

Notes to the consolidated financial statements

For the year ended 31 December 2016

1. General information

WPP plc is a company incorporated in Jersey. The address of the registered office is Queensway House, Hilgrove Street, St Helier, Jersey, JE1 1ES and the address of the principal executive office is 27 Farm Street, London, United Kingdom, W1J 5RJ. The nature of the Group's operations and its principal activities are set out in note 2. These consolidated financial statements are presented in pounds sterling.

2. Segment information

The Group is a leading worldwide communications services organisation offering national and multinational clients a comprehensive range of communications services.

The Group is organised into four reportable segments – Advertising and Media Investment Management; Data Investment Management; Public Relations & Public Affairs; and Branding & Identity, Healthcare and Specialist Communications. This last reportable segment includes WPP Digital and direct, digital, promotional & relationship marketing.

IFRS 8 Operating Segments requires operating segments to be identified on the same basis as is used internally for the review of performance and allocation of resources by the Group chief executive. Provided certain quantitative and qualitative criteria are fulfilled, IFRS 8 permits the aggregation of these components into reportable segments for the purposes of disclosure in the Group's financial statements. In assessing the Group's reportable segments, the directors have had regard to the similar economic characteristics of certain operating segments, their shared client base, the similar nature of their products or services and their long-term margins, amongst other factors.

Operating sectors

Reported contributions were as follows:

	Revenue ¹ £m	Net sales £m	Headline PBIT ^{2,4} £m	Net sales margin ^{3,4} %
Income statement				
2016				
Advertising and Media Investment Management	6,547.3	5,413.5	1,027.2	19.0
Data Investment Management	2,661.1	1,994.0	351.5	17.6
Public Relations & Public Affairs	1,101.3	1,078.8	179.8	16.7
Branding & Identity, Healthcare and Specialist Communications	4,079.2	3,911.5	601.8	15.4
	14,388.9	12,397.8	2,160.3	17.4
2015				
Advertising and Media Investment Management	5,552.8	4,652.0	859.7	18.5
Data Investment Management	2,425.9	1,768.1	286.1	16.2
Public Relations & Public Affairs	945.8	929.7	145.2	15.6
Branding & Identity, Healthcare and Specialist Communications	3,310.7	3,174.5	483.0	15.2
	12,235.2	10,524.3	1,774.0	16.9
2014				
Advertising and Media Investment Management	5,134.3	4,502.0	837.6	18.6
Data Investment Management	2,429.3	1,748.9	272.7	15.6
Public Relations & Public Affairs	891.9	880.4	135.6	15.4
Branding & Identity, Healthcare and Specialist Communications	3,073.4	2,933.5	434.7	14.8
	11,528.9	10,064.8	1,680.6	16.7

Notes

¹ Intersegment sales have not been separately disclosed as they are not material.

² A reconciliation from reported profit before interest and taxation to headline PBIT is provided in note 31. Reported profit before interest and taxation is reconciled to reported profit before taxation in the consolidated income statement.

³ Net sales margin is defined in note 31.

⁴ Prior year headline PBIT and net sales margins have been restated to reflect a reclassification between sectors of one of the Group's associates.

	Share-based payments £m	Capital additions ¹ £m	Depreciation and amortisation ² £m	Goodwill impairment £m	Share of results of associates £m	Interests in associates and joint ventures £m
Other information						
2016						
Advertising and Media Investment Management	60.7	126.2	105.4	20.9	8.3	285.6
Data Investment Management	13.0	61.5	60.9	–	13.2	109.4
Public Relations & Public Affairs	7.5	10.3	11.6	–	3.2	108.1
Branding & Identity, Healthcare and Specialist Communications	25.3	87.1	81.5	6.1	25.1	566.3
	106.5	285.1	259.4	27.0	49.8	1,069.4
2015						
Advertising and Media Investment Management	55.4	119.7	96.9	15.1	26.8	377.0
Data Investment Management	13.7	58.1	51.8	–	0.8	86.4
Public Relations & Public Affairs	6.7	9.1	9.8	–	2.3	92.0
Branding & Identity, Healthcare and Specialist Communications	23.2	59.5	69.9	–	17.1	203.2
	99.0	246.4	228.4	15.1	47.0	758.6
2014						
Advertising and Media Investment Management	48.6	91.0	102.6	16.9	25.1	395.5
Data Investment Management	18.8	48.1	50.9	–	18.4	119.3
Public Relations & Public Affairs	7.9	7.4	12.6	–	3.9	60.1
Branding & Identity, Healthcare and Specialist Communications	26.9	67.9	62.8	–	14.5	185.0
	102.2	214.4	228.9	16.9	61.9	759.9

Notes

¹ Capital additions include purchases of property, plant and equipment and other intangible assets (including capitalised computer software).

² Depreciation of property, plant and equipment and amortisation of other intangible assets.

	Segment assets £m	Unallocated corporate assets ^{1,2} £m	Assets Consolidated total assets £m	Segment liabilities £m	Unallocated corporate liabilities ^{1,2} £m	Liabilities Consolidated total liabilities £m
Balance sheet						
2016						
Advertising and Media Investment Management	15,984.9			(12,409.6)		
Data Investment Management	3,167.2			(1,272.0)		
Public Relations & Public Affairs	3,222.5			(542.1)		
Branding & Identity, Healthcare and Specialist Communications	9,385.2			(2,564.9)		
	31,759.8	2,808.5	34,568.3	(16,788.6)	(8,012.1)	(24,800.7)
2015						
Advertising and Media Investment Management	12,911.4			(10,506.9)		
Data Investment Management	3,713.3			(1,067.0)		
Public Relations & Public Affairs	1,839.2			(425.1)		
Branding & Identity, Healthcare and Specialist Communications	7,640.2			(1,990.4)		
	26,104.1	2,645.1	28,749.2	(13,989.4)	(6,744.0)	(20,733.4)
2014						
Advertising and Media Investment Management	12,250.5			(9,803.5)		
Data Investment Management	3,427.1			(1,045.7)		
Public Relations & Public Affairs	1,744.7			(400.0)		
Branding & Identity, Healthcare and Specialist Communications	6,433.5			(1,622.3)		
	23,855.8	2,767.1	26,622.9	(12,871.5)	(5,924.6)	(18,796.1)

Notes

¹ Included in unallocated corporate assets and liabilities are corporate income tax, deferred tax and net interest-bearing debt.

² Comparative figures for 2014 have been restated to reduce both deferred tax assets and deferred tax liabilities, by a corresponding amount.

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Contributions by geographical area were as follows:

	2016 £m	2015 £m	2014 £m
Revenue¹			
North America ²	5,280.8	4,491.2	3,899.9
UK	1,866.3	1,777.4	1,640.3
Western Continental Europe	2,943.2	2,425.6	2,568.8
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	4,298.6	3,541.0	3,419.9
	14,388.9	12,235.2	11,528.9

Net sales

North America ²	4,603.7	3,882.3	3,471.7
UK	1,587.6	1,504.5	1,396.0
Western Continental Europe	2,425.5	2,016.2	2,142.6
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	3,781.0	3,121.3	3,054.5
	12,397.8	10,524.3	10,064.8

Headline PBIT³

North America ²	895.4	728.2	621.8
UK	261.4	243.1	221.2
Western Continental Europe	351.7	277.2	277.2
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	651.8	525.5	560.4
	2,160.3	1,774.0	1,680.6

Net sales margin⁴

	Margin	Margin	Margin
North America ²	19.4%	18.8%	17.9%
UK	16.5%	16.2%	15.8%
Western Continental Europe	14.5%	13.7%	12.9%
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	17.2%	16.8%	18.3%
	17.4%	16.9%	16.7%

Notes

¹ Intersegment sales have not been separately disclosed as they are not material.

² North America includes the US with revenue of £5,005.8 million (2015: £4,257.4 million, 2014: £3,664.9 million), net sales of £4,365.1 million (2015: £3,674.3 million, 2014: £3,254.2 million) and headline PBIT of £849.4 million (2015: £697.3 million, 2014: £588.2 million).

³ Headline PBIT is defined in note 31.

⁴ Net sales margin is defined in note 31.

	2016 £m	2015 £m
Non-current assets¹		
North America ²	8,189.3	6,225.3
UK	2,138.5	2,106.4
Western Continental Europe	4,321.6	3,558.6
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	4,327.2	3,349.7
	18,976.6	15,240.0

Notes

¹ Non-current assets excluding financial instruments and deferred tax.

² North America includes the US with non-current assets of £6,849.0 million (2015: £5,202.6 million).

3. Operating costs

	2016 £m	2015 £m	2014 £m
Staff costs (note 5)	7,784.9	6,652.6	6,440.5
Establishment costs	836.5	726.3	711.3
Other operating costs (net)	1,713.3	1,513.4	1,405.7
Total operating costs	10,334.7	8,892.3	8,557.5
Operating costs include:			
Goodwill impairment (note 12)	27.0	15.1	16.9
Investment write-downs	86.1	78.7	7.3
Restructuring costs	27.4	106.2	127.6
IT asset write-downs	-	29.1	-
Amortisation and impairment of acquired intangible assets (note 12)	168.4	140.1	147.5
Amortisation of other intangible assets (note 12)	38.6	33.7	31.6
Depreciation of property, plant and equipment	215.2	190.0	191.7
Losses/(gains) on sale of property, plant and equipment	0.8	1.1	(0.8)
Gains on disposal of investments and subsidiaries	(44.3)	(131.0)	(186.3)
Gains on remeasurement of equity interests arising from a change in scope of ownership	(232.4)	(165.0)	(9.2)
Net foreign exchange gains	(17.0)	(10.7)	(2.5)
Operating lease rentals:			
Land and buildings	556.1	476.6	466.1
Sublease income	(11.6)	(11.3)	(11.2)
	544.5	465.3	454.9
Plant and machinery	10.6	18.3	19.9
	555.1	483.6	474.8

In 2016, operating profit includes credits totalling £26.3 million (2015: £31.6 million, 2014: £24.9 million) relating to the release of excess provisions and other balances established in respect of acquisitions completed prior to 2015. Further details of the Group's approach to acquisition reserves, as required by IFRS 3 Business Combinations, are given in note 28.

Investment write-downs of £86.1 million (2015: £78.7 million, 2014: £7.3 million) includes £79.6 million in relation to comScore Inc, which has not released any financial statements in relation to its 2015 or 2016 results due to an internal investigation by their Audit Committee. Following the announcement of this internal investigation, the market value of comScore Inc fell below the Group's carrying value. Other investment write-downs relate to certain non-core minority investments in the US where forecast financial performance and/or liquidity issues indicate a permanent decline in the recoverability of the Group's investment.

In 2016, restructuring costs of £27.4 million (2015: £106.2 million, 2014: £127.6 million) comprise £27.4 million (2015: £36.7 million, 2014: 38.9 million) of costs resulting from the project to transform and rationalise the Group's IT services and infrastructure. Included within the restructuring costs in 2015 and 2014 were £69.5 million and £88.7 million respectively arising from a structural reassessment of certain of the Group's operations, primarily in the mature markets of Western Europe.

Gains on disposal of investments and subsidiaries of £44.3 million (2015: £131.0 million, 2014: £186.3 million) include £26.5 million of gains arising on the sale of the Group's equity interest in Grass Roots Group.

Gains on remeasurement of equity interests arising from a change in scope of ownership of £232.4 million in 2016 primarily comprise gains of £260.0 million in relation to the reclassification of the Group's interest in the Imagina Group in Spain from other investments to interests in associates, resulting from WPP attaining significant influence in the period; and losses of £23.2 million in relation to the merger of most of the Group's Australian and New Zealand assets with STW Communications Group Limited in Australia. The re-named WPP AUNZ became a listed subsidiary of the Group on 8 April 2016.

All of the operating costs of the Group are related to administrative expenses.

Auditors' remuneration:

	2016 £m	2015 £m	2014 £m
Fees payable to the Company's auditors for the audit of the Company's annual accounts	1.4	1.5	1.4
The audit of the Company's subsidiaries pursuant to legislation	19.4	16.2	14.5
Other services pursuant to legislation	20.8	17.7	15.9
Fees payable to the auditors pursuant to legislation	3.7	3.3	3.1
Tax advisory services	24.5	21.0	19.0
Tax compliance services	1.6	1.8	2.1
Corporate finance services	1.3	1.0	1.0
Other services ¹	2.9	2.8	3.1
Total non-audit fees	0.1	0.2	0.3
Total fees	5.7	6.5	5.4
	8.7	9.5	8.8
	33.2	30.5	27.8

Note

¹ Other services include audits for earmout purposes.

Minimum committed annual rentals

Amounts payable in 2017 under leases will be as follows:

	Plant and machinery			Land and buildings		
	2017 £m	2016 £m	2015 £m	2017 £m	2016 £m	2015 £m
In respect of operating leases which expire:						
- within one year	4.0	4.3	5.3	85.1	57.6	66.7
- within two to five years	10.5	9.7	10.8	287.9	240.3	223.9
- after five years	-	0.3	0.1	187.0	163.1	139.4
	14.5	14.3	16.2	560.0	461.0	430.0

Future minimum annual amounts payable under all lease commitments in existence at 31 December 2016 are as follows:

	Minimum rental payments £m	Less sub-let rentals £m	Net payment £m
Year ending 31 December			
2017	574.5	(9.3)	565.2
2018	491.1	(7.1)	484.0
2019	432.6	(4.9)	427.7
2020	406.3	(2.9)	403.4
2021	377.3	(2.6)	374.7
Later years	1,728.1	(5.6)	1,722.5
	4,009.9	(32.4)	3,977.5

4. Share of results of associates

Share of results of associates include:

	2016 £m	2015 £m	2014 £m
Share of profit before interest and taxation	97.1	95.2	101.8
Share of exceptional losses	(15.2)	(21.8)	(7.6)
Share of interest and non-controlling interests	(4.7)	(1.7)	(3.1)
Share of taxation	(27.4)	(24.7)	(29.2)
	49.8	47.0	61.9

5. Our people

Our staff numbers averaged 132,657 for the year ended 31 December 2016 against 124,930 in 2015 and 121,397 in 2014. Their geographical distribution was as follows:

	2016	2015	2014
North America	27,246	26,224	26,809
UK	14,070	13,401	12,838
Western Continental Europe	24,996	23,506	23,376
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	66,345	61,799	58,374
	132,657	124,930	121,397

Their operating sector distribution was as follows:

	2016	2015	2014
Advertising and Media Investment Management	55,120	53,227	52,329
Data Investment Management	29,279	28,395	28,240
Public Relations & Public Affairs	9,054	8,492	8,392
Branding & Identity, Healthcare and Specialist Communications	39,204	34,816	32,436
	132,657	124,930	121,397

At the end of 2016, staff numbers were 134,341 (2015: 128,123, 2014: 123,621). Including all employees of associated undertakings, this figure was approximately 198,000 at 31 December 2016 (2015: 190,000, 2014: 179,000).

