to £163m)

The movements described as a "change in underlying assumptions" include the impact of movements in discount rates. The resulting increase in provision in 2017-18 is included in staff costs (see note 13).

It should be noted that no allowance has been made for any additional CPS pension liability that might arise from the impact of equalising Guaranteed Minimum Pensions (GMPs) between men and women. The Lloyd's Bank High Court ruling on 26 October 2018 confirmed that GMPs should be equalised from the date of the Barber judgement (17 May 1990). The expectation is that any additional liability will not be material and it will be considered further as part of the next triennial actuarial valuation due as at 31 July 2018.

Notes to the accounts for the year ended 31 July 2018 (continued)

29 Other retirement benefits liabilities

	2018	2017
Group and University	£m	£m
Opening balance	22.4	22.4
Movement attributable to the year:		
Current service cost less benefits paid	0.2	0.3
Contributions	(1.0)	(1.0)
Other finance cost	0.6	0.6
Currency adjustments	–	0.1
Actuarial gain	(0.6)	–
Closing balance at 31 July	21.6	22.4

These liabilities arise in relation to unfunded post-retirement medical and insurance schemes.

30 Endowment reserves

	Permanent	Expendable	2018	2017
Group	£m	£m	Total	Total
	£m	£m	£m	£m
Balance at 1 August	1,202.4	525.5	1,727.9	1,519.2
New endowments received	18.6	3.0	21.6	30.4
Investment income	2.4	2.9	5.3	3.1
Expenditure	(33.4)	(21.5)	(54.9)	(51.8)
Valuation gains on investments	109.3	46.5	155.8	227.0
Balance at 31 July	1,299.3	556.4	1,855.7	1,727.9
Capital	1,124.4	526.4	1,650.8	1,541.6
Unspent income	174.9	30.0	204.9	186.3
Balance at 31 July	1,299.3	556.4	1,855.7	1,727.9
Representing:				
Trust and Special Funds:				
Professorships, Readerships, and Lectureships	662.9	81.1	744.0	684.0
Scholarships and bursaries	159.3	18.6	177.9	169.4
Other	449.7	164.7	614.4	524.0
Gates Cambridge Trust	–	285.5	285.5	268.7
Examination Board restricted funds	–	6.5	6.5	6.1
General endowments	27.4	–	27.4	75.7
Group total	1,299.3	556.4	1,855.7	1,727.9
University				
Balance at 1 August	1,196.3	253.0	1,449.3	1,268.9
New endowments received	18.6	3.0	21.6	30.4
Income receivable from endowment asset investments	–	–	–	2.0
Transfers	2.4	1.4	3.8	–
Expenditure	(33.2)	(11.0)	(44.2)	(41.7)
Valuation gains on investments	108.8	22.6	131.4	189.7
Balance at 31 July	1,292.9	269.0	1,561.9	1,449.3
Capital	1,118.0	239.0	1,357.0	1,263.0
Unspent income	174.9	30.0	204.9	186.3
Balance at 31 July	1,292.9	269.0	1,561.9	1,449.3

Notes to the accounts for the year ended 31 July 2018 (continued)

31 Restricted reserves

	Unspent capital grants £m	Unspent research grants £m	Specific donations £m	2018 Total £m	2017 Total £m
Group					
Balance at 1 August	18.1	21.3	46.1	85.5	79.2
Donations and grants recognised in the year	37.3	38.5	24.6	100.4	72.6
Investment income	–	–	0.3	0.3	0.2
Expenditure	–	(7.6)	(20.8)	(28.4)	(26.0)
Capital grants spent	(41.7)	(20.1)	(0.1)	(61.9)	(43.2)
Valuation gains on investments	–	–	2.0	2.0	2.7
Balance at 31 July	13.7	32.1	52.1	97.9	85.5
University					
Balance at 1 August	18.1	21.3	44.9	84.3	78.5
Donations and grants recognised in the year	37.3	38.5	14.8	90.6	64.0
Investment income	–	–	0.3	0.3	0.1
Expenditure	–	(7.6)	(10.8)	(18.4)	(17.8)
Capital grants spent	(41.7)	(20.1)	–	(61.8)	(43.2)
Valuation gains on investments	–	–	2.0	2.0	2.7
Balance at 31 July	13.7	32.1	51.2	97.0	84.3

32 Non-controlling interests

Non-controlling interests represent the interests of minority shareholders in the total comprehensive income and net assets of subsidiary companies where the University holds less than 100% of the issued share capital (see note 35). The movement in non-controlling interests in the statement of total comprehensive income and unrestricted reserves of the Group were as follows:

	Group 2018 £m	Group 2017 £m
Opening balance	0.5	0.9
Total comprehensive income attributable to non-controlling interests	1.7	0.4
Acquisition of non-controlling interest	–	(0.5)
Disposal of non-controlling interest	–	–
Dividends paid to non-controlling interests	(0.5)	(0.3)
Closing balance at 31 July	1.7	0.5

For the year ended 31 July 2018, the total comprehensive income attributable to non-controlling interests was £1.7m (2017: £0.4m) and the unrestricted reserves attributable to non-controlling interests was £1.7m (2017: £0.5m).

33 Capital commitments and contingent liabilities

	Group 2018 £m	Group 2017 £m
Commitments for capital expenditure:		
Commitments contracted at 31 July	535.5	336.1
Authorised but not contracted at 31 July	174.5	23.1
Commitments for capital calls on investments	505.3	417.9

*Notes to the accounts for the year ended 31 July 2018 (continued)***34 Pension schemes**

The two principal pension schemes for the University's staff are the Universities Superannuation Scheme (USS) and the Cambridge University Assistants' Contributory Pension Scheme (CPS). The USS and the CPS are not closed, nor is the age profile of their active membership rising significantly.

Cambridge University Press operates two pension schemes for its UK staff, the Press Contributory Pension Fund (PCPF) and the Press Senior Staff Pension Scheme (PSSPS). The PCPF and the PSSPS have been closed to new members.

The assets of the schemes are held in separate trustee-administered funds. The schemes are defined benefit schemes, with the exception of USS which is a hybrid pension scheme, and are each valued every three years using the projected unit method by professionally qualified actuaries, the rates of contribution payable being determined by the trustees on the advice of the actuaries.

Universities Superannuation Scheme (USS)

The University participates in the Universities Superannuation Scheme. The scheme is a hybrid pension scheme, providing defined benefits (for all members), as well as defined contribution benefits. Because of the mutual nature of the scheme, the scheme's assets are not attributed to individual institutions and a scheme-wide contribution rate is set. The University is therefore exposed to actuarial risks associated with other institutions' employees and is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis. As required by section 28 of FRS 102 'Employee Benefits' the University therefore accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the profit and loss account represents contributions payable to the scheme. Since the University has entered into an agreement (the Recovery Plan) that determines how each employer within the scheme will fund the overall deficit, the University recognises a liability for the contributions payable that arise from the agreement (to the extent that they relate to the deficit) and therefore an expense is recognised.

