C1 Analysis of Group statement of financial position by segment

(a) Position as at 31 December 2016

		2016 £m									
		Insurance operations			Asset management						
By operating segment	Note	Asia C2.1	US C2.2	UK C2.3	M&G	Prudential Capital	US	Eastspring Invest-ments	Unallo-cated to a segment (central opera-tions)	Elimin-ation of intra-group debtors and creditors	Group total
Assets											
Goodwill	C5(a)	245	–	153	1,153	–	16	61	–	–	1,628
Deferred acquisition costs and other intangible assets	C5(b)	2,316	8,323	107	8	–	4	3	46	–	10,807
Property, plant and equipment		121	237	343	5	–	10	3	24	–	743
Reinsurers' share of insurance contract liabilities		1,539	7,224	2,590	–	–	–	–	–	(1,302)	10,051
Deferred tax assets	C8.1	98	3,861	146	23	8	118	9	52	–	4,315
Current tax recoverable	C8.2	29	95	283	25	2	6	–	–	–	440
Accrued investment income note (i)		521	549	1,915	6	20	79	28	35	–	3,153
Other debtors note (i)		2,633	295	2,447	880	788	293	53	5,620	(9,990)	3,019
Investment properties		5	6	14,635	–	–	–	–	–	–	14,646
Investment in joint ventures and associates accounted for using the equity method	D6	688	–	409	39	–	–	137	–	–	1,273
Loans	C3.3	1,303	9,735	3,572	–	563	–	–	–	–	15,173
Equity securities and portfolio holdings in unit trusts		23,581	120,747	54,037	140	–	–	18	29	–	198,552
Debt securities	C3.2	36,546	40,745	90,796	–	2,359	–	–	12	–	170,458
Derivative assets		47	834	2,927	–	124	–	–	4	–	3,936
Other investments		–	987	4,449	24	–	5	–	–	–	5,465
Deposits		1,379	–	10,705	–	–	49	46	6	–	12,185
Assets held for sale	D1	3,863	–	726	–	–	–	–	–	–	4,589
Cash and cash equivalents note (ii)		1,995	1,054	4,703	354	1,451	81	162	265	–	10,065
Total assets		76,909	194,692	194,943	2,657	5,315	661	520	6,093	(11,292)	470,498

C1 Analysis of Group statement of financial position by segment continued

(a) Position as at 31 December 2016 continued

		2016 £m									
		Insurance operations			Asset management						
By operating segment	Note	Asia C2.1	US C2.2	UK C2.3	M&G	Prudential Capital	US	Eastspring Investments	Unallocated to a segment (central operations)	Elimination of intra-group debtors and creditors	Group total
Equity and liabilities											
Total equity		4,993	5,204	5,999	1,820	22	204	383	(3,958)	–	14,667
Liabilities											
Insurance contract liabilities	C4.1	54,417	174,328	88,993	–	–	–	–	–	(1,302)	316,436
Investment contract liabilities with discretionary participation features	C4.1	347	–	52,490	–	–	–	–	–	–	52,837
Investment contract liabilities without discretionary participation features	C4.1	254	3,298	16,171	–	–	–	–	–	–	19,723
Unallocated surplus of with-profits funds	C4.1	2,667	–	11,650	–	–	–	–	–	–	14,317
Core structural borrowings of shareholder-financed operations	C6.1	–	202	–	–	275	–	–	6,321	–	6,798
Operational borrowings attributable to shareholder-financed operations note (iv)	C6.2(a)	19	480	167	–	–	–	–	1,651	–	2,317
Borrowings attributable to with-profits operations	C6.2(b)	4	–	1,345	–	–	–	–	–	–	1,349
Obligations under funding, securities lending and sale and repurchase agreements		–	3,534	1,497	–	–	–	–	–	–	5,031
Net asset value attributable to unit holders of consolidated unit trusts and similar funds		3,093	–	5,594	–	–	–	–	–	–	8,687
Deferred tax liabilities	C8.1	935	2,831	1,577	15	–	1	–	11	–	5,370
Current tax liabilities	C8.2	113	–	447	64	7	–	12	6	–	649
Accruals, deferred income and other liabilities note (iii)		5,887	4,749	6,176	553	4,396	455	53	1,546	(9,990)	13,825
Provisions	C11	157	2	442	205	–	1	72	68	–	947
Derivative liabilities	C3.4	265	64	1,860	–	615	–	–	448	–	3,252
Liabilities held for sale	D1	3,758	–	535	–	–	–	–	–	–	4,293
Total liabilities		71,916	189,488	188,944	837	5,293	457	137	10,051	(11,292)	455,831
Total equity and liabilities		76,909	194,692	194,943	2,657	5,315	661	520	6,093	(11,292)	470,498