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Staff costs include:

	2016 £m	2015 £m	2014 £m
Wages and salaries	5,395.6	4,578.4	4,467.8
Cash-based incentive plans	260.2	231.8	210.7
Share-based incentive plans (note 22)	106.5	99.0	102.2
Social security costs	658.1	578.4	567.8
Pension costs (note 23)	178.1	160.0	148.9
Severance	34.5	24.0	37.4
Other staff costs ¹	1,151.9	981.0	905.7
	7,784.9	6,652.6	6,440.5
Staff cost to net sales ratio	62.8%	63.2%	64.0%

Note

¹ Freelance and temporary staff costs are included in other staff costs.

Included above are charges of £15.5 million (2015: £16.7 million, 2014: £16.9 million) for share-based incentive plans in respect of key management personnel (who comprise the directors of the Group). Further details of compensation for key management personnel are disclosed on pages 128 to 158.

6. Finance income, finance costs and revaluation of financial instruments

Finance income includes:

	2016 £m	2015 £m	2014 £m
Income from available for sale investments	12.5	18.9	26.0
Interest income	67.9	53.5	68.7
	80.4	72.4	94.7

Finance costs include:

	2016 £m	2015 £m	2014 £m
Net interest expense on pension plans (note 23)	6.7	7.3	8.0
Interest on other long-term employee benefits	2.7	2.5	1.9
Interest payable and similar charges ¹	245.1	214.3	252.8
	254.5	224.1	262.7

Revaluation of financial instruments² include:

	2016 £m	2015 £m	2014 £m
Movements in fair value of treasury instruments	(19.5)	(3.7)	31.3
Movements in fair value of other derivatives	–	15.9	15.0
Revaluation of put options over non-controlling interests	(17.2)	(11.3)	(8.8)
Revaluation of payments due to vendors (earnout agreements)	(11.6)	(35.6)	13.2
	(48.3)	(34.7)	50.7

Notes

¹ Interest payable and similar charges are payable on bank overdrafts, bonds and bank loans held at amortised cost.

² Financial instruments are held at fair value through profit and loss.

The majority of the Group's long-term debt is represented by \$2,862 million of US dollar bonds at an average interest rate of 4.48%, €2,952 million of Eurobonds at an average interest rate of 1.85% and £1,000 million of Sterling bonds at an average interest rate of 4.83%.

Average borrowings under the US Dollar Revolving Credit Facilities (note 10) amounted to the equivalent of \$109 million at an average interest rate of 0.82%.

Average borrowings under the Australian dollar Revolving Credit Facilities, acquired as part of the merger of most of the Group's Australian and New Zealand assets with STW Communications Group Limited in Australia, amounted to A\$336 million at an average rate of 3.69%.

Average borrowings under the US Commercial Paper Program for 2016 amounted to \$293 million at an average interest rate of 0.75% inclusive of margin.

7. Taxation

The headline tax rate was 21.0% (2015: 19.0%, 2014: 20.0%). The tax rate on reported PBT was 20.6% (2015: 16.6%, 2014: 20.7%). The cash tax rate on headline PBT was 20.9% (2015: 18.6%, 2014: 19.2%).

The tax charge comprises:

	2016 £m	2015 £m	2014 £m
Corporation tax			
Current year	569.4	403.0	394.9
Prior years	(80.3)	(108.4)	4.4
	489.1	294.6	399.3
Deferred tax			
Current year	(88.0)	(35.8)	(93.2)
Prior years	(12.2)	(11.3)	(5.7)
	(100.2)	(47.1)	(98.9)
Tax charge	388.9	247.5	300.4

The corporation tax credit for prior years in 2016, and also 2015, mainly comprises the release of a number of provisions following the resolution of tax matters in various countries. In 2014 the deferred tax credit primarily related to the recognition of temporary differences that were previously unrecognised.

The tax charge for the year can be reconciled to profit before taxation in the consolidated income statement as follows:

	2016 £m	2015 £m	2014 £m
Profit before taxation	1,890.5	1,492.6	1,451.9
Tax at the corporation tax rate of 20% ¹	378.1	302.3	312.2
Tax effect of share of results of associates	(10.0)	(9.5)	(13.3)
Irrecoverable withholding taxes	36.3	25.7	24.2
Items that are not deductible in determining taxable profit	9.4	25.4	14.2
Effect of different tax rates of subsidiaries operating in other jurisdictions	60.4	49.9	12.9
Origination and reversal of unrecognised temporary differences	(4.3)	0.4	10.6
Tax losses not recognised or utilised in the year	52.2	4.0	52.1
Utilisation of tax losses not previously recognised	(11.3)	(10.4)	(42.2)
Recognition of temporary differences not previously recognised	(29.4)	(20.6)	(69.0)
Net release of prior year provisions in relation to acquired businesses	(23.3)	(22.9)	(17.4)
Other prior year adjustments	(69.2)	(96.8)	16.1
Tax charge	388.9	247.5	300.4
Effective tax rate on profit before tax	20.6%	16.6%	20.7%

Note

¹ The parent company of the Group is tax resident in the UK. As such, the tax rate in the tax reconciliation for 2016 is the UK corporation tax rate of 20% (2015: 20.25%, 2014: 21.5%).

The calculation of the headline tax rate is as follows:

	2016	2015	2014
	£m	£m	£m
Headline PBT ¹	1,986.2	1,622.3	1,512.6
Tax charge	388.9	247.5	300.4
Tax charge relating to gains on disposal of investments and subsidiaries	(1.1)	(1.1)	(21.4)
Tax (charge)/credit relating to restructuring costs	(3.0)	26.5	14.1
Deferred tax relating to gains on disposal of investments and subsidiaries	3.2	–	(13.8)
Deferred tax impact of the amortisation of acquired intangible assets and other goodwill items	29.2	35.4	23.2
Headline tax charge	417.2	308.3	302.5
Headline tax rate	21.0%	19.0%	20.0%

Note

¹ Headline PBT is defined in note 31.

Factors affecting the tax charge in future years

Factors that may affect the Group's future tax charge include the levels and mix of profits in the many countries in which we operate, the prevailing tax rates in each of those countries and also the foreign exchange rates that apply to those profits. The tax charge may also be affected by the impact of acquisitions, disposals and other corporate restructurings, the resolution of open tax issues, future planning, and the ability to use brought forward tax losses. Furthermore, changes in local or international tax rules, for example prompted by the OECD's Base Erosion and Profit Shifting project (a global initiative to improve the fairness and integrity of tax systems), or new challenges by tax or competition authorities, may expose us to significant additional tax liabilities or impact the carrying value of our deferred tax assets, which would affect the future tax charge.

The Group has a number of open tax returns and is subject to various ongoing tax audits in respect of which it has recognised potential liabilities, none of which are individually material. The Group does not currently expect any material additional charges, or credits, to arise in respect of these matters, beyond the amounts already provided. Liabilities relating to these open and judgemental matters are based upon estimates of whether additional taxes will be due after taking into account external advice where appropriate. Where the final tax outcome of these matters is different from the amounts which were initially recorded then such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

Tax risk management

We maintain constructive engagement with the tax authorities and relevant government representatives, as well as active engagement with a wide range of international companies and business organisations with similar issues. We engage advisors and legal counsel to obtain opinions on tax legislation and principles. We have a Tax Risk Management Strategy in place which sets out the controls established and our assessment procedures for decision-making and how we monitor tax risk. We monitor proposed changes in taxation legislation and ensure these are taken into account when we consider our future business plans. Our directors are informed by management of any tax law changes, the nature and status of any significant ongoing tax audits, and other developments that could materially affect the Group's tax position.

8. Ordinary dividends

	Amounts recognised as distributions to equity holders in the year:					
	2016	2015	2014	2016	2015	2014
Per share	Pence per share			£m	£m	£m
2015 Final dividend	28.78p	26.58p	23.65p	368.5	343.2	309.5
2016 Interim dividend	19.55p	15.91p	11.62p	248.0	202.6	150.5
	48.33p	42.49p	35.27p	616.5	545.8	460.0
	2016	2015	2014	2016	2015	2014
Per ADR ¹	Cents per share			\$m	\$m	\$m
2015 Final dividend	219.99¢	218.95¢	185.01¢	563.4	565.5	484.1
2016 Interim dividend	132.42¢	121.62¢	95.72¢	335.9	309.7	248.0
	352.41¢	340.57¢	280.73¢	899.3	875.2	732.1

Proposed final dividend for the year ended 31 December 2016:

	2016	2015	2014
Per share	Pence per share		
Final dividend	37.05p	28.78p	26.58p
	2016	2015	2014
Per ADR ¹	Cents per ADR		
Final dividend	250.96¢	219.99¢	218.95¢

Note

¹ These figures have been translated for convenience purposes only, using the approximate average rate for the year shown on page 186. This conversion should not be construed as a representation that the pound sterling amounts actually represent, or could be converted into, US dollars at the rates indicated.

The payment of dividends will not have any tax consequences for the Group.

9. Earnings per share

Basic EPS

The calculation of basic reported and headline EPS is as follows:

	2016	2015	2014
Reported earnings ¹ (£m)	1,400.1	1,160.2	1,077.2
Headline earnings (£m) (note 31)	1,467.5	1,229.1	1,135.8
Average shares used in basic EPS calculation (m)	1,277.8	1,288.5	1,307.4
Reported EPS	109.6p	90.0p	82.4p
Headline EPS	114.8p	95.4p	86.9p

Note

¹ Reported earnings is equivalent to profit for the year attributable to equity holders of the parent.

Diluted EPS

The calculation of diluted reported and headline EPS is as follows:

	2016	2015	2014
Diluted reported earnings (£m)	1,400.1	1,160.2	1,077.2
Diluted headline earnings (£m)	1,467.5	1,229.1	1,135.8
Average shares used in diluted EPS calculation (m)	1,296.0	1,313.0	1,337.5
Diluted reported EPS	108.0p	88.4p	80.5p
Diluted headline EPS	113.2p	93.6p	84.9p

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Diluted EPS has been calculated based on the diluted reported and diluted headline earnings amounts above. At 31 December 2016, options to purchase 8.4 million ordinary shares (2015: 7.0 million, 2014: 10.7 million) were outstanding, but were excluded from the computation of diluted earnings per share because the exercise prices of these options were greater than the average market price of the Group's shares and, therefore, their inclusion would have been accretive.

A reconciliation between the shares used in calculating basic and diluted EPS is as follows:

	2016 m	2015 m	2014 m
Average shares used in basic EPS calculation	1,277.8	1,288.5	1,307.4
Dilutive share options outstanding	2.4	3.5	4.8
Other potentially issuable shares	15.8	21.0	25.3
Shares used in diluted EPS calculation	1,296.0	1,313.0	1,337.5

At 31 December 2016 there were 1,331,880,730 (2015: 1,329,366,024, 2014: 1,325,747,724) ordinary shares in issue.

10. Sources of finance

The following table summarises the equity and debt financing of the Group, and changes during the year:

	Shares		Debt	
	2016 £m	2015 £m	2016 £m	2015 £m
Analysis of changes in financing				
Beginning of year	668.2	640.6	5,157.4	4,523.0
Ordinary shares issued	27.2	27.6	-	-
Net (decrease)/increase in drawings on bank loans and corporate bonds	-	-	(22.5)	492.0
Amortisation of financing costs included in net debt	-	-	9.0	7.5
Debt acquired	-	-	144.4	-
Other movements	-	-	(13.1)	105.0
Exchange adjustments	-	-	757.9	29.9
End of year	695.4	668.2	6,033.1	5,157.4

Note

The table above excludes bank overdrafts which fall within cash and cash equivalents for the purposes of the consolidated cash flow statement.

Shares

At 31 December 2016, the Company's share base was entirely composed of ordinary equity share capital and share premium of £695.4 million (2015: £668.2 million), further details of which are disclosed in note 26.

Debt

US\$ bonds The Group has in issue \$812 million of 4.75% bonds due November 2021, \$500 million of 3.625% bonds due September 2022, \$750 million of 3.75% bonds due September 2024, \$300 million of 5.125% bonds due September 2042 and \$500 million of 5.625% bonds due November 2043.

Eurobonds The Group has in issue €252 million of 0.43% bonds due March 2018, €600 million of 0.75% bonds due November 2019, €750 million of 3% bonds due November 2023, €750 million of 2.25% bonds due September 2026 and €600 million of 1.625% bonds due March 2030.

Sterling bonds In September 2016, the Group issued £400 million of 2.875% bonds due September 2046. The Group has in issue £400 million of 6% bonds due April 2017 and £200 million of 6.375% bonds due November 2020.

Revolving Credit Facility The Group has a five-year Revolving Credit Facility of \$2.5 billion due July 2021. The Group's borrowing under these facilities, which are drawn down predominantly in US dollars and pounds sterling, averaged the equivalent of \$109 million in 2016. In April 2016, the Group entered into a A\$520 million Revolving Credit Facility due April 2019. The Group's borrowings under the Australian dollar facilities were drawn down in Australian dollars and New Zealand dollars, averaged the equivalent of A\$336 million in 2016. The Group had available undrawn committed credit facilities of £2,122.3 million at December 2016 (2015: £1,696.8 million).

Borrowings under the \$2.5 billion Revolving Credit Facility are governed by certain financial covenants based on the results and financial position of the Group. Borrowings under the A\$520 million Revolving Credit Facility are governed by certain financial covenants based on the results and financial position of WPP AUNZ.

US Commercial Paper Program

The Group operates a commercial paper program using its Revolving Credit Facility as a backstop. The average commercial paper outstanding in 2016 was \$293 million. There was no US Commercial Paper outstanding at 31 December 2016.