The total cost charged to the profit and loss account is £93.8m (2017: £85.5m).

The latest available complete actuarial valuation of the Retirement Income Builder section of the scheme is at 31 March 2014 (the valuation date), which was carried out using the projected unit method. The valuation as at 31 March 2017 is underway but not yet completed.

Since the University cannot identify its share of Retirement Income Builder Section of the scheme assets and liabilities, the following disclosures reflect those relevant for the section as a whole.

The 2014 valuation was the third valuation for USS under the scheme-specific funding regime introduced by the Pensions Act 2004, which requires schemes to adopt a statutory funding objective to have sufficient and appropriate assets to cover their technical provisions. At the valuation date, the value of the assets of the scheme was £41.6bn and the value of the scheme's technical provisions was £46.9bn indicating a shortfall of £5.3bn. These figures will be revised once the 2017 Scheme Valuation is complete.

Defined benefit liability numbers (see Note 28) for the scheme for accounting purposes have been produced using the following assumptions as at 31 March 2018 and 31 March 2017:

	2018	2017
Discount rate	2.64%	2.57%
Pensionable salary growth	n/a	n/a
Pensions increases (CPI)	2.02%	2.41%

*Notes to the accounts for the year ended 31 July 2018 (continued)***34 Pension schemes (continued)**

The main demographic assumption used relates to the mortality assumptions. These assumptions have been updated for the 31 March 2018 accounting position, based on updated analysis of the scheme's experience carried out as part of the 2017 actuarial valuation. The mortality assumptions used in these figures are as follows:

	2018	2017
Mortality base table	<u>Pre-retirement:</u> 71% of AMC00 (duration 0) for males and 112% of AFC00 (duration 0) for females.	98% of SAPS S1NA 'light' YOB unadjusted for males.
	<u>Post-retirement:</u> 96.5% of SAPS S1NMA 'light' for male and 101.3% of RFV00 for females.	99% of SAPS S1NA 'light' YOB a -1 year adjustment for females.
Future improvements to mortality	CMI_2016 with a smoothing parameter of 8.5 and a long term improvement rate of 1.8% for males and 1.6% for females.	CMI_2014 with a long term rate of 1.5% p.a.

The current life expectancies on retirement at age 65 are:

	2018	2017
Males currently aged 65 (years)	24.5	24.4
Females currently aged 65 (years)	26.0	26.6
Males currently aged 45 (years)	26.5	26.5
Females currently aged 45 (years)	27.8	29.0
Scheme assets	£63.6bn	£60.0bn
Total scheme liabilities	£72.0bn	£77.5bn
FRS 102 total scheme deficit	£8.4bn	£17.5bn
FRS 102 total funding level	88%	77%

Cambridge University Assistants' Contributory Pension Scheme (CPS)

The CPS was established under the authority of the Universities of Oxford and Cambridge Act 1923. It is a registered pension scheme for the purposes of the Finance Act 2004. The active members of the scheme are employees of the University and its subsidiary undertakings.

Triennial valuation of the scheme

A full triennial valuation of the scheme was carried out by the actuary for the trustees of the scheme for funding purposes as at 31 July 2015. The results showed the actuarial value of the scheme's assets as £551m. These were insufficient to cover the scheme's past service liabilities of £612m; the scheme had a deficit of £61m and was 90% funded.

Since 1 August 2013 employer contributions have been set at 11.5% of pensionable pay for existing members at 31 December 2012 and 5.8% of pensionable pay (together with contributions at 5.0% to a separate defined contribution arrangement) for new entrants from 1 January 2013. In addition fixed employer contributions totalling £14.6m per annum are payable over the period from 1 August 2011 to 31 January 2019. These payments are subject to review following the next funding valuation, due as at 31 July 2018.

CPS: Pension costs under FRS 102

The liabilities of the plan have been calculated for the purposes of FRS102 based on the calculations previously undertaken for the funding actuarial valuation as at 31 July 2015, allowing for the different assumptions required under FRS102 and taking fully into consideration changes in the plan benefit structure and membership since that date. The principal assumptions used by the actuary were:

	2018	2017
Discount rate	2.70%	2.55%
Rate of increase in salaries	4.05%	4.10%
Rate of increase in pensions in deferment	3.25%	3.35%
Rate of increase in pensions in payment	3.25%	3.35%
Mortality - equivalent life expectancy for members reaching the age of 65:		
Males currently aged 65	85	86
Males currently aged 45	87	88
Females currently aged 65	90	89
Females currently aged 45	91	91

Notes to the accounts for the year ended 31 July 2018 (continued)

34 Pension schemes (continued)

The following results were measured in accordance with the requirements of FRS 102, based on the assumptions summarised above:

	Present value of defined benefit obligation		Fair value of scheme assets		Net liability recognised in the balance sheet	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
Opening	(1,182.4)	(1,081.9)	660.0	576.9	(522.4)	(505.0)
Current service cost	(33.5)	(31.4)	–	–	(33.5)	(31.4)
Administrative expenses paid	–	–	(1.0)	(1.0)	(1.0)	(1.0)
Employer contributions	–	–	28.4	28.2	28.4	28.2
Contributions by members	(0.5)	(0.6)	0.5	0.6	–	–
Benefits paid	23.6	21.7	(23.6)	(21.7)	–	–
Interest income / (expense)	(30.3)	(26.1)	16.9	13.9	(13.4)	(12.2)
Remeasurement gains / (losses):						
Actuarial gains / (losses)	72.1	(64.1)	–	–	72.1	(64.1)
Expected less actual plan expenses	–	–	(0.1)	(0.1)	(0.1)	(0.1)
Return on assets excluding interest	–	–	27.1	63.2	27.1	63.2
Closing defined benefit obligation	(1,151.0)	(1,182.4)	708.2	660.0	(442.8)	(522.4)

The movement for the year in the net pension liability is reflected in note 28.

The total cost recognised in expenditure was (£m):

Current service cost	33.5	31.4
Administrative expenses	1.0	1.0
Interest cost	13.4	12.2
	47.9	44.6

The fair values of the major categories of scheme assets expressed as a percentage of the total were:

Equities and hedge funds	71.1%	70.6%
Bonds and cash	19.2%	19.4%
Property	9.7%	10.0%
	100.0%	100.0%

The return on the scheme's assets was (£m):

Interest income	16.9	13.9
Return on assets excluding interest income	27.1	63.2
	44.0	77.1

Cambridge University Press UK defined benefit schemes (PCPF and PSSPS)**Triennial valuation of the schemes**

Full triennial valuations of the schemes were carried out by the actuary for the trustees of the schemes for funding purposes as at 1 January 2016.