(b) Position as at 31 December 2015

By operating segment	Note	2015 £m									
		Insurance operations			Asset management				Unallocated to a segment (central operations)	Elimination of intra-group debtors and creditors	Group total
		Asia C2.1	US C2.2	UK C2.3	M&G	Prudential Capital	US	Eastspring Investments			
Assets											
Goodwill	C5	233	–	185	1,153	–	16	61	–	–	1,648
Deferred acquisition costs and other intangible assets		2,145	6,168	91	16	–	3	2	47	–	8,472
Property, plant and equipment		73	192	798	7	–	9	3	115	–	1,197
Reinsurers' share of insurance contract liabilities		797	6,211	2,156	–	–	–	–	–	(1,261)	7,903
Deferred tax assets	C8.1	66	2,448	132	30	8	95	7	33	–	2,819
Current tax recoverable		34	307	135	–	1	3	–	(3)	–	477
Accrued investment income note (i)		505	473	1,622	6	28	66	20	31	–	2,751
Other debtors note (i)		2,212	22	2,498	672	577	63	49	4,743	(8,881)	1,955
Investment properties		5	5	13,412	–	–	–	–	–	–	13,422
Investment in joint ventures and associates accounted for using the equity method		475	–	434	29	–	–	96	–	–	1,034
Loans		1,084	7,418	3,571	–	885	–	–	–	–	12,958
Equity securities and portfolio holdings in unit trusts		18,532	91,216	47,593	70	–	–	15	27	–	157,453
Debt securities		28,292	34,071	83,101	–	2,204	–	–	3	–	147,671
Derivative assets		57	905	1,930	–	65	–	–	1	–	2,958
Other investments		–	810	3,556	15	9	5	–	–	–	4,395
Deposits		773	–	11,226	–	–	50	39	–	–	12,088
Assets held for sale		–	–	2	–	–	–	–	–	–	2
Cash and cash equivalents note (ii)		2,064	1,405	2,880	430	415	79	130	379	–	7,782
Total assets		57,347	151,651	175,322	2,428	4,192	389	422	5,376	(10,142)	386,985

C1 Analysis of Group statement of financial position by segment continued

(b) Position as at 31 December 2015 continued

		2015 £m									
		Insurance operations			Asset management						
By operating segment	Note	Asia C2.1	US C2.2	UK C2.3	M&G	Prudential Capital	US	Eastspring Invest-ments	Unallo-cated to a segment (central opera-tions)	Elimin-ation of intra-group debtors and creditors	Group total
Equity and liabilities											
Total equity		3,957	4,154	5,140	1,774	70	182	306	(2,627)	–	12,956
Liabilities											
Insurance contract liabilities		42,084	136,129	83,801	–	–	–	–	–	(1,261)	260,753
Investment contract liabilities with discretionary participation features		251	–	42,708	–	–	–	–	–	–	42,959
Investment contract liabilities without discretionary participation features		181	2,784	15,841	–	–	–	–	–	–	18,806
Unallocated surplus of with-profits funds		2,553	–	10,543	–	–	–	–	–	–	13,096
Core structural borrowings of shareholder-financed operations		–	169	–	–	275	–	–	4,567	–	5,011
Operational borrowings attributable to shareholder-financed operations		–	66	179	10	–	–	–	1,705	–	1,960
Borrowings attributable to with-profits operations		–	–	1,332	–	–	–	–	–	–	1,332
Obligations under funding, securities lending and sale and repurchase agreements		–	1,914	1,651	–	200	–	–	–	–	3,765
Net asset value attributable to unit holders of consolidated unit trusts and similar funds		2,802	22	5,049	–	–	–	–	–	–	7,873
Deferred tax liabilities		734	2,086	1,162	15	–	2	–	11	–	4,010
Current tax liabilities		50	3	203	34	4	–	12	19	–	325
Accruals, deferred income and other liabilities note (iii)		4,476	4,069	5,430	404	3,361	204	51	1,302	(8,881)	10,416
Provisions		119	6	158	190	–	1	53	77	–	604
Derivative liabilities		140	249	2,125	1	282	–	–	322	–	3,119
Total liabilities		53,390	147,497	170,182	654	4,122	207	116	8,003	(10,142)	374,029
Total equity and liabilities		57,347	151,651	175,322	2,428	4,192	389	422	5,376	(10,142)	386,985

Notes

(i) Accrued investment income and other debtors

	2016 £m	2015 £m
Interest receivable	1,975	1,895
Other	1,178	856
Total accrued investment income	3,153	2,751
Other debtors comprises:		
Amounts due from		
Policyholders	403	332
Intermediaries	6	14
Reinsurers	90	82
Other	2,520	1,527
Total other debtors	3,019	1,955
Total accrued investment income and other debtors	6,172	4,706
Analysed as:		
Expected to be settled within one year	5,548	4,273
Expected to be settled after one year	624	433
Total accrued investment income and other debtors	6,172	4,706

(ii) Cash and cash equivalents

	2016 £m	2015 £m
Cash	5,581	5,030
Cash equivalents	4,484	2,752
Total cash and cash equivalents	10,065	7,782
Analysed as:		
Held centrally and available for general use by the Group	247	365
Other funds not available for general use by the Group, including funds held for the benefit of policyholders	9,818	7,417
Total cash and cash equivalents	10,065	7,782

The Group's cash and cash equivalents are held in the following currencies: pounds sterling 38 per cent, US dollars 25 per cent, Euro 20 per cent and other currencies 17 per cent (2015: pounds sterling 30 per cent, US dollars 36 per cent, Euro 12 per cent and other currencies 22 per cent).