The following table is an analysis of future anticipated cash flows in relation to the Group's debt, on an undiscounted basis which, therefore, differs from the fair value and carrying value:

	2016 £m	2015 £m
Within one year	(582.9)	(541.7)
Between one and two years	(389.5)	(548.2)
Between two and three years	(893.0)	(325.4)
Between three and four years	(369.1)	(581.6)
Between four and five years	(812.9)	(335.0)
Over five years	(5,144.7)	(4,459.5)
Debt financing (including interest) under the Revolving Credit Facility and in relation to unsecured loan notes	(8,192.1)	(6,791.4)
Short-term overdrafts – within one year	(534.3)	(435.8)
Future anticipated cash flows	(8,726.4)	(7,227.2)
Effect of discounting/financing rates	2,159.0	1,634.0
Debt financing	(6,567.4)	(5,593.2)
Cash and short-term deposits	2,436.9	2,382.4
Net debt	(4,130.5)	(3,210.8)

Analysis of fixed and floating rate debt by currency including the effect of interest rate and cross-currency swaps:

2016		£m	Fixed rate ¹	Floating basis	Period (months) ²
Currency					
\$	- fixed	1,255.6	4.62%	n/α	212
	- floating	1,063.1	n/α	LIBOR	n/α
£	- fixed	800.0	4.53%	n/α	193
	- floating	200.0	n/α	LIBOR	n/α
€	- fixed	2,521.9	1.85%	n/α	93
Other		192.5	n/α	n/α	n/α
		6,033.1			

2015		£m	Fixed rate ¹	Floating basis	Period (months) ²
Currency					
\$	- fixed	1,052.0	4.62%	n/α	224
	- floating	890.7	n/α	LIBOR	n/α
£	- fixed	400.0	6.19%	n/α	37
	- floating	200.0	n/α	LIBOR	n/α
€	- fixed	2,544.4	2.54%	n/α	90
Other		70.3	n/α	n/α	n/α
		5,157.4			

Note

¹ Weighted average. These rates do not include the effect of gains on interest rate swap terminations that are written to income over the life of the original instrument.

The following table is an analysis of future anticipated cash flows in relation to the Group's financial derivatives, which include interest rate swaps, cash flow hedges and other foreign exchange swaps:

	Financial liabilities		Financial assets	
	Payable £m	Receivable £m	Payable £m	Receivable £m
2016				
Within one year	183.2	183.0	282.5	302.2
Between one and two years	19.2	20.6	51.7	55.4
Between two and three years	18.8	18.1	57.5	58.5
Between three and four years	20.0	18.1	61.2	60.5
Between four and five years	20.7	18.1	1,687.3	1,686.1
Over five years	521.3	518.1	-	-
	783.2	776.0	2,140.2	2,162.7

	Financial liabilities		Financial assets	
	Payable £m	Receivable £m	Payable £m	Receivable £m
2015				
Within one year	55.2	50.6	72.4	102.7
Between one and two years	40.7	39.4	277.1	298.1
Between two and three years	17.4	17.6	52.8	56.7
Between three and four years	18.4	19.1	55.6	56.7
Between four and five years	20.3	20.8	58.1	56.7
Over five years	834.1	834.2	1,393.6	1,387.2
	986.1	981.7	1,909.6	1,958.1

11. Analysis of cash flows

The following tables analyse the items included within the main cash flow headings on page 188.

Net cash from operating activities:

	2016 £m	2015 £m	2014 £m
Profit for the year	1,501.6	1,245.1	1,151.5
Taxation	388.9	247.5	300.4
Revaluation of financial instruments	48.3	34.7	(50.7)
Finance costs	254.5	224.1	262.7
Finance income	(80.4)	(72.4)	(94.7)
Share of results of associates	(49.8)	(47.0)	(61.9)
Operating profit	2,063.1	1,632.0	1,507.3
Adjustments for:			
Non-cash share-based incentive plans (including share options)	106.5	99.0	102.2
Depreciation of property, plant and equipment	220.8	194.7	197.3
Impairment of goodwill	27.0	15.1	16.9
Amortisation and impairment of acquired intangible assets	168.4	140.1	147.5
Amortisation of other intangible assets	38.6	33.7	31.6
Investment write-downs	86.1	78.7	7.3
Gains on disposal of investments and subsidiaries	(44.3)	(131.0)	(186.3)
Gains on remeasurement of equity interests arising from a change in scope of ownership	(232.4)	(165.0)	(9.2)
Losses/(gains) on sale of property, plant and equipment	0.8	1.1	(0.8)
Operating cash flow before movements in working capital and provisions	2,434.6	1,898.4	1,813.8
(Increase)/decrease in inventories and work in progress	(16.7)	7.8	(9.7)
Increase in trade receivables and accrued income	(53.7)	(882.7)	(132.5)
Increase in trade payables and deferred income	188.7	713.4	449.8
Decrease/(increase) in other receivables	77.4	(39.0)	48.5
(Decrease)/increase in other payables – short term	(303.7)	74.5	(58.9)
Increase in other payables – long-term	4.5	24.2	36.5
Decrease in provisions	(47.8)	(62.3)	(38.7)
Cash generated by operations	2,283.3	1,734.3	2,108.8
Corporation and overseas tax paid	(414.2)	(301.2)	(289.9)
Interest and similar charges paid	(242.1)	(212.0)	(249.1)
Interest received	73.9	61.3	69.8
Investment income	12.5	4.9	11.9
Dividends from associates	60.4	72.6	52.2
Net cash inflow from operating activities	1,773.8	1,359.9	1,703.7

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Acquisitions and disposals:

	2016 £m	2015 £m	2014 £m
Initial cash consideration	(424.1)	(463.5)	(382.7)
Cash and cash equivalents acquired (net)	57.3	57.7	74.4
Earnout payments	(92.3)	(43.9)	(34.3)
Purchase of other investments (including associates)	(260.2)	(283.2)	(188.8)
Proceeds on disposal of investments and subsidiaries	80.5	63.4	42.3
Acquisitions and disposals	(638.8)	(669.5)	(489.1)
Cash consideration for non-controlling interests	(58.3)	(23.6)	(5.6)
Net cash outflow	(697.1)	(693.1)	(494.7)

Share repurchases and buy-backs:

	2016 £m	2015 £m	2014 £m
Purchase of own shares by ESOP Trusts	(152.9)	(181.6)	(98.3)
Shares purchased into treasury	(274.5)	(406.0)	(412.5)
Net cash outflow	(427.4)	(587.6)	(510.8)

Net (decrease)/increase in borrowings:

	2016 £m	2015 £m	2014 £m
Proceeds from issue of £400 million bonds	400.0	-	-
Repayment of €498 million bonds	(392.1)	-	-
Proceeds from issues of €600 million bonds	-	858.7	-
Repayment of €500 million bonds	-	(481.9)	-
Premium on exchange of €252 million bonds	-	(13.7)	-
Repayment of \$369 million bonds	-	-	(235.3)
Repayment of \$600 million bonds	-	-	(333.7)
Repayment of \$25 million TNS private placements	-	-	(14.6)
Proceeds from issue of €750 million bonds	-	-	588.7
Proceeds from issue of \$750 million bonds	-	-	460.1
(Decrease)/increase in drawings on bank loans	(30.4)	128.9	-
Net cash (outflow)/inflow	(22.5)	492.0	465.2

Cash and cash equivalents:

	2016 £m	2015 £m	2014 £m
Cash at bank and in hand	2,256.2	2,227.8	1,967.0
Short-term bank deposits	180.7	154.6	545.7
Overdrafts ¹	(534.3)	(435.8)	(265.1)
	1,902.6	1,946.6	2,247.6

Note

¹ Bank overdrafts are included in cash and cash equivalents because they form an integral part of the Group's cash management.

The Group considers that the carrying amount of cash and cash equivalents approximates their fair value.

12. Intangible assets

Goodwill

The movements in 2016 and 2015 were as follows:

	£m
Cost:	
1 January 2015	10,583.0
Additions ¹	763.6
Revision of earnout estimates	19.9
Exchange adjustments	(72.3)
31 December 2015	11,294.2
Additions ¹	796.6
Revision of earnout estimates	28.4
Exchange adjustments	1,820.2
31 December 2016	13,939.4

Accumulated impairment losses and write-downs:

1 January 2015	603.6
Impairment losses for the year	15.1
Exchange adjustments	4.9
31 December 2015	623.6
Impairment losses for the year	20.0
Exchange adjustments	81.5
31 December 2016	725.1

Net book value:

31 December 2016	13,214.3
31 December 2015	10,670.6
1 January 2015	9,979.4

Note

¹ Additions represent goodwill arising on the acquisition of subsidiary undertakings including the effect of any revisions to fair value adjustments that had been determined provisionally at the immediately preceding balance sheet date, as permitted by IFRS 3 Business Combinations. The effect of such revisions was not material in either year presented. Goodwill arising on the acquisition of associate undertakings is shown within interests in associates and joint ventures in note 14.

Cash-generating units with significant goodwill as at 31 December are:

	2016 £m	2015 £m
GroupM	2,966.2	2,390.7
Kantar	2,573.0	2,223.4
Wunderman	1,297.1	1,083.3
Y&R Advertising	1,140.3	946.9
Burson-Marsteller	590.3	482.6
Other	4,647.4	3,543.7
Total goodwill	13,214.3	10,670.6

Other goodwill represents goodwill on a large number of cash-generating units, none of which is individually significant in comparison to the total carrying value of goodwill.

Other intangible assets

The movements in 2016 and 2015 were as follows:

	Brands with an indefinite useful life £m	Acquired intan- gibles £m	Other £m	Total £m
Cost:				
1 January 2015	969.3	1,784.2	313.0	3,066.5
Additions	-	-	36.1	36.1
Disposals	-	-	(19.2)	(19.2)
New acquisitions	-	230.7	2.4	233.1
Other movements ¹	-	6.7	(4.1)	2.6
Exchange adjustments	(1.2)	(14.5)	2.8	(12.9)
31 December 2015	968.1	2,007.1	331.0	3,306.2
Additions	-	-	33.0	33.0
Disposals	-	(0.8)	(42.2)	(43.0)
New acquisitions	-	319.1	10.5	329.6
Other movements ¹	-	11.6	4.7	16.3
Exchange adjustments	173.2	198.5	67.1	438.8
31 December 2016	1,141.3	2,535.5	404.1	4,080.9

Amortisation and impairment:

1 January 2015	-	1,187.3	210.3	1,397.6
Charge for the year	-	135.7	33.7	169.4
Disposals	-	-	(18.3)	(18.3)
IT asset write-downs	-	-	29.1	29.1
Other movements	-	-	(7.3)	(7.3)
Exchange adjustments	-	16.5	3.8	20.3
31 December 2015	-	1,339.5	251.3	1,590.8
Charge for the year	-	163.3	38.6	201.9
Disposals	-	(0.4)	(39.5)	(39.9)
Other movements	-	-	2.0	2.0
Exchange adjustments	-	60.6	48.2	108.8
31 December 2016	-	1,563.0	300.6	1,863.6

Net book value:

31 December 2016	1,141.3	972.5	103.5	2,217.3
31 December 2015	968.1	667.6	79.7	1,715.4
1 January 2015	969.3	596.9	102.7	1,668.9

Note

¹ Other movements in acquired intangibles include revisions to fair value adjustments arising on the acquisition of subsidiary undertakings that had been determined provisionally at the immediately preceding balance sheet date, as permitted by IFRS 3 Business Combinations.

Brands with an indefinite life are carried at historical cost in accordance with the Group's accounting policy for intangible assets. The carrying values of the separately identifiable brands are not individually significant in comparison with the total carrying value of brands with an indefinite useful life.

Acquired intangible assets at net book value at 31 December 2016 include brand names of £486.2 million (2015: £401.0 million), customer-related intangibles of £448.9 million (2015: £239.9 million), and other assets (including proprietary tools) of £37.4 million (2015: £26.7 million).

The total amortisation and impairment of acquired intangible assets of £168.4 million (2015: £140.1 million) includes £5.1 million (2015: £4.4 million) in relation to associates.

In accordance with the Group's accounting policy, the carrying values of goodwill and intangible assets with indefinite useful lives are reviewed for impairment annually or more frequently if events or changes in circumstances indicate that the asset might be impaired.

The carrying values of brands with an indefinite useful life are assessed for impairment purposes by using the royalty and loyalty methods of valuation, both of which utilise the net present value of future cash flows associated with the brands.

The goodwill impairment review is undertaken annually on 30 September. The review assessed whether the carrying value of goodwill was supported by the net present value of future cash flows, using a pre-tax discount rate of 8.5% (2015: 8.5%) and management forecasts for a projection period of up to five years, followed by an assumed annual long-term growth rate of 3.0% (2015: 3.0%) and no assumed improvement in operating margin. Management have made the judgement that this long-term growth rate does not exceed the long-term average growth rate for the industry.

The goodwill impairment charge of £27.0 million (2015: £15.1 million) relates to a number of under-performing businesses in the Group, of which £7.0 million (2015: £nil) is in relation to associates. In certain markets, the impact of local economic conditions and trading circumstances on these businesses was sufficiently severe to indicate impairment to the carrying value of goodwill.

Under IFRS, an impairment charge is required for both goodwill and other indefinite-lived assets when the carrying amount exceeds the 'recoverable amount', defined as the higher of fair value less costs to sell and value in use.

Our approach in determining the recoverable amount utilises a discounted cash flow methodology, which necessarily involves making numerous estimates and assumptions regarding revenue growth, operating margins, appropriate discount rates and working capital requirements. The key assumptions used for estimating cash flow projections in the Group's impairment testing are those relating to revenue growth and operating margin. The key assumptions take account of the businesses' expectations for the projection period. These expectations consider the macroeconomic environment, industry and market conditions, the unit's historical performance and any other circumstances particular to the unit, such as business strategy and client mix.

These estimates will likely differ from future actual results of operations and cash flows, and it is possible that these differences could be material. In addition, judgements are applied in determining the level of cash-generating unit identified for impairment testing and the criteria used to determine which assets should be aggregated. A difference in testing levels could affect whether an impairment is recorded and the extent of impairment loss. Changes in our business activities or structure may also result in changes to the level of testing in future periods. Further, future events could cause the Group to conclude that impairment indicators exist and that the asset values associated with a given operation have become impaired. Any resulting impairment loss could have a material impact on the Group's financial condition and results of operations.

Historically our impairment losses have resulted from a specific event, condition or circumstance in one of our companies, such as the loss of a significant client. As a result, changes in the assumptions used in our impairment model have not had a significant effect on the impairment charges recognised and a reasonably possible change in assumptions would not lead to a significant impairment. The carrying value of goodwill and other intangible assets will continue to be reviewed at least annually for impairment and adjusted to the recoverable amount if required.