Pension costs under FRS 102

For accounting purposes the schemes' assets are measured at fair value and liabilities are valued using the attained age method and discounted using the gross redemption yield for corporate AA rated bonds. The valuations use market-based assumptions and asset valuations, and represent current valuations. They do not impact on the joint contribution rates set by the trustees of the schemes. The actuary has updated the 1 January 2016 valuation to 31 July 2017 for the purposes of these financial statements. The principal assumptions used by the actuary for both schemes were:

Discount rate	2.70%	2.55%
Rate of increase in salaries - schemes are now on frozen current salary basis	0.00%	0.00%
Rate of increase in pensions in deferment	3.50%	3.55%
Rate of increase in pensions in payment	3.50%	3.55%
Mortality - equivalent life expectancy for members at age 60:		
Males	87	87
Females	89	89

Notes to the accounts for the year ended 31 July 2018 (continued)

34 Pension schemes (continued)

The following results were measured in accordance with the requirements of FRS 102, based on the assumptions summarised above. The results for the two schemes have been amalgamated.

	Present value of defined benefit obligation		Fair value of scheme assets		Net liability recognised in the balance sheet	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
Opening	(336.8)	(344.5)	241.9	225.2	(94.9)	(119.3)
Current service cost	(1.7)	(1.8)	–	–	(1.7)	(1.8)
Employer contributions	–	–	4.6	5.3	4.6	5.3
Contributions by members	(0.1)	(0.1)	0.1	0.1	–	–
Benefits paid	11.8	11.1	(11.8)	(11.1)	–	–
Interest income / (expense)	(8.5)	(8.2)	6.1	5.3	(2.4)	(2.9)
Remeasurement gains:						
Actuarial gains	11.4	6.7	9.0	17.1	20.4	23.8
Closing defined benefit obligation	(323.9)	(336.8)	249.9	241.9	(74.0)	(94.9)

The movement for the year in the net pension liability is reflected in note 28. The above table excludes the US pension scheme surplus relating to the Press's US Defined Benefit Plan of £0.6m (2017: deficit of £1.7m).

The total cost recognised in expenditure was (£m):

Current service cost	1.7	1.8
Interest cost	2.4	2.9
	4.1	4.7

The fair values of the major categories of scheme assets expressed as a percentage of the total were:

Equities	39.0%	39.1%
Gilts	0.0%	19.5%
Property	6.9%	6.7%
Cash and annuities	1.1%	0.6%
Diversified growth fund	34.2%	34.1%
Diversified credit fund	18.8%	0.0%
	100.0%	100.0%

The return on the scheme's assets was:

Interest income (£m)	6.1	5.3
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The University also has a smaller number of staff in other pension schemes, including the National Health Service Pension Scheme (NHSPS). Further disclosures are not given as the balances and movements are not material.

The total group pension cost for the year (see note 13) was:

	Employer contributions	Provisions (note 28)	Total	Employer contributions	Provisions (note 28)	Total
	2018 £m	2018 £m		2017 £m	2017 £m	
USS	97.3	(3.5)	93.8	95.0	(9.5)	85.5
CPS	29.2	6.1	35.3	29.5	4.2	33.7
PCPF	2.2	(0.8)	1.4	2.4	(0.8)	1.6
PSSPS	2.4	(2.2)	0.2	2.8	(2.6)	0.2
NHSPS	2.3	–	2.3	2.3	–	2.3
Other pension schemes	8.7	(0.1)	8.8	7.5	0.1	7.6
	142.1	(0.3)	141.8	139.5	(8.6)	130.9

*Notes to the accounts for the year ended 31 July 2018 (continued)***35 Principal subsidiary and associated undertakings and other significant investments**

The following undertakings were subsidiary undertakings during the year ended 31 July 2018. Except where stated, the accounting reference date is 31 July and the undertaking is a wholly-owned company registered in England and Wales.

Name	Notes	Principal activity
Cambridge Centre for Advanced Research and Education in Singapore Limited	a	Research and development
Cambridge Enterprise Limited		Consultancy and commercial exploitation of intellectual property
IFM Education and Consultancy Services Limited		Consultancy and commercial exploitation of intellectual property
Cambridge Investment Limited		Land development
Cambridge Investment Management Limited		Investment management
Cambridge Sustainability Ltd		Sustainability leadership programmes
Cambridge Institute for Sustainability Leadership (Australia)	b	Sustainability leadership programmes
Cambridge Institute for Sustainability Leadership (South Africa) NPC	c	Sustainability leadership programmes
Cambridge Institute for Sustainability Leadership (Belgium)	d	Sustainability leadership programmes
Cambridge University Technical Services Limited		Consultancy and commercial exploitation of intellectual property
The Dennis S Avery and Sally Tsui Wong-Avery Endowment Trust	e	Advancement of education and research in cosmology at the University
Fitzwilliam Museum (Enterprises) Limited		Publication of fine art books and sale of museum merchandise
JBS Executive Education Limited		Corporate education services
Lynxvale Limited		Construction and development services
UTS Cambridge		Primary school education
Cambridge ClassServer LLP	f	Development and commercialisation of digital educational material for China
English Language iTutoring Limited	g	Commercialisation of provision of automated tutoring and assessment in learning of English as a foreign language
Portal Estate Management		Management and maintenance of the North West Cambridge estate
Core Sustainable Heat Management Limited		North West Cambridge estate hot water and heating services
Lodge Property Services Ltd		North West Cambridge estate letting and accommodation services
Storeys Field Community Trust	h	Operational management services for the North West Cambridge estate community centre
Foundation for Genomics and Population Health	e, ac	Provision of biological research
Cambridge University International Holdings Limited		Holding company for overseas projects
Cambridge India Research Foundation	o	Research and development
Associated Trusts	e	Provision of scholarships, grants and other support for the education of UK and overseas students in the University
Cambridge Commonwealth, European and International Trust		
Gates Cambridge Trust		
Malaysian Commonwealth Studies Centre in Cambridge		

Notes to the accounts for the year ended 31 July 2018 (continued)

35 Principal subsidiary and associated undertakings and other significant investments (continued)

Cambridge Assessment subsidiary undertakings

Cambridge Assessment Overseas Limited		Overseas office services
Cambridge Assessment Singapore	i	Overseas office services
Cambridge Avaliacao Representacao e Promocao Ltda	j	Overseas office services
Cambridge Consulting (Beijing) Co. Ltd	k	Overseas office services
Cambridge Assessment Inc	l	Overseas office services
Cambridge English (Aus)	m	Examination services
Cambridge Boxhill Language Pty Limited	m	Examination services
Cambridge Michigan Language Assessment LLC (USA)	n	Examination services
Cambridge Assessment India Private Limited	o	Overseas office services
Cambridge Assessment Pakistan Private Limited	p	Overseas office services
Fundacion UCLES	q	Overseas office services
Oxford and Cambridge International Assessment Services Limited		Overseas office services
The West Midlands Examinations Board		Examination services
Oxford Cambridge and RSA Examinations	e	Examination services