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13. Property, plant and equipment

The movements in 2016 and 2015 were as follows:

	Land £m	Free- hold build- ings £m	Lease- hold buildings £m	Fixtures, fittings and equip- ment £m	Com- puter equip- ment £m	Total £m
Cost:						
1 January 2015	37.1	110.3	784.7	334.7	598.4	1,865.2
Additions	-	0.4	107.2	39.4	63.3	210.3
New acquisitions	-	1.2	2.2	13.3	4.4	21.1
Disposals	-	(12.6)	(68.2)	(37.7)	(55.9)	(174.4)
Exchange adjustments	-	2.9	11.5	(11.4)	(7.3)	(4.3)
31 December 2015	37.1	102.2	837.4	338.3	602.9	1,917.9
Additions	-	1.3	107.9	55.9	87.0	252.1
New acquisitions	-	-	7.9	6.5	6.2	20.6
Disposals	-	(0.3)	(83.2)	(46.1)	(106.4)	(236.0)
Exchange adjustments	-	23.2	142.5	48.0	153.7	367.4
31 December 2016	37.1	126.4	1,012.5	402.6	743.4	2,322.0
Depreciation:						
1 January 2015	-	22.5	412.4	203.4	454.4	1,092.7
Charge for the year	-	5.2	70.5	40.9	78.1	194.7
Disposals	-	(7.7)	(64.8)	(29.5)	(54.5)	(156.5)
Exchange adjustments	-	(0.8)	5.1	(5.9)	(9.1)	(10.7)
31 December 2015	-	19.2	423.2	208.9	468.9	1,120.2
Charge for the year	-	4.3	81.1	45.7	89.7	220.8
Disposals	-	(0.6)	(77.8)	(49.2)	(101.4)	(229.0)
Exchange adjustments	-	2.3	83.3	34.6	121.1	241.3
31 December 2016	-	25.2	509.8	240.0	578.3	1,353.3
Net book value:						
31 December 2016	37.1	101.2	502.7	162.6	165.1	968.7
31 December 2015	37.1	83.0	414.2	129.4	134.0	797.7
1 January 2015	37.1	87.8	372.3	131.3	144.0	772.5

At the end of the year, capital commitments contracted, but not provided for in respect of property, plant and equipment were £22.1 million (2015: £61.3 million).

14. Interests in associates, joint ventures and other investments

The movements in 2016 and 2015 were as follows:

	Net assets of associates and joint ventures £m	Goodwill and other intang- ibles of associates and joint ventures £m	Total associates and joint ventures £m	Other invest- ments £m
1 January 2015	419.2	340.7	759.9	669.2
Additions	(18.7)	-	(18.7)	357.1
Goodwill arising on acquisition of new associates	-	124.8	124.8	-
Share of results of associate undertakings (note 4)	47.0	-	47.0	-
Dividends	(75.1)	-	(75.1)	-
Other movements	5.1	5.7	10.8	-
Exchange adjustments	(7.9)	(5.8)	(13.7)	18.9
Disposals	(46.7)	(1.6)	(48.3)	(13.8)
Reclassification from/(to) subsidiaries	11.2	(34.9)	(23.7)	-
Revaluation of other investments	-	-	-	206.0
Amortisation of other intangible assets	-	(4.4)	(4.4)	-
Write-downs	-	-	-	(78.7)
31 December 2015	334.1	424.5	758.6	1,158.7
Additions	(1.3)	-	(1.3)	233.5
Goodwill arising on acquisition of new associates	-	292.2	292.2	-
Share of results of associate undertakings (note 4)	49.8	-	49.8	-
Dividends	(60.4)	-	(60.4)	-
Other movements	(45.3)	52.4	7.1	-
Reclassification from other investments to associates	43.6	30.7	74.3	(74.3)
Exchange adjustments	61.6	50.1	111.7	170.4
Disposals	(12.7)	-	(12.7)	(3.4)
Reclassification to subsidiaries	(44.2)	(88.8)	(133.0)	(0.2)
Revaluation of other investments	-	-	-	(93.1)
Amortisation of other intangible assets	-	(5.1)	(5.1)	-
Goodwill impairment	-	(7.0)	(7.0)	-
Write-downs	(4.8)	-	(4.8)	(81.3)
31 December 2016	320.4	749.0	1,069.4	1,310.3

The investments included above as 'other investments' represent investments in equity securities that present the Group with opportunity for return through dividend income and trading gains. They have no fixed maturity or coupon rate. The fair values of the listed securities are based on quoted market prices. For unlisted securities, where market value is not available, the Group has estimated relevant fair values on the basis of publicly available information from outside sources or on the basis of discounted cash flow models where appropriate.

The carrying values of the Group's associates and joint ventures are reviewed for impairment in accordance with the Group's accounting policies.

The Group's principal associates and joint ventures at 31 December 2016 included:

	% owned	Country of incorporation
Asatsu-DK Inc.	24.6	Japan
Barrows Design and Manufacturing (Pty) Limited	35.0	South Africa
Chime Communications Ltd	24.9	UK
CTR Market Research Company Limited	46.0	China
CVSC Sofres Media Co Limited	40.0	China
GIIR Inc	30.0	Korea
Globant S.A. ¹	19.5	Argentina
Haworth Marketing & Media Company	49.0	USA
High Co SA	34.1	France
Imagina	23.5	Spain
Marktest Investimentos SGPS S.A.	43.1	Portugal
Smollan Holdings (Pty) Ltd	24.8	South Africa

Note

¹ Although the Group holds less than 20% of Globant S.A, it is considered to be an associate as the Group exercises significant influence over the entity.

The market value of the Group's shares in its principal listed associate undertakings at 31 December 2016 was as follows: Asatsu-DK Inc: £202.9 million, GIIR Inc: £26.9 million, Globant SA: £180.7 million and High Co SA: £21.0 million (2015: Asatsu-DK Inc: £171.6 million, GIIR Inc: £25.2 million, Globant SA: £170.3 million and High Co SA: £27.2 million).

The carrying value (including goodwill and other intangibles) of these equity interests in the Group's consolidated balance sheet at 31 December 2016 was as follows: Asatsu-DK Inc: £134.5 million, GIIR Inc: £37.9 million, Globant SA: £78.5 million and High Co SA: £31.4 million (2015: Asatsu-DK Inc: £120.1 million, GIIR Inc: £30.4 million, Globant SA: £61.9 million and High Co SA: £28.6 million).

Where the market value of the Group's listed associates is less than the carrying value, an impairment review is performed utilising the discounted cash flow methodology discussed in note 12.

The Group's investments in its principal associate undertakings are represented by ordinary shares.

Summarised financial information

The following tables present a summary of the aggregate financial performance and net asset position of the Group's associate undertakings and joint ventures. These have been estimated and converted, where appropriate, to an IFRS presentation based on information provided by the relevant companies at 31 December 2016.

	2016 £m	2015 £m	2014 £m
Income statement			
Revenue	2,254.5	2,049.5	2,246.5
Operating profit	308.3	283.7	280.6
Profit before taxation	237.2	236.5	267.0
Profit for the year	156.7	162.0	183.0
Balance sheet			
Assets	4,223.1	3,912.4	4,380.3
Liabilities	(1,900.0)	(1,906.2)	(1,823.9)
Net assets	2,323.1	2,006.2	2,556.4

The application of equity accounting is ordinarily discontinued when the investment is reduced to zero and additional losses are not provided for unless the Group has guaranteed obligations of the investee or is otherwise committed to provide further financial support for the investee.

At the end of the year, capital commitments contracted, but not provided for in respect of interests in associates and other investments were £89.2 million (2015: £93.1 million).

15. Deferred tax

The Group's deferred tax assets and liabilities are measured at the end of each period in accordance with IAS 12 Income taxes. The recognition of deferred tax assets is determined by reference to the Group's estimate of recoverability, using models where appropriate to forecast future taxable profits.

Deferred tax assets have only been recognised for territories where the Group considers that it is probable there would be sufficient taxable profits for the future deductions to be utilised.

Based on available evidence, both positive and negative, we determine whether it is probable that all or a portion of the deferred tax assets will be realised. The main factors that we consider include:

- the future earnings potential determined through the use of internal forecasts;
- the cumulative losses in recent years;
- the various jurisdictions in which the potential deferred tax assets arise;
- the history of losses carried forward and other tax assets expiring;
- the timing of future reversal of taxable temporary differences;
- the expiry period associated with the deferred tax assets; and
- the nature of the income that can be used to realise the deferred tax asset.

If it is probable that some portion of these assets will not be realised, then no asset is recognised in relation to that portion.

If market conditions improve and future results of operations exceed our current expectations, our existing recognised deferred tax assets may be adjusted, resulting in future tax benefits. Alternatively, if market conditions deteriorate further or future results of operations are less than expected, future assessments may result in a determination that some or all of the deferred tax assets are not realisable. As a result, all or a portion of the deferred tax assets may need to be reversed.

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Certain deferred tax assets and liabilities have been offset as they relate to the same tax group. The following is the analysis of the deferred tax balances for financial reporting purposes:

	Gross 2016 £m	Offset 2016 £m	As reported 2016 £m	Gross 2015 £m	Offset 2015 £m	As reported 2015 £m	Gross 2014 ¹ £m	Offset 2014 ¹ £m	As reported 2014 ¹ £m
Deferred tax assets	598.0	(457.6)	140.4	410.7	(316.6)	94.1	406.8	(298.0)	108.8
Deferred tax liabilities	(1,150.0)	457.6	(692.4)	(868.9)	316.6	(552.3)	(834.7)	298.0	(536.7)
	(552.0)	-	(552.0)	(458.2)	-	(458.2)	(427.9)	-	(427.9)

Note

¹ Comparative figures for 2014 have been restated to reduce both the deferred tax assets and the deferred tax liabilities, by a corresponding amount.

The following are the major gross deferred tax assets recognised by the Group and movements thereon in 2016 and 2015:

	Deferred compensation £m	Accounting provisions & accruals £m	Retirement benefit obligations £m	Property, plant & equipment £m	Tax losses & credits £m	Share-based payments £m	Restructuring provisions £m	Other temporary differences £m	Total £m
1 January 2015	45.5	51.5	106.4	41.4	48.1	71.5	20.4	22.0	406.8
(Charge)/credit to income	(5.8)	(2.9)	(12.0)	2.1	20.4	(3.3)	11.2	(5.1)	4.6
Charge to other comprehensive income	-	-	(5.2)	-	-	-	-	-	(5.2)
Credit to equity	-	-	-	-	-	6.4	-	-	6.4
Exchange differences	2.2	0.9	1.8	1.2	2.8	4.2	(0.5)	(0.3)	12.3
Transfer to current tax creditor	-	-	-	-	-	-	(14.2)	-	(14.2)
31 December 2015	41.9	49.5	91.0	44.7	71.3	78.8	16.9	16.6	410.7
Acquisition of subsidiaries	-	7.1	-	-	-	0.2	-	15.0	22.3
Credit/(charge) to income	39.5	8.5	28.3	19.2	6.2	(1.8)	(11.7)	7.7	95.9
Credit to other comprehensive income	-	-	1.8	-	-	-	-	-	1.8
Charge to equity	-	-	-	-	-	(15.0)	-	-	(15.0)
Exchange differences	14.2	15.5	20.3	6.9	12.2	13.6	0.7	(1.1)	82.3
31 December 2016	95.6	80.6	141.4	70.8	89.7	75.8	5.9	38.2	598.0

Other temporary differences comprise a number of items including tax deductible goodwill, none of which is individually significant to the Group's consolidated balance sheet.

In addition the Group has recognised the following gross deferred tax liabilities and movements thereon in 2016 and 2015:

	Brands and other intangibles £m	Associate earnings £m	Goodwill £m	Property, plant & equipment £m	Financial instruments £m	Other temporary differences £m	Total £m
1 January 2015	558.2	19.6	163.7	30.8	49.7	12.7	834.7
Acquisition of subsidiaries	73.4	-	-	-	-	0.4	73.8
(Credit)/charge to income	(44.2)	2.7	4.7	(1.6)	(1.8)	(2.4)	(42.6)
Exchange adjustments	(10.3)	0.2	8.3	1.7	2.8	0.3	3.0
31 December 2015	577.1	22.5	176.7	30.9	50.7	11.0	868.9
Acquisition of subsidiaries	114.8	-	-	-	-	-	114.8
(Credit)/charge to income	(51.3)	3.1	23.5	(0.4)	3.5	17.3	(4.3)
Charge to other comprehensive income	-	-	-	-	-	2.2	2.2
Exchange differences	115.3	2.7	32.3	5.7	9.8	2.6	168.4
31 December 2016	755.9	28.3	232.5	36.2	64.0	33.1	1,150.0

At the balance sheet date, the Group has gross tax losses and other temporary differences of £5,153.2 million (2015: £4,581.9 million) available for offset against future profits. Deferred tax assets have been recognised in respect of the tax benefit of £1,104.4 million (2015: £1,186.3 million) of such tax losses and other temporary differences. No deferred tax asset has been recognised in respect of the remaining £4,048.8 million (2015: £3,395.6 million) of losses and other temporary differences as the Group considers that there will not be enough taxable profits in the entities concerned such that any additional asset could be considered recoverable. Included in the total unrecognised temporary differences are losses of £42.4 million that will expire within 1–10 years, and £3,489.3 million of losses that may be carried forward indefinitely.

At the balance sheet date, the aggregate amount of the temporary differences in relation to the investment in subsidiaries for which deferred tax liabilities have not been recognised was £3,270.8 million. No liability has been recognised in respect of these differences because the Group is in a position to control the timing of the reversal of the temporary differences and the Group considers that it is probable that such differences will not reverse in the foreseeable future.

16. Inventory and work in progress

The following are included in the net book value of inventory and work in progress:

	2016 £m	2015 £m
Work in progress	383.1	315.1
Inventory	17.3	13.9
	400.4	329.0

17. Trade and other receivables

The following are included in trade and other receivables:

Amounts falling due within one year:

	2016 £m	2015 £m
Trade receivables (net of bad debt provision)	8,054.2	6,799.4
VAT and sales taxes recoverable	157.2	154.9
Prepayments	310.0	235.0
Accrued income	3,353.8	2,853.8
Fair value of derivatives	14.7	4.6
Other debtors	484.6	447.7
	12,374.5	10,495.4

The ageing of trade receivables and other financial assets is as follows:

	Carrying amount at 31 December 2016 £m	Neither past due nor impaired £m	0-30 days £m	31-90 days £m	91-180 days £m	181 days-1 year £m	Greater than 1 year £m
2016							
Trade receivables	8,054.2	5,545.6	1,611.0	683.6	156.6	37.2	20.2
Other financial assets	504.5	335.0	91.3	16.3	6.7	11.9	43.3
	8,558.7	5,880.6	1,702.3	699.9	163.3	49.1	63.5

	Carrying amount at 31 December 2015 £m	Neither past due nor impaired £m	0-30 days £m	31-90 days £m	91-180 days £m	181 days-1 year £m	Greater than 1 year £m
2015							
Trade receivables	6,799.4	4,290.7	1,704.0	631.9	133.0	35.4	4.4
Other financial assets	453.5	265.7	107.6	23.8	5.1	19.1	32.2
	7,252.9	4,556.4	1,811.6	655.7	138.1	54.5	36.6

Other financial assets are included in other debtors.

Past due amounts are not impaired where collection is considered likely.

Amounts falling due after more than one year:

	2016 £m	2015 £m
Prepayments	3.7	1.5
Accrued income	9.5	5.8
Fair value of derivatives	8.3	39.7
Other debtors	183.4	131.7
	204.9	178.7

Bad debt provisions:

	2016 £m	2015 £m
Balance at beginning of year	85.4	85.3
New acquisitions	1.8	1.0
Charged to operating costs	15.5	21.6
Exchange adjustments	13.7	0.2
Utilisations and other movements	(22.6)	(22.7)
Balance at end of year	93.8	85.4

The allowance for bad and doubtful debts is equivalent to 1.2% (2015: 1.2%) of gross trade accounts receivables.

The Group considers that the carrying amount of trade and other receivables approximates their fair value.

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18. Trade and other payables: amounts falling due within one year

The following are included in trade and other payables falling due within one year:

	2016 £m	2015 £m
Trade payables	10,308.3	8,538.3
Deferred income	1,312.7	1,081.0
Payments due to vendors (earnout agreements)	277.5	126.0
Liabilities in respect of put option agreements with vendors	51.0	51.1
Fair value of derivatives	4.1	0.7
Other creditors and accruals	3,056.8	2,887.9
	15,010.4	12,685.0

The Group considers that the carrying amount of trade and other payables approximates their fair value.

19. Trade and other payables: amounts falling due after more than one year

The following are included in trade and other payables falling due after more than one year:

	2016 £m	2015 £m
Payments due to vendors (earnout agreements)	699.0	455.3
Liabilities in respect of put option agreements with vendors	246.0	183.3
Fair value of derivatives	1.8	2.3
Other creditors and accruals	327.0	250.6
	1,273.8	891.5

The Group considers that the carrying amount of trade and other payables approximates their fair value.

The following tables set out payments due to vendors, comprising deferred consideration and the directors' best estimates of future earnout-related obligations:

	2016 £m	2015 £m
Within one year	277.5	126.0
Between one and two years	220.1	104.9
Between two and three years	170.2	105.1
Between three and four years	176.6	110.9
Between four and five years	122.4	122.5
Over five years	9.7	11.9
	976.5	581.3

	2016 £m	2015 £m
At beginning of year	581.3	311.4
Earnouts paid (note 11)	(92.3)	(43.9)
New acquisitions	359.5	262.2
Revision of estimates taken to goodwill (note 12)	28.4	19.9
Revaluation of payments due to vendors (note 6)	11.6	35.6
Exchange adjustments	88.0	(3.9)
At end of year	976.5	581.3

As of 31 December 2016, the potential undiscounted amount of future payments that could be required under the earnout agreements for acquisitions completed in the current year and for all earnout agreements range from £nil to £453 million (2015: £nil to £378 million) and £nil to £2,108 million (2015: £nil to £1,645 million), respectively. The increase in the maximum potential undiscounted amount of future payments for all earnout agreements is due to earnout arrangements related to new acquisitions and exchange adjustments, partially offset by earnout arrangements that have completed and payments made on active arrangements during the year.

20. Bank overdrafts, bonds and bank loans

Amounts falling due within one year:

	2016 £m	2015 £m
Bank overdrafts	534.3	435.8
Corporate bonds and bank loans	468.2	496.2
	1,002.5	932.0

The Group considers that the carrying amount of bank overdrafts approximates their fair value.

Amounts falling due after more than one year:

	2016 £m	2015 £m
Corporate bonds and bank loans	5,564.9	4,661.2

The Group estimates that the fair value of corporate bonds is £6,101.4 million at 31 December 2016 (2015: £5,207.4 million). The Group considers that the carrying amount of bank loans approximates their fair value. The fair values of the corporate bonds are based on quoted market prices.

The corporate bonds, bank loans and overdrafts included within liabilities fall due for repayment as follows:

	2016 £m	2015 £m
Within one year	1,002.5	932.0
Between one and two years	208.0	413.6
Between two and three years	717.2	174.7
Between three and four years	195.7	440.6
Between four and five years	660.9	194.2
Over five years	3,783.1	3,438.1
	6,567.4	5,593.2

21. Provisions for liabilities and charges

The movements in 2016 and 2015 were as follows:

	Property £m	Other £m	Total £m
1 January 2015	44.5	121.9	166.4
Charged to the income statement	9.2	15.6	24.8
Acquisitions ¹	13.3	11.2	24.5
Utilised	(7.2)	(11.4)	(18.6)
Released to the income statement	(2.8)	(10.9)	(13.7)
Transfers	(3.0)	2.5	(0.5)
Exchange adjustments	(1.3)	2.0	0.7
31 December 2015	52.7	130.9	183.6
Charged to the income statement	5.8	14.5	20.3
Acquisitions ¹	11.1	3.9	15.0
Utilised	(14.7)	(18.1)	(32.8)
Released to the income statement	(2.9)	(3.7)	(6.6)
Transfers	(1.6)	14.6	13.0
Exchange adjustments	8.1	27.3	35.4
31 December 2016	58.5	169.4	227.9

Note

¹ Acquisitions include £3.4 million (2015: £13.5 million) of provisions arising from revisions to fair value adjustments related to the acquisition of subsidiary undertakings that had been determined provisionally at the immediately preceding balance sheet date, as permitted by IFRS 3 Business Combinations.

Provisions comprise liabilities where there is uncertainty about the timing of settlement, but where a reliable estimate can be made of the amount. These include provisions for vacant space, sub-let losses and other property-related liabilities. Also included are other provisions, such as certain long-term employee benefits and legal claims, where the likelihood of settlement is considered probable.

The Company and various of its subsidiaries are, from time to time, parties to legal proceedings and claims which arise in the ordinary course of business. The directors do not anticipate that the outcome of these proceedings and claims will have a material adverse effect on the Group's financial position or on the results of its operations.

22. Share-based payments

Charges for share-based incentive plans were as follows:

	2016 £m	2015 £m	2014 £m
Share-based payments (note 5)	106.5	99.0	102.2

Share-based payments comprise charges for stock options and restricted stock awards to employees of the Group.

As of 31 December 2016, there was £175.9 million (2015: £162.0 million) of total unrecognised compensation cost related to the Group's restricted stock plans. That cost is expected to be recognised over an average period of one to two years.

Further information on stock options is provided in note 26.

Restricted stock plans

The Group operates a number of equity-settled share incentive schemes, in most cases satisfied by the delivery of stock from one of the Group's ESOP Trusts. The most significant current schemes are as follows:

Leadership Equity Acquisition Plan III (LEAP III)

Under LEAP III, the most senior executives of the Group, including certain Executive Directors, commit WPP shares ('investment shares') in order to have the opportunity to earn additional WPP shares ('matching shares'). The number of matching shares which a participant can receive at the end of the fixed performance period of five years is dependent on the

performance (based on the Total Shareholder Return (TSR)) of the Company over that period against a comparator group of other listed communications services companies. The 2012 LEAP III plan vested in March 2017 at a match of 5.0 shares for each investment share, the maximum match possible. The last LEAP III award was granted in 2012 and no further awards will be made following the introduction of the EPSP.

Executive Performance Share Plan (EPSP)

The first grant of restricted stock under the EPSP was made in 2013. This scheme is intended to reward and incentivise the most senior executives of the Group and has effectively replaced LEAP III. The performance period is five complete financial years, commencing with the financial year in which the award is granted. The vest date will usually be in the March following the end of the five-year performance period. Vesting is conditional on continued employment throughout the vesting period.

There are three performance criteria, each constituting one-third of the vesting value, and each measured over this five-year period:

- TSR against a comparator group of companies. Threshold performance (equating to ranking in the 50th percentile of the comparator group) will result in 20% vesting of the part of the award dependent on TSR. The maximum vest of 100% will arise if performance ranks in the 90th percentile, with a sliding scale of vesting for performance between threshold and maximum.
- Headline diluted earnings per share. Threshold performance (7% compound annual growth) will again result in a 20% vest. Maximum performance of 14% compound annual growth will give rise to a 100% vest, with a sliding vesting scale for performance between threshold and maximum.
- Return on equity (ROE). Average annual ROE defined as headline diluted EPS divided by the balance sheet value per share of share owners' equity. Threshold performance of 10% average annual ROE and maximum performance of 14%, with a sliding scale in between. Threshold again gives rise to a 20% vest, with 100% for maximum.

Performance Share Awards (PSA)

Grants of restricted stock under PSA are dependent upon annual performance targets, typically based on one or more of: operating profit, profit before taxation and operating margin. Grants are made in the year following the year of performance measurement, and vest two years after grant date provided the individual concerned is continually employed by the Group throughout this time.

Leaders, Partners and High Potential Group

This scheme provides annual grants of restricted stock to well over 1,000 key executives of the Group. Vesting is conditional on continued employment over the three-year vesting period.

Valuation methodology

For all of these schemes, the valuation methodology is based upon fair value on grant date, which is determined by the market price on that date or the application of a Black-Scholes model, depending upon the characteristics of the scheme concerned. The assumptions underlying the Black-Scholes model are detailed in note 26, including details of assumed dividend yields. Market price on any given day is obtained from external, publicly available sources.

Market/non-market conditions

Most share-based plans are subject to non-market performance conditions, such as margin or growth targets, as well as continued employment. LEAP III and EPSP schemes are subject to a number of performance conditions, including TSR, a market-based condition.

For schemes without market-based performance conditions, the valuation methodology above is applied and, at each year end, the relevant accrual for each grant is revised, if appropriate, to take account of any changes in estimate of the likely number of shares expected to vest.

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For schemes with market-based performance conditions, the probability of satisfying these conditions is assessed at grant date through a statistical model (such as the Monte Carlo Model) and applied to the fair value. This initial valuation remains fixed throughout the life of the relevant plan, irrespective of the actual outcome in terms of performance. Where a lapse occurs due to cessation of employment, the cumulative charge taken to date is reversed.

Movement on ordinary shares granted for significant restricted stock plans:

	Non-vested 1 January 2016 number m	Granted number m	Lapsed number m	Vested number m	Non-vested 31 December 2016 number m
LEAP III ¹	2.1	5.4	(0.1)	(6.6)	0.8
Executive Performance Share Plan (EPSP)	6.7	1.8	(0.5)	–	8.0
Performance Share Awards (PSA)	1.7	1.1	(0.1)	(1.5)	1.2
Leaders, Partners and High Potential Group	5.7	2.9	(0.4)	(1.8)	6.4

Weighted average fair value (pence per share):

LEAP III ¹	749p	665p	860p	665p	860p
Executive Performance Share Plan (EPSP)	1,271p	1,705p	1,179p	–	1,373p
Performance Share Awards (PSA)	1,343p	1,490p	1,596p	1,225p	1,596p
Leaders, Partners and High Potential Group	1,401p	1,603p	1,410p	1,242p	1,534p

Note

¹ The number of shares granted represents the matched shares awarded on vest date for the 2011 LEAP III plan which vested in March 2016. The actual number of shares that vest for each LEAP III plan is dependent on the extent to which the relevant performance criteria are satisfied.

The total fair value of shares vested for all the Group's restricted stock plans during the year ended 31 December 2016 was £116.8 million (2015: £111.7 million, 2014: £107.2 million).

23. Provision for post-employment benefits

Companies within the Group operate a large number of pension plans, the forms and benefits of which vary with conditions and practices in the countries concerned. The Group's pension costs are analysed as follows:

	2016 £m	2015 £m	2014 £m
Defined contribution plans	153.5	135.0	129.8
Defined benefit plans charge to operating profit	24.6	25.0	19.1
Pension costs (note 5)	178.1	160.0	148.9
Net interest expense on pension plans (note 6)	6.7	7.3	8.0
	184.8	167.3	156.9

Defined benefit plans

The pension costs are assessed in accordance with the advice of local independent qualified actuaries. The latest full actuarial valuations for the various pension plans were carried out at various dates in the last three years. These valuations have been updated by the local actuaries to 31 December 2016.

The Group's policy is to close existing defined benefit plans to new members. This has been implemented across a significant number of the pension plans.

Contributions to funded plans are determined in line with local conditions and practices. Contributions in respect of unfunded plans are paid as they fall due. The total contributions (for funded plans) and benefit payments (for unfunded plans) paid for 2016 amounted to £43.7 million (2015: £70.9 million, 2014: £68.2 million). Employer contributions and benefit payments in 2017 are expected to be approximately £70 million.

(a) Assumptions

There are a number of areas in pension accounting that involve judgments made by management based on advice of qualified advisors. These include establishing the discount rates, rates of increase in salaries and pensions in payment, inflation, and mortality assumptions. The main weighted average assumptions used for the actuarial valuations at 31 December are shown in the following table:

	2016 % pa	2015 % pa	2014 % pa	2013 % pa
UK				
Discount rate ¹	2.5	3.7	3.4	4.5
Rate of increase in salaries	3.5	3.1	3.1	3.6
Rate of increase in pensions in payment	4.1	3.9	3.9	4.2
Inflation	2.8	2.4	2.4	2.9
North America				
Discount rate ¹	3.8	4.0	3.7	4.5
Rate of increase in salaries	3.1	3.0	3.0	3.0
Inflation	4.0	2.5	2.5	2.5
Western Continental Europe				
Discount rate ¹	1.7	2.5	2.1	3.7
Rate of increase in salaries	2.0	2.3	2.2	2.4
Rate of increase in pensions in payment	1.3	1.6	2.0	2.0
Inflation	1.7	2.0	2.0	2.0
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe				
Discount rate ¹	4.2	4.2	4.2	4.4
Rate of increase in salaries	5.9	5.8	6.1	5.9
Inflation	4.0	4.0	3.9	4.5

Note

¹ Discount rates are based on high-quality corporate bond yields. In countries where there is no deep market in corporate bonds, the discount rate assumption has been set with regard to the yield on long-term government bonds.

For the Group's pension plans, the plans' assets are invested with the objective of being able to meet current and future benefit payment needs, while controlling balance sheet volatility and future contributions. Pension plan assets are invested with a number of investment managers, and assets are diversified among equities, bonds, insured annuities, property and cash or other liquid investments. The primary use of bonds as an investment class is to match the anticipated cash flows from the plans to pay pensions. The Group is invested in high-quality corporate and government bonds which share similar risk characteristics and are of equivalent currency and term to the plan liabilities. Various insurance policies have also been bought historically to provide a more exact match for the cash flows, including a match for the actual mortality of specific plan members. These insurance policies effectively provide protection against both investment fluctuations and longevity risks. The strategic target allocation varies among the individual plans.

Management considers the types of investment classes in which the pension plan assets are invested. The types of investment classes are determined by economic and market conditions and in consideration of specific asset class risk.