Cambridge University Press subsidiary undertakings

	r	
Academic Journal Publishing Pty Limited	m	Intermediate holding company
Australian Academic Press Pty Limited	m	Non-trading
Cambridge Daigaku Shuppan KK	s	Sales support office for the Japanese market
Cambridge Knowledge (China) Limited	t	Sales support office for the Chinese market
Cambridge University Press (Greece) MEPE	u	Sales support office for the Greek, Cypriot and Mediterranean market
Cambridge University Press (Holdings) Limited		Multi-activity holding company
Cambridge University Press India Private Limited	o	Academic and educational book publisher & distributor for India
Cambridge University Press Nigeria Limited	v	Educational book publisher & distributor for Nigeria
Cambridge University Press Operations Limited		Publishing services company
Cambridge University Press Satış ve Dağıtım Ticaret Limited Şirketi	w	Non-trading
Cambridge University Press Turkey Satış Destek Limited Sirketi	w	Sales support office for the Turkish market
Cambridge University Press South Africa Proprietary Limited	x	Academic and educational book publisher & distributor for South Africa
Cambridge Learning Limited		Non-trading
Editorial Edicambridge Cia Ltda	y	Sales support office for the Ecuadorian market
Digital Services Cambridge Limited		Software development, infrastructure and business services
ELT Trading SA de CV	z	Distribution company (Mexico and Latin America)
HOTmaths Pty Limited	aa	Development and commercialisation of web-based maths digital learning management systems
United Publishers Services Limited	t	Non-trading
Oncoweb Limited		Non-trading intermediate holding company
Cambridge-Obeikan Company Limited	ab	Academic and educational book distributor

*Notes to the accounts for the year ended 31 July 2018 (continued)***35 Principal subsidiary and associated undertakings and other significant investments (continued)**

- a Cambridge Centre for Advanced Research and Education in Singapore Limited is incorporated in Singapore and has an accounting reference date of 31 March for commercial reasons. The effect of this is not material to the consolidated accounts.
- b Cambridge Institute for Sustainability Leadership (Australia) is incorporated in Australia and has an accounting reference date of 30 June for commercial reasons. The effect of this is not material to the consolidated accounts.
- c Cambridge Institute for Sustainability Leadership (South Africa) is incorporated in South Africa.
- d Cambridge Institute for Sustainability Leadership (Belgium) is incorporated in Belgium.
- e These entities are exempt charities established by trust deeds (see note 36).
- f Cambridge ClassServer LLP is a limited liability partnership registered in England and Wales, in which the University has a two thirds interest acting through Cambridge Assessment and Cambridge University Press.
- g English Language iTutoring Limited is a limited company registered in England and Wales, in which the University has a 50% interest acting through Cambridge Assessment and Cambridge University Press.
- h Joint venture arrangement between the University and Cambridge City Council, with the University holding a 50% interest in the company which is limited by guarantee and registered in England and Wales.
- i Cambridge Assessment Singapore is incorporated in Singapore.
- j Cambridge Avaliacao Representacao e Promocao Ltda is incorporated in Brazil.
- k Cambridge Consulting (Beijing) Co. Ltd is incorporated in China.
- l Cambridge Assessment Inc is a United States non-stock non-profit corporation.
- m Cambridge English (Aus), Cambridge Boxhill Language Pty Limited, Academic Journal Publishing Pty Limited and Australian Academic Press Pty Limited are incorporated in Australia.
- n Cambridge Michigan Language Assessment LLC (USA) is 65% owned by Cambridge Assessment Inc and is incorporated in the United States.
- o Cambridge India Research Foundation, Cambridge Assessment India Private Limited and Cambridge University Press India Private Limited are incorporated in India.
- p Cambridge Assessment Pakistan Private Limited is incorporated in Pakistan.
- q Fundacion UCLES is incorporated in Spain.
- r Cambridge University Press subsidiary undertakings have an accounting reference date of 30 April for commercial reasons, with the exceptions of the companies incorporated in India (31 March) and Mexico (31 December).
- s Cambridge Daigaku Shuppan KK is incorporated in Japan.
- t Cambridge Knowledge (China) Limited and United Publishers Services Limited are incorporated in Hong Kong.
- u Cambridge University Press (Greece) MEPE is incorporated in Greece.
- v Cambridge University Press Nigeria Limited is incorporated in Nigeria.
- w Cambridge University Press Satış ve Dağıtım Ticaret Limited Şirketi and Cambridge University Press Turkey Satis Destek Limited Sirket are incorporated in Turkey.
- x Cambridge University Press South Africa Proprietary Limited is a 75% subsidiary incorporated in South Africa.
- y Editorial Edicambridge Cia Ltda is incorporated in Ecuador.
- z ELT Trading SA de CV is incorporated in Mexico.
- aa HOTmaths Pty Limited is a 55% subsidiary incorporated in Australia.
- ab Cambridge-Obeikan Company Limited is incorporated in Saudi Arabia.
- ac Foundation for Genomics and Population Health has an accounting reference date of 31 March. The Foundation was acquired on 1 April 2018 for nil consideration and has been consolidated from this date. The net assets on the date of acquisition were £1.6m which has resulted in a profit on acquisition of £1.6m which has been recognised in the statement of comprehensive income.

Other investments

The University has interests in a number of spin-out companies formed to exploit intellectual property rights or inventions. These are included at valuation in non-current asset investments (see note 21). In some cases the University's interest amounted to 20% or more of the share capital at the year end, and these companies are listed below. As the University does not exercise a significant influence over these investments and they are not intended to be held for the long-term, they are not accounted for as associated undertakings. Other undertakings where the University's investment amounts to 20% or more are also listed below. These are not accounted for as associated undertakings as the effect on the financial statements would not be material.

Notes to the accounts for the year ended 31 July 2018 (continued)

35 Principal subsidiary and associated undertakings and other significant investments (continued)

Name	% interest	Principal Activity
Cytora Limited	79	Commercial exploitation of intellectual property
Morphogen-IX Limited	28	Commercial exploitation of intellectual property
Polypharmakos	27	Commercial exploitation of intellectual property
Predictimmune	24	Commercial exploitation of intellectual property
ROADMap Systems Limited	24	Commercial exploitation of intellectual property

In addition, at the year end the University held an interest of 33.5% in Cambridge Innovation Capital plc as part of its investment portfolio. Movements in the carrying value of this investment are included in the consolidated surplus for the year.

36 Related party transactions

Due to the nature of the University's operations and the composition of its Council, it is inevitable that the University will enter into transactions in the normal course of business with Colleges, NHS Trusts, Research Councils, other grant-awarding bodies, and other private and public sector organisations in which members of the Council may have an interest. All transactions involving organisations in which members of Council may have such an interest, including those summarised below, are conducted in accordance with the University's financial regulations and usual procurement procedures. A register of the interests of the members of the Council is maintained.

The financial statements of the University include transactions with:

- (a) entities over which a member of Council or of key management personnel (see note 13) has control or joint control;
- (b) entities over which a member of Council has significant influence; and
- (c) entities of which a member of Council is a member of the key management personnel.

Such transactions are summarised below where they are considered material to the University's financial statements and / or to the other party. The University has taken advantage of the exemption within FRS 102 and has not disclosed transactions with other group entities where it holds 100% of the voting rights.

Transactions with Colleges are summarised in note 37 below. Included within the financial statements are other transactions with the following related parties:

Cambridge University Hospitals NHS Foundation Trust

Cambridge University Hospitals NHS Foundation Trust (the 'Trust'), comprising Addenbrooke's and the Rosie hospitals, is owned by a membership of patients, public and staff who are represented by a council of governors which includes a member of the University Registry team who attends the University Council. Research grants and contracts income for the year ended 31 July 2018 includes £21m in respect of continuing grants funded by the Trust, and £18m was invoiced to the Trust in respect of other services, principally salary recharges. The University made payments to the Trust totalling £10.6m in the year ended 31 July 2018. Balances with the Trust at the year end were trade debtors £6.7m, trade creditors £1.4m and net research invoiced in advance and treated as a creditor £3.2m.

Cambridge University Students Union

One of the student members on the University Council held a part time executive position in the Student Union for the 2017-18 financial year. Under *Statutes and Ordinances*, Chapter II, the University has discretion to provide financial assistance to the Union and, in the year ended 31 July 2018, provided a grant of £322,000 and made other payments totalling £46,000 for services provided. The Union made payments to the University totalling £4,000 for temporary staff, network and other services provided.

Cancer Research UK

The outgoing Vice-Chancellor was appointed as Chairman of Cancer Research UK during 2016-17. Research grants and contracts income for the year ended 31 July 2018 includes £41.2m in respect of continuing grants funded by Cancer Research UK. At the year end net research invoiced in advance and treated as a creditor was £18m.

European Research Council

The European Research Council (ERC) is a public body for funding of scientific and technological research conducted within the European Union (EU). Established by the European Commission in 2007 the ERC is led by an independent Scientific Council that includes a member of the University's Council. Research grants and contracts income for the year ended 31 July 2018 includes £33.8m in respect of continuing grants funded by ERC of which £9.4m was included in creditors at the year end.

*Notes to the accounts for the year ended 31 July 2018 (continued)***36 Related party transactions (continued)****Gatsby Charitable Foundation**

Lord Sainsbury of Turville, who was elected as Chancellor of the University in October 2011, is settlor of the Gatsby Charitable Foundation (Gatsby) and, together with the Gatsby Trustees, is actively involved in setting the Foundation's strategic direction and approving its activities. In 2006 the University approved a proposal to establish a Sainsbury Laboratory for plant science in Cambridge, with Gatsby providing capital funding and research funds over a ten year period. The Sainsbury Laboratory was completed in the year ended 31 July 2011, with Gatsby capital contributions totalling £74m. Research grants and contracts income for the year ended 31 July 2018 includes £9.3m in respect of continuing grants funded by Gatsby of which £1.3m was included in creditors at the year end.

Office for Students

The Office for Students (OfS) allocates funding from the Government to universities and colleges in England from 1 April 2018. Previously, funding was provided through the Higher Education Funding Council for England (HEFCE). HEFCE was led by the HEFCE Board that included a member of the University's Council. Funding received from HEFCE and the OfS is included in funding body grants (see note 6) in accordance with the University's accounting policies. At 31 July 2018 current liabilities included £10.1m in respect of funding received from HEFCE and the OfS but not yet recognised as income.

Kidney Research UK

Kidney Research UK is a registered charity governed by a Board of Trustees that includes a member of the University's Council. Research grants and contracts income for the year ended 31 July 2018 includes £276,000 in respect of grants funded by Kidney Research UK, of which £150,000 was included in debtors at the year end.

Medical Research Council

The Medical Research Council (MRC) is responsible for coordinating and funding medical research in the United Kingdom. It is part of United Kingdom Research and Innovation, which came into operation from 1 April 2018 and brings together the UK's seven research councils, Innovate UK and Research England. The day-to-day management of the MRC is overseen by the MRC Management Board that includes a member of the University's Council. Research grants and contracts income for the year ended 31 July 2018 includes £63.7m in respect of continuing grants funded by the MRC, of which £18.5m was included in debtors at the year end. £2.1m was invoiced to the MRC in respect of other services, principally salary recharges. The University made payments to the Council totalling £1.6m for the year ended 31 July 2018. Balances with the MRC at the year end were trade debtors of £8.5m and trade creditors of £0.1m.

University of Cambridge Graduate Union

The President of the Graduate Union was also a member of the University's Council for the 2017-18 financial year. Under *Statutes and Ordinances*, Chapter II, the University has discretion to provide financial assistance to the Graduate Union and, in the year ended 31 July 2018, provided a grant of £88,000.

37 Colleges

There are 31 Colleges, each of which is an independent corporation with its own property and income. Each College publishes its own financial statements in a form specified by the University.

During the year the University paid the Colleges sums totalling £70.1m (2017: £67.3m) under the terms of agreements between the University and the Colleges to share fee income with the Colleges in a way that recognises the relative contributions of the University and the Colleges. These payments are included as "Payments to Colleges" in note 14 above.

The University distributed third party donations to the Colleges totalling £10.0m (2017: £6.9m); these payments are not included in the consolidated statement of comprehensive income. During the year the University provided printing, network and other services to the Colleges for which the Colleges paid a total of £6.7m (2017: £3.9m), and the Colleges provided accommodation, catering and other services to the University for which the University paid a total of £14.7m (2017: £13.1m). During the year the Colleges made donations to the University totalling £5.0m (2017: £5.3m).

Current asset investments include £411.6m (2017: £277.3m) held on behalf of 16 (2017: 14) Colleges in the form of CUEF units (see note 24), £13.8m (2017: £14.9m) held on behalf of the Isaac Newton Trust and £2.8m (2017: £2.6m) held on behalf of other associated bodies.

Colleges Fund

	2018	2017
	£m	£m
Balance at 1 August	-	-
Contributions received from Colleges	4.5	4.4
Interest earned	-	-
Payments to Colleges	(4.5)	(4.4)
Balance at 31 July (included in creditors)	-	-

The Colleges Fund is administered by the University on behalf of the Colleges, who make all contributions to and receive all allocations from the Fund. The transactions on the Colleges Fund are not included in the statement of comprehensive income.