Management periodically commissions detailed asset and liability studies performed by third-party professional investment advisors and actuaries that generate probability-adjusted expected future returns on those assets. These studies also project the estimated future pension payments and evaluate the efficiency of the allocation of the pension plan assets into various investment categories.

At 31 December 2016, the life expectancies underlying the value of the accrued liabilities for the main defined benefit pension plans operated by the Group were as follows:

Years life expectancy after age 65	All plans	North America	UK	Western Continental Europe	Other ¹
– current pensioners (at age 65) – male	22.8	22.8	23.6	21.0	19.6
– current pensioners (at age 65) – female	24.5	24.4	24.8	24.2	24.8
– future pensioners (current age 45) – male	24.7	24.4	25.6	23.4	19.6
– future pensioners (current age 45) – female	26.5	26.0	27.0	26.6	24.8

Note

¹ Includes Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe.

The life expectancies after age 65 at 31 December 2015 were 22.9 years and 24.7 years for male and female current pensioners (at age 65) respectively, and 24.8 years and 26.7 years for male and female future pensioners (current age 45), respectively.

In the determination of mortality assumptions, management uses the most up-to-date mortality tables available in each country.

The following table provides information on the weighted average duration of the defined benefit pension obligations and the distribution of the timing of benefit payments for the next 10 years. The duration corresponds to the weighted average length of the underlying cash flows.

	All plans	North America	UK	Western Continental Europe	Other ¹
Weighted average duration of the defined benefit obligation (years)	12.5	9.3	13.8	17.1	9.1
Expected benefit payments over the next 10 years (£m)					
Benefits expected to be paid within 12 months	71.4	43.4	17.1	8.1	2.8
Benefits expected to be paid in 2018	65.7	38.3	17.3	7.8	2.3
Benefits expected to be paid in 2019	66.5	37.9	17.4	8.4	2.8
Benefits expected to be paid in 2020	65.4	36.7	17.7	8.5	2.5
Benefits expected to be paid in 2021	65.7	35.1	18.2	8.9	3.5
Benefits expected to be paid in the next five years	315.5	150.5	95.2	49.5	20.3

Note

¹ Includes Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe.

The following table presents a sensitivity analysis for each significant actuarial assumption showing how the defined benefit obligation would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the balance sheet date. This sensitivity analysis applies to the defined benefit obligation only and not to the net defined benefit pension liability in its entirety, the measurement of which is driven by a number of factors including, in addition to the assumptions below, the fair value of plan assets.

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The sensitivity analyses are based on a change in one assumption while holding all other assumptions constant so that interdependencies between the assumptions are excluded. The methodology applied is consistent with that used to determine the recognised defined benefit obligation. The sensitivity analysis for inflation is not shown as it is an underlying assumption to build the pension and salary increase assumptions. Changing the inflation assumption on its own without changing the salary or pension assumptions will not result in a significant change in pension liabilities.

Sensitivity analysis of significant actuarial assumptions	Increase/(decrease) in benefit obligation	
	2016 £m	2015 £m
Discount rate		
Increase by 25 basis points		
UK	(13.3)	(10.9)
North America	(10.9)	(9.4)
Western Continental Europe	(10.1)	(7.8)
Other ¹	(0.6)	(0.5)
Decrease by 25 basis points		
UK	14.1	11.5
North America	11.2	9.7
Western Continental Europe	10.6	8.2
Other ¹	0.6	0.5
Rate of increase in salaries		
Increase by 25 basis points		
UK	0.2	0.2
North America	-	0.1
Western Continental Europe	1.4	1.3
Other ¹	0.6	0.5
Decrease by 25 basis points		
UK	(0.2)	(0.1)
North America	-	-
Western Continental Europe	(1.4)	(1.3)
Other ¹	(0.6)	(0.5)
Rate of increase in pensions in payment		
Increase by 25 basis points		
UK	2.3	2.1
Western Continental Europe	6.8	5.3
Decrease by 25 basis points		
UK	(2.3)	(2.0)
Western Continental Europe	(6.4)	(5.0)
Life expectancy		
Increase in longevity by one additional year		
UK	17.7	13.3
North America	6.2	5.1
Western Continental Europe	7.4	5.6
Other ¹	-	-

Note

¹ Includes Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe.

(b) Assets and liabilities

At 31 December, the fair value of the assets in the pension plans, and the assessed present value of the liabilities in the pension plans are shown in the following table:

	2016		2015		2014	
	£m	%	£m	%	£m	%
Equities	161.9	17.3	132.5	16.3	151.1	17.8
Bonds	566.0	60.6	479.5	58.9	496.2	58.4
Insured annuities	63.5	6.8	60.5	7.4	68.0	8.0
Property	1.6	0.2	1.5	0.2	1.4	0.2
Cash	44.9	4.8	65.1	8.0	52.2	6.1
Other	96.3	10.3	75.1	9.2	80.6	9.5
Total fair value of assets	934.2	100.0	814.2	100.0	849.5	100.0
Present value of liabilities	(1,209.8)		(1,039.9)		(1,144.8)	
Deficit in the plans	(275.6)		(225.7)		(295.3)	
Irrecoverable surplus	(0.9)		(3.6)		(0.9)	
Net liability ¹	(276.5)		(229.3)		(296.2)	
Plans in surplus	28.0		31.4		17.2	
Plans in deficit	(304.5)		(260.7)		(313.4)	

Note

¹ The related deferred tax asset is discussed in note 15.

All plan assets have quoted prices in active markets with the exception of insured annuities and other assets.

	2016 £m	2015 £m	2014 £m
Surplus/(deficit) in plans by region			
UK	20.0	30.9	11.4
North America	(133.8)	(123.4)	(150.1)
Western Continental Europe	(116.9)	(97.4)	(126.2)
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	(44.9)	(35.8)	(30.4)
Deficit in the plans	(275.6)	(225.7)	(295.3)

Some of the Group's defined benefit plans are unfunded (or largely unfunded) by common custom and practice in certain jurisdictions. In the case of these unfunded plans, the benefit payments are made as and when they fall due. Pre-funding of these plans would not be typical business practice.

The following table shows the split of the deficit at 31 December between funded and unfunded pension plans.

	2016 Surplus/ (deficit) £m	2016 Present value of liabilities £m	2015 Surplus/ (deficit) £m	2015 Present value of liabilities £m	2014 Surplus/ (deficit) £m	2014 Present value of liabilities £m
Funded plans by region						
UK	20.0	(406.4)	30.9	(352.6)	11.4	(385.8)
North America	(56.0)	(420.4)	(45.5)	(364.5)	(70.6)	(402.5)
Western Continental Europe	(48.9)	(180.9)	(42.3)	(143.9)	(67.8)	(178.4)
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	(5.8)	(17.2)	(4.9)	(15.0)	(5.4)	(15.2)
Deficit/liabilities in the funded plans	(90.7)	(1,024.9)	(61.8)	(876.0)	(132.4)	(981.9)
Unfunded plans by region						
UK	-	-	-	-	-	-
North America	(77.8)	(77.8)	(77.9)	(77.9)	(79.5)	(79.5)
Western Continental Europe	(68.0)	(68.0)	(55.1)	(55.1)	(58.4)	(58.4)
Asia Pacific, Latin America, Africa & Middle East and Central & Eastern Europe	(39.1)	(39.1)	(30.9)	(30.9)	(25.0)	(25.0)
Deficit/liabilities in the unfunded plans	(184.9)	(184.9)	(163.9)	(163.9)	(162.9)	(162.9)
Deficit/liabilities in the plans	(275.6)	(1,209.8)	(225.7)	(1,039.9)	(295.3)	(1,144.8)

In accordance with IAS 19, plans that are wholly or partially funded are considered funded plans.

(c) Pension expense

The following table shows the breakdown of the pension expense between amounts charged to operating profit, amounts charged to finance costs and amounts recognised in the consolidated statement of comprehensive income (OCI):

	2016 £m	2015 £m	2014 £m
Service cost ¹	22.4	23.0	17.3
Administrative expenses	2.2	2.0	1.8
Charge to operating profit	24.6	25.0	19.1
Net interest expense on pension plans	6.7	7.3	8.0
Charge to profit before taxation for defined benefit plans	31.3	32.3	27.1
Return on plan assets (excluding interest income)	66.3	(31.7)	68.9
Changes in demographic assumptions underlying the present value of the plan liabilities	6.7	13.8	(12.3)
Changes in financial assumptions underlying the present value of the plan liabilities	(92.6)	55.4	(141.4)
Experience gain/(loss) arising on the plan liabilities	1.0	(1.3)	(1.8)
Change in irrecoverable surplus	2.7	(2.7)	-
Actuarial (loss)/gain recognised in OCI	(15.9)	33.5	(86.6)

Note

¹ Includes current service cost, past service costs related to plan amendments and (gain)/loss on settlements and curtailments.

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(d) Movement in plan liabilities

The following table shows an analysis of the movement in the pension plan liabilities for each accounting period:

	2016 £m	2015 £m	2014 £m
Plan liabilities at beginning of year	1,039.9	1,144.8	972.8
Service cost ¹	22.4	23.0	17.3
Interest cost	37.2	34.6	40.7
Actuarial (gain)/loss			
Effect of changes in demographic assumptions	(6.7)	(13.8)	12.3
Effect of changes in financial assumptions	92.6	(55.4)	141.4
Effect of experience adjustments	(1.0)	1.3	1.8
Benefits paid	(92.4)	(112.6)	(57.7)
Loss due to exchange rate movements	124.2	13.4	14.8
Settlement payments	(4.8)	–	–
Other ²	(1.6)	4.6	1.4
Plan liabilities at end of year	1,209.8	1,039.9	1,144.8

Notes

¹ Includes current service cost, past service costs related to plan amendments and (gain)/loss on settlements and curtailments.

² Other includes acquisitions, disposals, plan participants' contributions and reclassifications. The reclassifications represent certain of the Group's defined benefit plans which are included in this note for the first time in the periods presented.

(e) Movement in plan assets

The following table shows an analysis of the movement in the pension plan assets for each accounting period:

	2016 £m	2015 £m	2014 £m
Fair value of plan assets at beginning of year	814.2	849.5	726.2
Interest income on plan assets	30.5	27.3	32.7
Return on plan assets (excluding interest income)	66.3	(31.7)	68.9
Employer contributions	43.7	70.9	68.2
Benefits paid	(92.4)	(112.6)	(57.7)
Gain due to exchange rate movements	78.8	12.4	12.6
Settlement payments	(4.8)	–	–
Administrative expenses	(2.2)	(2.0)	(1.8)
Other ¹	0.1	0.4	0.4
Fair value of plan assets at end of year	934.2	814.2	849.5
Actual return on plan assets	96.8	(4.4)	101.6

Note

¹ Other includes acquisitions, disposals, plan participants' contributions and reclassifications. The reclassifications represent certain of the Group's defined benefit plans which are included in this note for the first time in the periods presented.

24. Risk management policies

Foreign currency risk

The Group's results in pounds sterling are subject to fluctuation as a result of exchange rate movements. The Group does not hedge this translation exposure to its earnings but does hedge the currency element of its net assets using foreign currency borrowings, cross-currency swaps and forward foreign exchange contracts.

The Group effects these currency net asset hedges by borrowing in the same currencies as the operating (or 'functional') currencies of its main operating units. The majority of the Group's debt is therefore denominated in US dollars, pounds sterling and euros. The Group's borrowings at 31 December 2016 were primarily made up of \$2,862 million, £1,000 million and €2,952 million. The Group's average gross debt during the course of 2016 was \$3,182 million, £781 million and €3,132 million.

The Group's operations conduct the majority of their activities in their own local currency and consequently the Group has no significant transactional foreign exchange exposures arising from its operations. Any significant cross-border trading exposures are hedged by the use of forward foreign-exchange contracts. No speculative foreign exchange trading is undertaken.

Interest rate risk

The Group is exposed to interest rate risk on both interest-bearing assets and interest-bearing liabilities. The Group has a policy of actively managing its interest rate risk exposure while recognising that fixing rates on all its debt eliminates the possibility of benefiting from rate reductions and similarly, having all its debt at floating rates unduly exposes the Group to increases in rates.

Including the effect of interest rate and cross-currency swaps, 54.2% of the year-end US dollar debt is at fixed rates averaging 4.62% for an average period of 212 months; 80.0% of the sterling debt is at a fixed rate of 4.53% for an average period of 193 months; and 100% of the euro debt is at fixed rates averaging 1.85% for an average period of 93 months.

Other than fixed rate debt, the Group's other fixed rates are achieved principally through interest rate swaps with the Group's bankers. The Group also uses forward rate agreements and interest rate caps to manage exposure to interest rate changes. At 31 December 2016 no forward rate agreements or interest rate caps were in place. These interest rate derivatives are used only to hedge exposures to interest rate movements arising from the Group's borrowings and surplus cash balances arising from its commercial activities and are not traded independently. Payments made under these instruments are accounted for on an accruals basis.

Going concern and liquidity risk

In considering going concern and liquidity risk, the directors have reviewed the Group's future cash requirements and earnings projections. The directors believe these forecasts have been prepared on a prudent basis and have also considered the impact of a range of potential changes to trading performance. The directors have concluded that the Group should be able to operate within its current facilities and comply with its banking covenants for the foreseeable future and therefore believe it is appropriate to prepare the financial statements of the Group on a going concern basis.

At 31 December 2016, the Group has access to £8.2 billion of committed facilities with maturity dates spread over the years 2017 to 2046 as illustrated below:

	£m	2017 £m	2018 £m	2019 £m	2020 £m	2021+ £m
£ bonds £400m (2.875% '46)	400.0					400.0
US bond \$500m (5.625% '43)	405.0					405.0
US bond \$300m (5.125% '42)	243.0					243.0
Eurobonds €600m (1.625% '30)	512.6					512.6
Eurobonds €750m (2.25% '26)	640.8					640.8
US bond \$750m (3.75% '24)	607.5					607.5
Eurobonds €750m (3.0% '23)	640.8					640.8
US bond \$500m (3.625% '22)	405.0					405.0
US bond \$812m (4.75% '21)	658.0					658.0
Bank revolver (\$2,500m)	2,025.1					2,025.1
£ bonds £200m (6.375% '20)	200.0				200.0	
Eurobonds €600m (0.75% '19)	512.6			512.6		
Bank revolver (A,\$520m)	304.0			304.0		
Eurobonds €252m (0.43% '18)	215.3		215.3			
£ bonds £400m (6.0% '17)	400.0	400.0				
Total committed facilities available	8,169.7	400.0	215.3	816.6	200.0	6,537.8
Drawn down facilities at 31 December 2016	6,047.4	400.0	215.3	719.4	200.0	4,512.7
Undrawn committed credit facilities	2,122.3					
Drawn down facilities at 31 December 2016	6,047.4					
Net cash at 31 December 2016	(1,902.6)					
Other adjustments	(14.3)					
Net debt at 31 December 2016	4,130.5					

Given the strong cash generation of the business, its debt maturity profile and available facilities, the directors believe the Group has sufficient liquidity to match its requirements for the foreseeable future.