*Notes to the accounts for the year ended 31 July 2018 (continued)***38 Connected charitable institutions**

A number of charitable institutions are administered by or on behalf of the University and have been established for its general or special purposes. As a result, under paragraph 28 of Schedule 3 to the Charities Act 2011, these connected institutions are exempt from registration with the Charity Commission. Some of the connected institutions are included as subsidiary undertakings in these consolidated financial statements; others are not included in the consolidation since the University does not have control over their activities. The movements in the year on these charities' funds as reported in their own accounts were as follows:

	As at 1 August 2017 £m	Income £m	Expenditure £m	Market value increase £m	As at 31 July 2018 £m
Consolidated (see note 35)					
Cambridge Commonwealth, European and International Trust	148.0	26.1	(26.6)	10.1	157.6
Gates Cambridge Trust	268.7	9.2	(8.5)	16.1	285.5
Malaysian Commonwealth Studies Centre in Cambridge	3.8	0.1	(2.1)	0.1	1.9
The Dennis S Avery and Sally Tsui Wong-Avery Endowment Trust	2.9	0.1	(0.1)	0.2	3.1
Oxford Cambridge and RSA Examinations	103.4	59.6	(58.0)	5.9	110.9
	526.8	95.1	(95.3)	32.4	559.0
Fund balances are included in the consolidated balance sheet as:					
Expendable endowments	272.5				287.4
Permanent endowments	5.8				6.4
Restricted reserves	1.0				0.9
Unrestricted reserves	247.5				264.3
	526.8				559.0
Not consolidated					
Isaac Newton Trust, established by Trinity College (see note 37) to promote education, learning and research in the University (accounts drawn up to 30 June 2017)	8.7	2.0	(4.6)	0.8	6.9
University of Cambridge Veterinary School Trust, for the support of veterinary education in the University	1.9	1.7	(0.3)	0.1	3.4
One smaller scholarship trust	0.4	–	–	–	0.4
Registered clubs and societies:					
Cambridge University Amateur Dramatic Club	0.1	0.2	(0.2)	–	0.1
Cambridge University Boat Club	0.2	0.5	(0.4)	–	0.3
Cambridge University Dancers Club	–	0.1	(0.1)	–	–
Cambridge University Law Society	0.1	0.2	(0.2)	–	0.1
Cambridge University Students' RAG Appeal	–	0.1	(0.1)	–	–
Cambridge University Women's Boat Club Association	0.4	0.3	(0.4)	–	0.3
354 smaller clubs and societies	3.6	2.9	(2.8)	–	3.7
	15.4	8.0	(9.1)	0.9	15.2

*Notes to the accounts for the year ended 31 July 2018 (continued)***39 Financial risk management**

In the ordinary course of its activities, the University manages a variety of financial risks including credit risk, liquidity risk, currency risk and market risk. The principal risks and the University's approach to managing them are set out below. In view of the significance of the Cambridge University Endowment Fund (CUEF, see note 11), some aspects of financial risk management are considered for CUEF and non-CUEF separately.

Through the CUEF, the University invests in various categories of assets for the long term in order to achieve the CUEF's investment objective of a total return of RPI plus 5.25 per cent per annum. The CUEF is managed by the University's Investment Office on behalf of Cambridge Investment Management Limited, with the oversight of the University's Investment Board. In order to pursue its investment objective the CUEF seeks exposure to a variety of risks. This exposure could result in a reduction in the University's net assets.

a Credit risk

Credit risk is the risk that the University would incur a financial loss if a counterparty were to fail to discharge its obligations to the University.

Credit risk exposure

The University is exposed to credit risk in respect of its financial assets held with various counterparties. The following table details the maximum exposure to credit risk at 31 July:

	2018	2017
	£m	£m
Derivative financial instrument asset positions	–	37.4
Investment cash balances	116.4	110.5
Trade debtors: invoices receivable	258.0	232.6
Other debtors	160.2	147.3
Money market investments	856.7	237.8
Cash at bank	75.7	87.0
Total financial assets exposed to credit risk	1,467.0	852.6

Of the above financial assets only certain trade debtors, as detailed below, were past their due date or were impaired during the year.

Trade debtors: outstanding invoices	264.3	239.8
Less: Provision for impairment of receivables	(6.3)	(7.2)
	258.0	232.6

Trade debtors that are less than three months past their due date are not considered impaired unless they are included in the specific provision. At 31 July 2018, trade debtors with a carrying value of £59.0m (2017: £50.9m) were past their due date but not impaired.

	2018	2017
	£m	£m
Balances against which a provision has been made	11.0	10.6
Balances not past their due date	194.3	178.3
Up to 3 months past due	45.6	34.1
3 to 6 months past due	6.3	10.4
Over 6 months past due	7.1	6.4
	264.3	239.8

Movement on provision for impairment of receivables

Opening balance	7.2	6.7
Provided in year	2.6	2.1
Balances written off	(3.5)	(1.6)
Closing balance at 31 July	6.3	7.2

Notes to the accounts for the year ended 31 July 2018 (continued)

39 Financial risk management (continued)

a Credit risk (continued)

Risk management policies and procedures

The University aims to minimise its counterparty credit risk exposure by monitoring the size of its credit exposure to, and the creditworthiness of, counterparties, including setting appropriate exposure limits and maturities. The creditworthiness and financial strength of trading customers and research sponsors is assessed at inception and on an ongoing basis. Counterparties for investment assets and bank accounts are selected based on their financial ratings, regulatory environments and specific circumstances.

In respect of the CUEF, fund managers appointed by the CUEF have responsibility for choosing reliable counterparties. Where CUEF investments are managed directly by the University, investment transactions are carried out with well established, approved brokers. Investment transactions are done on a cash against receipt or cash against delivery basis.

Term deposits and cash balances outside the CUEF are subject to authorised limits and rating criteria which are subject to annual review.

The ratings of term deposits and cash balances at 31 July were as follows:

	2018	2017
Fitch credit quality rating (short / long term)	£m	£m
F1+ / AA Highest / Very High	7.4	62.5
F1+ / AA - Highest / Very High	249.5	18.8
F1 / A+ Highest / High	288.6	93.0
F1 / A Highest / High	276.9	112.4
F1 / A - Highest / High	63.9	1.5
F2 / A - Good / High	0.1	–
F2 / BBB+ Good / Good	30.1	20.0
F3 / BBB Fair / Good	0.9	–
Lower ratings	15.0	16.6
	932.4	324.8

b Liquidity risk

Liquidity risk is the risk that the University will encounter difficulties raising cash to meet its obligations when they fall due. Obligations are associated with financial liabilities and capital commitments.

Risk management policies and procedures

The majority of the assets held by the CUEF are investments in quoted securities and in funds that are readily realisable. For those CUEF assets which are not readily realisable (typically requiring more than six months to realise) and where the CUEF has commitments to provide additional capital to private investments held within the portfolio on short notice there is risk mitigation in place. Limits are set for the extent of outstanding capital commitments in the CUEF and there is regular monitoring of the amounts of distributions and redemptions required and the extent of unpaid capital commitments to private investments, compared to actual and potential liquidity of the CUEF. While CUEF assets are not available to fund obligations beyond those of the CUEF, there is no significant liquidity risk in relation to the CUEF itself.

Outside the CUEF, the Group monitors its exposure to liquidity risk by regularly monitoring its liabilities and commitments and holding appropriate levels of liquid assets. The Finance Committee approves the Liquidity Policy periodically. Liquidity and cash forecasts are reviewed by the Director of Finance on a quarterly basis. Cash and short-term deposits are maintained at levels sufficient to fund three months' operational and capital expenditure. Short-term deposits are placed with various terms between call and six months.

*Notes to the accounts for the year ended 31 July 2018 (continued)***39 Financial risk management (continued)****b Liquidity risk (continued)**

The following tables summarise the maturity of the Group's undiscounted contractual payments.

	Three months or less £m	Between three months and one year £m	Between one and five years £m	More than five years £m	Total £m
As at 31 July 2018:					
Bond liabilities	10.1	10.8	83.7	2,266.2	2,370.8
Investments held on behalf of others	440.8	–	–	–	440.8
Bank overdraft	14.0	–	–	–	14.0
Finance leases	–	1.4	1.2	–	2.6
Other creditors excluding deferred income	213.0	10.5	4.2	3.7	231.4
Totals at 31 July 2018	677.9	22.7	89.1	2,269.9	3,059.6
As at 31 July 2017:					
Bond liabilities	6.6	6.6	52.5	750.3	816.0
Derivative financial instruments liability positions	37.4	–	–	–	37.4
Investments held on behalf of others	298.7	–	–	–	298.7
Bank overdraft	–	–	–	–	–
Bank and other loans	0.3	0.5	0.7	–	1.5
Finance leases	0.3	1.0	2.6	–	3.9
Other creditors excluding deferred income	159.5	–	–	–	159.5
Totals at 31 July 2017	502.8	8.1	55.8	750.3	1,317.0

Capital commitments, excluded from the above analysis, are disclosed at note 33.

c Market risk

Market risk is the risk of changes to the fair value of the Group's financial instruments. Market risk embodies the potential for both losses and gains and includes currency risk, interest rate risk and other price risk.

CUEF

The Investment Board advises the Council and is made up of investment professionals. The Investment Board monitors the performance of the Investment Office as well as providing advice to it. Investments in the CUEF are selected and combined with the aim of optimising the future long-term total return bearing in mind the expected future volatility of the return. The risk taken in order to meet the total return objective is managed by utilising diversification of investment strategies, of investment asset classes and of external investment managers. The CUEF operates an evolving asset allocation, in the context of a long-term direction. The proposed changes over the following twelve months are revised quarterly in discussion with the Investment Board. Within each asset class, fund managers are appointed and carry out the day-to-day investment transactions.

c (i) Currency risk

Currency risk is the risk that the value of an asset or liability will fluctuate due to changes to foreign currency exchange rates. The functional currency of the University and the presentational currency of the Group is Sterling. However, the Group has investment assets denominated in currencies other than Sterling and is impacted by fluctuations in foreign currency exchange rates.

At 31 July the CUEF had the following principal net exposures:

	2018	2017
Pounds Sterling	48.3%	50.1%
US Dollar	41.5%	40.0%
Euro	1.7%	0.6%
Japanese Yen	3.8%	3.8%
Other currency	4.7%	5.5%
	100.0%	100.0%

Notes to the accounts for the year ended 31 July 2018 (continued)

39 Financial risk management (continued)

c Market risk (continued)

c (i) (continued)

The currency exposure for overseas investments is based on the quotation or reporting currency of each holding, while the currency exposure for net monetary assets is based on the currency in which each asset or liability is denominated.

The following table summarises the significant assets and liabilities exposed to currency risk as at 31 July 2018:

	US Dollar \$m	Euro €m	US Dollar £m	Euro £m	Other £m	Total £m
CUEF investment assets excluding currency contracts	2,418.4	184.2	1,843.7	164.3	346.9	2,354.9
CUEF forward currency contracts	(646.5)	(123.6)	(492.9)	(110.2)	(68.6)	(671.7)
Net exposure of CUEF	1,771.9	60.6	1,350.8	54.1	278.3	1,683.2
Exposures outside CUEF:						
Debtors	51.9	24.1	39.6	21.5	25.8	86.9
Cash balances	13.1	11.9	10.0	10.6	21.9	42.5
Creditors including bank and other loans	(38.7)	(8.8)	(29.5)	(7.8)	(19.3)	(56.6)
Forward currency contracts	(20.0)	(57.8)	(15.2)	(51.6)	–	(66.8)
Net exposure	1,778.2	30.0	1,355.7	26.8	306.7	1,689.2

The impact on total recognised gains for the year 2017-18 of additional 10% variations in the principal exchange rates would have been:

10% US Dollar appreciation	135.6
10% Euro appreciation	<u>2.7</u>

The following table summarises the significant assets and liabilities exposed to currency risk as at 31 July 2017:

	US Dollar \$m	Euro €m	US Dollar £m	Euro £m	Other £m	Total £m
CUEF investment assets excluding currency contracts	2,235.2	129.6	1,695.5	115.9	342.1	2,153.5
CUEF forward currency contracts	(663.3)	(107.8)	(503.1)	(96.4)	(67.3)	(666.8)
Net exposure of CUEF	1,571.9	21.8	1,192.4	19.5	274.8	1,486.7
Exposures outside CUEF:						
Debtors	55.7	25.9	42.3	23.2	22.6	88.1
Cash balances	24.2	12.4	18.3	11.1	22.5	51.9
Creditors including bank and other loans	(33.6)	(6.8)	(25.5)	(6.0)	(19.2)	(50.7)
Forward currency contracts	–	(34.0)	–	(30.4)	–	(30.4)
Net exposure	1,618.2	19.3	1,227.5	17.4	300.7	1,545.6

The impact on total recognised gains for the year 2016-17 of additional 10% variations in the principal exchange rates would have been:

10% US Dollar appreciation	122.7
10% Euro appreciation	<u>1.7</u>

Risk management policies and procedures

Currency positions in the assets and liabilities of the CUEF are reviewed regularly by the Chief Investment Officer and the currency exposure is managed within the asset allocation strategy.

*Notes to the accounts for the year ended 31 July 2018 (continued)***39 Financial risk management (continued)****c Market risk (continued)****c (ii) Interest rate risk**

Interest rate risk arises from the risk that the value of an asset or liability will fluctuate due to changes in market interest rates (ie for fixed interest rate assets or liabilities) or that future cash flows will fluctuate due to changes in interest rates (ie for floating rate assets or liabilities).