Treasury activities

Treasury activity is managed centrally from London, New York and Hong Kong, and is principally concerned with the monitoring of working capital, managing external and internal funding requirements and the monitoring and management of financial market risks, in particular interest rate and foreign exchange exposures.

The treasury operation is not a profit centre and its activities are carried out in accordance with policies approved by the Board of Directors and subject to regular review and audit.

The Group manages liquidity risk by ensuring continuity and flexibility of funding even in difficult market conditions. Undrawn committed borrowing facilities are maintained in excess of peak net-borrowing levels and debt maturities are closely monitored. Targets for average net debt are set on an annual basis and, to assist in meeting this, working capital targets are set for all the Group's major operations.

Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue as a going concern while maximising the return to stakeholders through the optimisation of the debt and equity balance. The capital structure of the Group consists of debt, which includes the borrowings disclosed in note 10, cash and cash equivalents and equity attributable to equity holders of the parent, comprising issued capital, reserves and retained earnings as disclosed in the consolidated statement of changes in equity and in notes 26 and 27.

Credit risk

The Group's principal financial assets are cash and short-term deposits, trade and other receivables and investments, the carrying values of which represent the Group's maximum exposure to credit risk in relation to financial assets, as shown in note 25.

The Group's credit risk is primarily attributable to its trade receivables. The majority of the Group's trade receivables are due from large national or multinational companies where the risk of default is considered low. The amounts presented in the consolidated balance sheet are net of allowances for doubtful receivables, estimated by the Group's management based on prior experience and their assessment of the current economic environment. A relatively small number of clients make up a significant percentage of the Group's debtors, but no single client represents more than 5% of total trade receivables as at 31 December 2016.

The credit risk on liquid funds and derivative financial instruments is limited because the counterparties are banks with high credit ratings assigned by international credit-rating agencies or banks that have been financed by their government.

A relatively small number of clients contribute a significant percentage of the Group's consolidated revenues. The Group's clients generally are able to reduce advertising and marketing spending or cancel projects at any time for any reason. There can be no assurance that any of the Group's clients will continue to utilise the Group's services to the same extent, or at all, in the future. A significant reduction in advertising and marketing spending by, or the loss of one or more of, the Group's largest clients, if not replaced by new client accounts or an increase in business from existing clients, would adversely affect the Group's prospects, business, financial condition and results of operations.

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Sensitivity analysis

The following sensitivity analysis addresses the effect of currency and interest rate risks on the Group's financial instruments. The analysis assumes that all hedges are highly effective.

Currency risk

At 31 December 2016, the Group's major foreign currency denominated borrowings are held in individual entities with the same financial reporting currencies as borrowings. Therefore a weakening or strengthening of sterling against the Group's major currencies would not result in any gains or losses. In 2015, a 10% weakening of sterling would have resulted in a £40.8m loss being posted directly to equity. These losses would arise on the retranslation of foreign currency denominated borrowings and derivatives designated as effective net investment hedges of overseas net assets. These losses would have been partially offset in equity by a corresponding gain arising on the retranslation of the related hedged foreign currency net assets. A 10% strengthening of sterling would have an equal and opposite effect.

Interest rate risk

A one percentage point increase in market interest rates for all currencies in which the Group had cash and borrowings at 31 December 2016 would increase profit before tax by approximately £4.5 million (2015: £7.9 million). A one percentage decrease in market interest rates would have an equal and opposite effect. This has been calculated by applying the interest rate change to the Group's variable rate cash and borrowings.

25. Financial instruments

Currency derivatives

The Group utilises currency derivatives to hedge significant future transactions and cash flows and the exchange risk arising on translation of the Group's investments in foreign operations. The Group is a party to a variety of foreign currency derivatives in the management of its exchange rate exposures. The instruments purchased are primarily denominated in the currencies of the Group's principal markets.

During 2016, the Group held no currency derivatives. In 2015, the amounts taken to and deferred in equity during the year for currency derivatives that are designated and effective hedges was a charge of £73.5 million for cash flow hedges. In 2015 and 2014, changes in the fair value relating to the ineffective portion of the currency derivatives amounted to a gain of £3.2 million and £23.0 million respectively which is included in the revaluation of financial instruments for the year.

The Group designates its foreign currency-denominated debt and cross-currency swaps as hedging instruments against the currency risk associated with the translation of its foreign operations.

At the balance sheet date, the total nominal amount of outstanding forward foreign exchange contracts not designated as hedges was £122.0 million (2015: £86.5 million). The Group estimates the fair value of these contracts to be a net asset of £0.1 million (2015: £3.9 million).

These arrangements are designed to address significant exchange exposure and are renewed on a revolving basis as required.

Interest rate swaps

The Group uses interest rate swaps as hedging instruments in fair value hedges to manage its exposure to interest rate movements on its borrowings. Contracts with a nominal value of \$500 million have fixed interest receipts of 3.63% until September 2022 and have floating interest payments averaging LIBOR plus 1.52%. Contracts with a nominal value of \$812 million have fixed interest receipts of 4.75% until November 2021 and have floating rate payments averaging LIBOR plus 2.17% (set in arrears). Contracts with a nominal value of £200 million have fixed interest receipts of 6.00% up until April 2017 and have floating rate payments averaging LIBOR plus 0.64%. Contracts with a nominal value of A\$30 million have fixed interest receipts of 2.59% until December 2017 and have floating rate payments based on the Australian bank bill swap bid rate (BBSY). Contracts with a nominal value of A\$30 million have fixed interest rate receipts of 2.85% until August 2017 and have floating rate payments based on the Australian bank bill swap reference rate (BBSW).

The fair value of interest rate swaps entered into at 31 December 2016 is estimated to be a net asset of approximately £17.0 million (2015: £37.4 million). These amounts are based on market values of equivalent instruments at the balance sheet date, comprising £20.0 million (2015: £39.7 million) assets included in trade and other receivables and £3.0 million (2015: £2.3 million) liabilities included in trade and other payables.

Changes in the fair value relating to the ineffective portion of interest rate swaps amounted to a loss of £5.2 million (2015: loss of £6.8 million, 2014: gain of £5.3 million) which is included in the revaluation of financial instruments for the year. This loss resulted from a £19.3 million loss on hedging instruments and a £14.1 million gain on hedged items.

An analysis of the Group's financial assets and liabilities by accounting classification is set out below:

	Derivatives in designated hedge relationships £m	Held for trading £m	Loans & receivables £m	Available for sale £m	Amortised cost £m	Carrying value £m
2016						
Other investments	-	-	-	1,310.3	-	1,310.3
Cash and short-term deposits	-	-	2,436.9	-	-	2,436.9
Bank overdrafts and loans	-	-	-	-	(1,002.5)	(1,002.5)
Bonds and bank loans	-	-	-	-	(5,564.9)	(5,564.9)
Trade and other receivables: amounts falling due within one year	-	-	8,468.8	-	-	8,468.8
Trade and other receivables: amounts falling due after more than one year	-	-	89.9	-	-	89.9
Trade and other payables: amounts falling due within one year	-	-	-	-	(10,398.9)	(10,398.9)
Trade and other payables: amounts falling due after more than one year	-	-	-	-	(8.4)	(8.4)
Derivative assets	20.0	3.0	-	-	-	23.0
Derivative liabilities	(3.0)	(2.9)	-	-	-	(5.9)
Payments due to vendors (earnout agreements) (note 19)	-	(976.5)	-	-	-	(976.5)
Liabilities in respect of put options	-	(297.0)	-	-	-	(297.0)
	17.0	(1,273.4)	10,995.6	1,310.3	(16,974.7)	(5,925.2)

	Derivatives in designated hedge relationships £m	Held for trading £m	Loans & receivables £m	Available for sale £m	Amortised cost £m	Carrying value £m
2015						
Other investments	-	-	-	1,158.7	-	1,158.7
Cash and short-term deposits	-	-	2,382.4	-	-	2,382.4
Bank overdrafts and loans	-	-	-	-	(932.0)	(932.0)
Bonds and bank loans	-	-	-	-	(4,661.2)	(4,661.2)
Trade and other receivables: amounts falling due within one year	-	-	7,184.4	-	-	7,184.4
Trade and other receivables: amounts falling due after more than one year	-	-	68.5	-	-	68.5
Trade and other payables: amounts falling due within one year	-	-	-	-	(8,595.5)	(8,595.5)
Trade and other payables: amounts falling due after more than one year	-	-	-	-	(5.3)	(5.3)
Derivative assets	39.7	4.6	-	-	-	44.3
Derivative liabilities	(2.3)	(0.7)	-	-	-	(3.0)
Payments due to vendors (earnout agreements) (note 19)	-	(581.3)	-	-	-	(581.3)
Liabilities in respect of put options	-	(234.4)	-	-	-	(234.4)
	37.4	(811.8)	9,635.3	1,158.7	(14,194.0)	(4,174.4)

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The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, grouped into levels 1 to 3 based on the degree to which the fair value is observable:

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

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

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

	Level 1 £m	Level 2 £m	Level 3 £m
2016			
Derivatives in designated hedge relationships			
Derivative assets	–	20.0	–
Derivative liabilities	–	(3.0)	–
Held for trading			
Derivative assets	–	3.0	–
Derivative liabilities	–	(2.9)	–
Payments due to vendors (earnout agreements) (note 19)	–	–	(976.5)
Liabilities in respect of put options	–	–	(297.0)
Available for sale			
Other investments	429.3	–	881.0

	Level 1 £m	Level 2 £m	Level 3 £m
2015			
Derivatives in designated hedge relationships			
Derivative assets	–	39.7	–
Derivative liabilities	–	(2.3)	–
Held for trading			
Derivative assets	–	4.6	–
Derivative liabilities	–	(0.7)	–
Payments due to vendors (earnout agreements) (note 19)	–	–	(581.3)
Liabilities in respect of put options	–	–	(234.4)
Available for sale			
Other investments	311.4	–	847.3

Reconciliation of level 3 fair value measurements¹:

	Liabilities in respect of put options £m	Other investments £m
1 January 2015	(184.9)	534.4
Losses recognised in the income statement	(11.3)	(2.2)
Gain recognised in other comprehensive income	–	196.4
Exchange adjustments	21.4	13.3
Additions	(86.8)	113.5
Disposals	–	(8.1)
Cancellations	25.3	–
Settlements	1.9	–
31 December 2015	(234.4)	847.3
Losses recognised in the income statement	(17.2)	(1.6)
Gain recognised in other comprehensive income	–	(105.6)
Exchange adjustments	(47.4)	112.9
Additions	(42.9)	105.7
Disposals	–	(3.4)
Reclassifications from other investments to interests in associates	–	(74.3)
Settlements	44.9	–
31 December 2016	(297.0)	881.0

Note

¹ The reconciliation of payments due to vendors (earnout agreements) is presented in note 19.

The fair values of financial assets and liabilities are based on quoted market prices where available. Where the market value is not available, the Group has estimated relevant fair values on the basis of publicly available information from outside sources or on the basis of discounted cash flow models where appropriate.

Payments due to vendors and liabilities in respect of put options

Future anticipated payments due to vendors in respect of contingent consideration (earnout agreements) are recorded at fair value, which is the present value of the expected cash outflows of the obligations. Liabilities in respect of put option agreements are initially recorded at the present value of the redemption amount in accordance with IAS 32 and subsequently measured at fair value in accordance with IAS 39. Both types of obligations are dependent on the future financial performance of the entity and it is assumed that future profits are in line with directors' estimates. The directors derive their estimates from internal business plans together with financial due diligence performed in connection with the acquisition. At 31 December 2016, the weighted average growth rate in estimating future financial performance was 25.0% (2015: 20.3%), which reflects the prevalence of recent acquisitions in the faster-growing markets and new media sectors. The risk adjusted discount rate applied to these obligations at 31 December 2016 was 1.5% (2015: 1.7%).

A one percentage point increase or decrease in the growth rate in estimated future financial performance would increase or decrease the combined liabilities due to earnout agreements and put options by approximately £13.4 million (2015: £11.9 million) and £17.9 million (2015: £19.0 million), respectively. A 0.5 percentage point increase or decrease in the risk adjusted discount rate would decrease or increase the combined liabilities by approximately £16.0 million (2015: £11.6 million) and £16.4 million (2015: £11.9 million), respectively. An increase in the liability would result in a loss in the revaluation of financial instruments, while a decrease would result in a gain.

Other investments

The fair value of other investments included in level 1 are based on quoted market prices. Other investments included in level 3 are unlisted securities, where market value is not readily available. The Group has estimated relevant fair values on the basis of publicly available information from outside sources or on the basis of discounted cash flow models where appropriate. The sensitivity to changes in unobservable inputs is specific to each individual investment.

26. Authorised and issued share capital

	Equity ordinary shares	Nominal value £m
Authorised		
1 January 2015	1,750,000,000	175.0
31 December 2015	1,750,000,000	175.0
31 December 2016	1,750,000,000	175.0
Issued and fully paid		
1 January 2015	1,325,747,724	132.6
Exercise of share options	3,618,300	0.3
31 December 2015	1,329,366,024	132.9
Exercise of share options	2,514,706	0.3
31 December 2016	1,331,880,730	133.2

Company's own shares

The Company's holdings of own shares are stated at cost and represent shares held in treasury and purchases by the Employee Share Ownership Plan ("ESOP") trusts of shares in WPP plc for the purpose of funding certain of the Group's share-based incentive plans, details of which are disclosed in the Compensation Committee report on pages 145 to 158.

The trustees of the ESOP purchase the Company's ordinary shares in the open market using funds provided by the Company. The Company also has an obligation to make regular contributions to the ESOP to enable it to meet its administrative costs. The number and market value of the ordinary shares of the Company held by the ESOP at 31 December 2016 was 13,857,706 (2015: 17,154,359), and £251.7 million (2015: £268.1 million) respectively. The number and market value of ordinary shares held in treasury at 31 December 2016 was 51,026,358 (2015: 34,619,468) and £926.6 million (2015: £541.1 million) respectively.