Interest rate exposure and sensitivity

As stated in the accounting policies, the University's fixed-interest Bond liabilities are measured at amortised cost using the effective interest rate method, rather than at fair value. The University has not invested in variable rate deposits or interest-bearing securities.

Interest rate risk is focused on the potential impact of interest rate changes on the fair value of investments in fixed interest securities.

At 31 July 2018 the University held £0.0m (2017: £0.0m) corporate and overseas government bonds with fixed interest.

Risk management policies and procedures

The University takes into account the possible effects of a change in interest rates on the fair value and cash flows of the interest-bearing financial assets and liabilities when making investment decisions. The CUEF has limited risk exposure to interest rates as there is regular monitoring of the allocations made to fixed interest investments not intended to be held to maturity and confirming there is no fixed interest borrowing.

c (iii) Other price risk

Price risk is the risk that the value of an asset or liability will fluctuate due to changes in market price (other than those arising from currency risk or interest rate risk), caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

This is a key risk for the University because of the significance of the endowments and other funds invested in the CUEF and the dependence of future plans on maintaining the value of CUEF units in real terms. Additionally the Indexed Bonds issued in June 2018 are subject to changes in the consumer price index with the fair value of these liabilities fluctuating at each reporting date dependent on the movement in this index.

Concentration of exposure to other price risk

As the majority of the CUEF's investments are carried at fair value, all changes in market conditions will directly affect the University's net assets. The fund's asset allocation at the reporting date is shown in note 11.

Risk management policies and procedures

The CUEF measures the value of most of its investments on a monthly basis, and the remainder quarterly using market value if available (otherwise fair value). There is regular monitoring of the asset allocation to identify if the current allocation is in line with the actual and intended future allocations agreed with the Investment Board. Variations are then considered as part of the ongoing investment decisions.

40 Fair value

Debtors and current liabilities are stated in the Group balance sheet at book values which are not materially different from their fair values. The fixed interest Bond liabilities are measured at amortised cost of £640.4m (2017: £342.5m, see note 27) whereas the fair value of the fixed interest Bond liabilities at 31 July 2018 was £785.5m (2017: £487.7m) based on the last reported trade.

The Indexed Bond liabilities are measured at fair value at the balance sheet date based on the latest reported trade.

The book values of the Group's other financial assets and long term liabilities, including pension obligations shown on the balance sheet are the same as the fair values.

Fair value measurements

The following tables categorise the fair values of the Group's investment assets and liabilities based on the inputs to the valuation. Categorisation within the hierarchy has been determined on the basis of the lowest level input that is significant to the fair value measurement of the relevant asset as follows:

Level 1: Valued using quoted prices in active markets for identical assets.

Level 2: Valued by reference to valuation techniques using observable inputs other than quoted prices included within Level 1.

Level 3: Valued by reference to valuation techniques using inputs that are not based on observable market data.

The valuation techniques used are described in more detail in note 4 (iii) to the accounts.

Notes to the accounts for the year ended 31 July 2018 (continued)

40 Fair value (continued)

	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Investment assets at fair value at 31 July 2018:				
CUEF:				
Quoted investments	977.5	6.3	–	983.8
Unquoted investments	–	2,152.5	0.1	2,152.6
Cash in hand and at investment managers	116.4	–	–	116.4
Total CUEF assets	1,093.9	2,158.8	0.1	3,252.8
Other quoted investments	11.1	–	–	11.1
Other unquoted investments	–	21.7	54.9	76.6
Investment properties	–	497.8	–	497.8
Money market investments	63.1	–	–	63.1
Cash in hand and at investment managers	7.2	–	–	7.2
Total investment assets at fair value	1,175.3	2,678.3	55.0	3,908.6
Derivative financial instruments liability positions (CUEF)	–	–	–	–
Total investments at fair value at 31 July 2018	1,175.3	2,678.3	55.0	3,908.6

	Level 1 £m	Level 2 £m	Level 3 £m	Total £m
Investment assets at fair value at 31 July 2017				
CUEF:				
Quoted investments	863.8	1.3	–	865.1
Unquoted investments	–	2,012.6	2.8	2,015.4
Derivative financial instruments asset positions	37.4	–	–	37.4
Cash in hand and at investment managers	103.9	–	–	103.9
Total CUEF assets	1,005.1	2,013.9	2.8	3,021.8
Other quoted investments	12.2	–	–	12.2
Other unquoted investments	–	19.3	44.9	64.2
Investment properties	–	407.1	–	407.1
Money market investments	43.5	–	–	43.5
Cash in hand and at investment managers	6.6	–	–	6.6
Total investment assets at fair value	1,067.4	2,440.3	47.7	3,555.4
Derivative financial instruments liability positions (CUEF)	(37.4)	–	–	(37.4)
Total investments at fair value at 31 July 2017	1,030.0	2,440.3	47.7	3,518.0

A reconciliation of the opening and closing balances for Level 3 assets measured at fair value is detailed in the table below:

	2018	2017
	£m	£m
Fair value at 1 August	47.7	38.3
Purchases less sales proceeds	(3.6)	(2.9)
Total gains	10.9	12.3
Transfers in / (out) of Level 3	–	–
Fair value at 31 July	55.0	47.7

Unquoted investments include investments in hedge funds, private equity funds and property funds. The fair values of unquoted investments and derivative financial instruments held through pooled funds and partnerships are based on valuations of the underlying investments as supplied to the University's custodian by the administrators of those funds or partnerships. The Council considers that no reasonably foreseeable change to key assumptions in the Level 3 valuations would result in a significant change in fair value. Transfers into and out of Level 3 occur when the classification of the underlying assets and liabilities of these funds changes.

Notes to the accounts for the year ended 31 July 2018 (continued)

41 Post balance sheet events

Following an update from Universities UK, it is highly unlikely that there will be a decision around the level of USS deficit contributions before the end of 2018. This is because consultation around the level of deficit contributions is not timetabled in until December 2018. It is acknowledged that this is an ever-changing picture. However, in view of the fact that the deficit contributions will not be finalised before the end of 2018 neither an adjusting or non-adjusting post balance sheet event are required.

The back-stop date is February 2019 when the USS is required to make a submission to the Pensions Regulator with details of the contributions they will be implementing. This is likely to be the time when the level of the USS deficit will need to be recalculated, thereby impacting the University's results for 2018-19.

No allowance has been made for any additional liability that may arise from the impact of equalising Guaranteed Minimum Pensions (GMPs) between men and women. The Lloyd's Bank High Court ruling on 26 October 2018 confirmed that GMPs should be equalised from the date of the Barber judgement (17 May 1990). The Trustees of the pension schemes will be considering the implication of this as part of the next triennial valuation and whilst this is not expected to have a material impact, further analysis will be undertaken. This is therefore being reported as a non-adjusting post balance sheet event.

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