Share options

WPP Executive Share Option Scheme

As at 31 December 2016, unexercised options over ordinary shares of 6,741 and unexercised options over ADRs of 422 have been granted under the WPP Executive Share Option Scheme as follows:

	Number of ordinary shares under option	Exercise price per share (£)	Exercise dates
	3,696	8.333	2015-2022
	3,045	10.595	2016-2023
	Number of ADRs under option	Exercise price per ADR (\$)	Exercise dates
	422	59.170	2011-2018

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WPP Worldwide Share Ownership Program

As at 31 December 2016, unexercised options over ordinary shares of 4,447,052 and unexercised options over ADRs of 672,573 have been granted under the WPP Worldwide Share Ownership Program as follows:

Number of ordinary shares under option	Exercise price per share (£)	Exercise dates
2,750	4.819	2011-2018
50,250	5.483	2012-2019
26,500	5.483	2013-2019
1,750	5.608	2012-2019
1,200	5.913	2011-2018
875	5.917	2011-2018
24,425	6.028	2011-2018
8,875	6.268	2014-2018
158,050	6.268	2014-2021
64,125	6.268	2015-2021
125	6.668	2009-2017
1,300	7.005	2010-2017
750	7.113	2013-2017
102,050	7.113	2013-2020
41,500	7.113	2014-2020
500	7.478	2011-2017
4,500	7.543	2014-2020
9,050	7.718	2010-2017
390,820	8.458	2015-2022
75,000	13.145	2017-2021
2,472,576	13.145	2017-2024
5,625	13.145	2018-2024
970,706	13.505	2016-2023
33,750	13.505	2017-2023

Number of ADRs under option	Exercise price per ADR (\$)	Exercise dates
19,610	44.560	2012-2019
46,650	49.230	2014-2021
30,495	56.560	2013-2020
12,270	59.500	2011-2018
71,134	67.490	2015-2022
4,915	75.760	2010-2017
266,516	102.670	2017-2024
220,983	110.760	2016-2023

WPP Share Option Plan 2015

As at 31 December 2016, unexercised options over ordinary shares of 6,599,650 and unexercised options over ADRs of 734,760 have been granted under the WPP Share Option Plan 2015 as follows:

Number of ordinary shares under option	Exercise price per share (£)	Exercise dates
102,625	15.150	2018-2022
2,878,700	15.150	2018-2025
6,875	15.150	2019-2025
3,591,825	17.055	2019-2026
19,625	17.055	2019-2023

Number of ADRs under option	Exercise price per ADR (\$)	Exercise dates
417,770	105.490	2020-2026
316,990	115.940	2018-2025

The aggregate status of the WPP Share Option Plans during 2016 was as follows:

Movements on options granted (represented in ordinary shares)

	1 January 2016	Granted	Exercised	Lapsed	Outstanding 31 December 2016	Exercisable 31 December 2016
WPP	22,473	-	(12,842)	(780)	8,851	8,851
WWOP	11,881,717	-	(2,488,979)	(1,582,821)	7,809,917	3,890,386
WSOP	5,678,475	5,776,275	(5,700)	(1,175,600)	10,273,450	-
24/7	9,420	-	(7,185)	(2,235)	-	-
	17,592,085	5,776,275	(2,514,706)	(2,761,436)	18,092,218	3,899,237

Weighted-average exercise price for options over

	1 January 2016	Granted	Exercised	Lapsed	Outstanding 31 December 2016	Exercisable 31 December 2016
Ordinary shares (£)						
WPP	7.950	-	6.679	-	9.355	9.355
WWOP	11.859	-	11.137	12.475	12.059	10.542
WSOP	15.150	17.055	-	15.243	16.192	-
ADRs (\$)						
WPP	66.270	-	69.387	63.900	59.170	59.170
WWOP	90.449	-	61.647	96.402	93.131	86.871
WSOP	115.940	105.490	-	115.006	109.998	-
24/7	57.635	-	56.688	60.679	-	-

Options over ordinary shares

Outstanding	Range of exercise prices £	Weighted average exercise price £	Weighted average contractual life Months
	4.819 – 17.055	14.525	87

Options over ADRs

Outstanding	Range of exercise prices \$	Weighted average exercise price \$	Weighted average contractual life Months
	44.56 – 115.94	101.925	95

As at 31 December 2016 there was £9.9 million (2015: £10.4 million) of total unrecognised compensation cost related to share options. That cost is expected to be recognised over a weighted average period of 20 months (2015: 20 months).

Share options are satisfied out of newly issued shares.

The weighted average fair value of options granted in the year calculated using the Black-Scholes model was as follows:

	2016	2015	2014
Fair value of UK options (shares)	135.0p	144.0p	155.0p
Fair value of US options (ADRs)	\$9.94	\$11.34	\$12.23
Weighted average assumptions:			
UK Risk-free interest rate	0.44%	1.04%	1.12%
US Risk-free interest rate	1.60%	1.45%	1.28%
Expected life (months)	48	48	48
Expected volatility	16%	17%	20%
Dividend yield	2.8%	2.8%	2.8%

Options are issued at an exercise price equal to market value on the date of grant.

The average share price of the Group for the year ended 31 December 2016 was £16.45 (2015: £14.74, 2014: £12.65) and the average ADR price for the same period was \$111.20 (2015: \$112.88, 2014: \$104.21).

Expected volatility is sourced from external market data and represents the historic volatility in the Group's share price over a period equivalent to the expected option life.

Expected life is based on a review of historic exercise behaviour in the context of the contractual terms of the options, as described in more detail below.

Terms of share option plans

In 2015, the Group introduced the Share Option Plan 2015 to replace both the 'all-employee' Worldwide Share Ownership Plan and the discretionary Executive Stock Option Plan. Two kinds of options over ordinary shares can be granted, both with a market value exercise price. Firstly, options can be granted to employees who have worked at a company owned by WPP plc for at least two years which are not subject to performance conditions. Secondly, options may be granted on a discretionary basis subject to the satisfaction of performance conditions.

The Worldwide Share Ownership Program was open for participation to employees with at least two years' employment in the Group. It was not available to those participating in other share-based incentive programs or to Executive Directors. The vesting period for each grant is three years and there are no performance conditions other than continued employment with the Group.

The Executive Stock Option Plan has historically been open for participation to WPP Group Leaders, Partners and High Potential Group. It is not currently offered to parent company Executive Directors. The vesting period is three years and performance conditions include achievement of various TSR (Total Shareholder Return) and EPS (Earnings Per Share) objectives, as well as continued employment.

The Group grants stock options with a life of 10 years, including the vesting period. The terms of stock options with performance conditions are such that if, after nine years and eight months, the performance conditions have not been met, then the stock option will vest automatically.

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27. Other reserves

Other reserves comprise the following:

	Capital redemption reserve £m	Equity reserve £m	Revaluation reserve £m	Translation reserve £m	Total other reserves £m
1 January 2015	2.7	(246.2)	158.4	121.3	36.2
Exchange adjustments on foreign currency net investments	-	-	-	(272.9)	(272.9)
Gain on revaluation of available for sale investments	-	-	206.0	-	206.0
Recognition and remeasurement of financial instruments	-	(59.0)	-	-	(59.0)
Share purchases – close period commitments	-	80.0	-	-	80.0
31 December 2015	2.7	(225.2)	364.4	(151.6)	(9.7)
Exchange adjustments on foreign currency net investments	-	-	-	1,309.9	1,309.9
Loss on revaluation of available for sale investments	-	-	(93.1)	-	(93.1)
Recognition and remeasurement of financial instruments	-	(21.9)	-	-	(21.9)
31 December 2016	2.7	(247.1)	271.3	1,158.3	1,185.2

28. Acquisitions

The Group accounts for acquisitions in accordance with IFRS 3 Business Combinations. IFRS 3 requires the acquiree's identifiable assets, liabilities and contingent liabilities (other than non-current assets or disposal groups held for sale) to be recognised at fair value at acquisition date. In assessing fair value at acquisition date, management make their best estimate of the likely outcome where the fair value of an asset or liability may be contingent on a future event. In certain instances, the underlying transaction giving rise to an estimate may not be resolved until some years after the acquisition date. IFRS 3 requires the release to profit of any acquisition reserves which subsequently become excess in the same way as any excess costs over those provided at acquisition date are charged to profit. At each period end management assess provisions and other balances established in respect of acquisitions for their continued probability of occurrence and amend the relevant value accordingly through the consolidated income statement or as an adjustment to goodwill as appropriate under IFRS 3.

The Group acquired a number of subsidiaries in the year. The following table sets out the book values of the identifiable assets and liabilities acquired and their fair value to the Group. The fair value adjustments for certain acquisitions have been determined provisionally at the balance sheet date.

	Book value at acquisition £m	Fair value adjustments £m	Fair value to Group £m
Intangible assets	10.5	319.1	329.6
Property, plant and equipment	20.6	-	20.6
Cash	57.1	-	57.1
Trade receivables due within one year	249.5	-	249.5
Other current assets	78.0	-	78.0
Total assets	415.7	319.1	734.8
Current liabilities	(299.4)	(2.8)	(302.2)
Trade and other payables due after one year	(40.4)	(59.5)	(99.9)
Deferred tax liabilities	-	(96.1)	(96.1)
Provisions	(0.1)	(11.5)	(11.6)
Bank loans	(144.4)	-	(144.4)
Total liabilities	(484.3)	(169.9)	(654.2)
Net assets	(68.6)	149.2	80.6
Non-controlling interests			(15.0)
Fair value of equity stake in associate undertakings before acquisition of controlling interest			(98.5)
Goodwill			799.3
Consideration			766.4
Consideration satisfied by:			
Cash			423.3
Payments due to vendors			343.1

Goodwill arising from acquisitions represents the value of synergies with our existing portfolio of businesses and skilled staff to deliver services to our clients. Goodwill that is expected to be deductible for tax purposes is £54.8 million.

Non-controlling interests in acquired companies are measured at the non-controlling interests' proportionate share of the acquiree's identifiable net assets.

The contribution to revenue and operating profit of acquisitions completed in the year was not material. There were no material acquisitions completed between 31 December 2016 and the date the financial statements have been authorised for issue.

29. Principal subsidiary undertakings

The principal subsidiary undertakings of the Group are:

	Country of incorporation
Grey Global Group LLC	US
J. Walter Thompson Company LLC	US
GroupM Worldwide LLC	US
The Ogilvy Group LLC	US
Young & Rubicam, Inc	US
TNS Group Holdings Ltd	UK

All of these subsidiaries are operating companies and are 100% owned by the Group.

A more detailed listing of the operating subsidiary undertakings is given on pages 14 and 15. The Company directly or indirectly holds controlling interests in the issued share capital of these undertakings with the exception of those specifically identified.

30. Related party transactions

From time to time the Group enters into transactions with its associate undertakings. These transactions were not material for any of the years presented.

31. Reconciliation to non-GAAP measures of performance

Management includes non-GAAP measures as they consider these measures to be both useful and necessary. They are used by management for internal performance analyses; the presentation of these measures facilitates comparability with other companies, although management's measures may not be calculated in the same way as similarly titled measures reported by other companies; and these measures are useful in connection with discussions with the investment community.

Reconciliation of profit before interest and taxation to headline PBIT:

	2016 £m	2015 £m	2014 £m
Profit before interest and taxation	2,112.9	1,679.0	1,569.2
Amortisation and impairment of acquired intangible assets	168.4	140.1	147.5
Goodwill impairment	27.0	15.1	16.9
Gains on disposal of investments and subsidiaries	(44.3)	(131.0)	(186.3)
Gains on remeasurement of equity interests arising from a change in scope of ownership	(232.4)	(165.0)	(9.2)
Investment write-downs	86.1	78.7	7.3
Restructuring costs	27.4	106.2	127.6
IT asset write-downs	-	29.1	-
Share of exceptional losses of associates	15.2	21.8	7.6
Headline PBIT	2,160.3	1,774.0	1,680.6
Finance income	80.4	72.4	94.7
Finance costs	(254.5)	(224.1)	(262.7)
	(174.1)	(151.7)	(168.0)
Interest cover on headline PBIT	12.4	11.7	10.0
	times	times	times

Calculation of headline EBITDA:

	2016 £m	2015 £m	2014 £m
Headline PBIT (as above)	2,160.3	1,774.0	1,680.6
Depreciation of property, plant and equipment	220.8	194.7	197.3
Amortisation of other intangible assets	38.6	33.7	31.6
Headline EBITDA	2,419.7	2,002.4	1,909.5

Reconciliation of profit before taxation to headline PBT and headline earnings:

	2016 £m	2015 £m	2014 £m
Profit before taxation	1,890.5	1,492.6	1,451.9
Amortisation and impairment of acquired intangible assets	168.4	140.1	147.5
Goodwill impairment	27.0	15.1	16.9
Gains on disposal of investments and subsidiaries	(44.3)	(131.0)	(186.3)
Gains on remeasurement of equity interests arising from a change in scope of ownership	(232.4)	(165.0)	(9.2)
Investment write-downs	86.1	78.7	7.3
Restructuring costs	27.4	106.2	127.6
IT asset write-downs	-	29.1	-
Share of exceptional losses of associates	15.2	21.8	7.6
Revaluation of financial instruments	48.3	34.7	(50.7)
Headline PBT	1,986.2	1,622.3	1,512.6
Headline tax charge	(417.2)	(308.3)	(302.5)
Non-controlling interests	(101.5)	(84.9)	(74.3)
Headline earnings	1,467.5	1,229.1	1,135.8
Ordinary dividends paid	616.5	545.8	460.0
	2.4	2.3	2.5
Dividend cover on headline earnings	times	times	times

Net sales margin before and after share of results of associates:

	Margin %	2016 £m	Margin %	2015 £m	Margin %	2014 £m
Net sales		12,397.8		10,524.3		10,064.8
Headline PBIT	17.4%	2,160.3	16.9%	1,774.0	16.7%	1,680.6
Share of results of associates (excluding exceptional gains/losses)		(65.0)		(68.8)		(69.5)
Headline operating profit	16.9%	2,095.3	16.2%	1,705.2	16.0%	1,611.1

Reconciliation of free cash flow:

	2016 £m	2015 £m	2014 £m
Cash generated by operations	2,283.3	1,734.3	2,108.8
Plus:			
Interest received	73.9	61.3	69.8
Investment income	12.5	4.9	11.9
Dividends from associates	60.4	72.6	52.2
Share option proceeds	27.2	27.6	25.0
Proceeds on disposal of property, plant and equipment	7.7	13.4	5.9
Movement in other receivables, payables and provisions	269.6	2.5	12.6
Less:			
Movements in trade working capital	(118.3)	161.6	(307.6)
Interest and similar charges paid	(242.1)	(212.0)	(249.1)
Purchases of property, plant and equipment	(252.1)	(210.3)	(177.9)
Purchases of other intangible assets (including capitalised computer software)	(33.0)	(36.1)	(36.5)
Corporation and overseas tax paid	(414.2)	(301.2)	(289.9)
Dividends paid to non-controlling interests in subsidiary undertakings	(89.6)	(55.2)	(57.7)
Free cash flow	1,585.3	1,263.4	1,167.5