(iii) Accruals, deferred income and other liabilities

	2016 £m	2015 £m
Accruals and deferred income	1,150	952
Other creditors	6,788	4,876
Creditors arising from direct insurance and reinsurance operations	2,520	1,828
Interest payable	90	70
Funds withheld under reinsurance of the REALIC business	2,851	2,347
Other items	426	343
Total other liabilities	13,825	10,416

(iv) Central operations borrowings, in respect of Prudential Capital's short-term fixed income security programme

	2016 £m	2015 £m
Commercial paper	1,052	1,107
Medium Term Notes	599	598
Total intra-group debt represented by operational borrowings at Group level	1,651	1,705

C2 Analysis of segment statement of financial position by business type

C2.1 Asia insurance operations

		31 Dec 2016 £m				31 Dec 2015 £m
	Note	With-profits business	Unit-linked assets and liabilities	Other business	Total	Total
Assets						
Goodwill		–	–	245	245	233
Deferred acquisition costs and other intangible assets		28	–	2,288	2,316	2,145
Property, plant and equipment		89	–	32	121	73
Reinsurers' share of insurance contract liabilities		43	–	1,496	1,539	797
Deferred tax assets		–	–	98	98	66
Current tax recoverable		–	2	27	29	34
Accrued investment income		238	49	234	521	505
Other debtors		1,960	147	526	2,633	2,212
Investment properties		–	–	5	5	5
Investment in joint ventures and associates accounted for using the equity method		–	–	688	688	475
Loans	C3.3	690	–	613	1,303	1,084
Equity securities and portfolio holdings in unit trusts		10,737	11,439	1,405	23,581	18,532
Debt securities	C3.2	21,861	3,321	11,364	36,546	28,292
Derivative assets		27	–	20	47	57
Deposits		319	403	657	1,379	773
Assets held for sale	D1	–	2,877	986	3,863	–
Cash and cash equivalents		816	222	957	1,995	2,064
Total assets		36,808	18,460	21,641	76,909	57,347
Total equity		–	–	4,993	4,993	3,957
Liabilities						
Insurance contract liabilities		28,221	14,035	12,161	54,417	42,084
Investment contract liabilities with discretionary participation features	C4.1	347	–	–	347	251
Investment contract liabilities without discretionary participation features	C4.1	–	254	–	254	181
Unallocated surplus of with-profits funds		2,667	–	–	2,667	2,553
Operational borrowings attributable to shareholder-financed operations		–	12	7	19	–
Borrowings attributable to with-profits operations		4	–	–	4	–
Net asset value attributable to unit holders of consolidated unit trusts and similar funds		1,770	1,144	179	3,093	2,802
Deferred tax liabilities		639	25	271	935	734
Current tax liabilities		35	–	78	113	50
Accruals, deferred income and other liabilities		2,837	108	2,942	5,887	4,476
Provisions		65	–	92	157	119
Derivative liabilities		223	5	37	265	140
Liabilities held for sale	D1	–	2,877	881	3,758	–
Total liabilities		36,808	18,460	16,648	71,916	53,390
Total equity and liabilities		36,808	18,460	21,641	76,909	57,347

Note
The statement of financial position for with-profits business comprises the with-profits assets and liabilities of the Hong Kong, Malaysia and Singapore operations. Assets and liabilities of other participating business are included in the column for 'Other business'.

C2.2 US insurance operations

	Note	31 Dec 2016 £m Variable annuity separate account assets and liabilities	31 Dec 2016 £m Fixed annuity, GIC and other business	31 Dec 2016 £m Total	31 Dec 2015 £m Total
Assets					
Deferred acquisition costs and other intangible assets		–	8,323	8,323	6,168
Property, plant and equipment		–	237	237	192
Reinsurers' share of insurance contract liabilities		–	7,224	7,224	6,211
Deferred tax assets		–	3,861	3,861	2,448
Current tax recoverable		–	95	95	307
Accrued investment income		–	549	549	473
Other debtors		–	295	295	22
Investment properties		–	6	6	5
Loans	C3.3	–	9,735	9,735	7,418
Equity securities and portfolio holdings in unit trusts		120,411	336	120,747	91,216
Debt securities	C3.2	–	40,745	40,745	34,071
Derivative assets		–	834	834	905
Other investments		–	987	987	810
Cash and cash equivalents		–	1,054	1,054	1,405
Total assets		120,411	74,281	194,692	151,651
Total equity		–	5,204	5,204	4,154
Liabilities					
Insurance contract liabilities		120,411	53,917	174,328	136,129
Investment contract liabilities without discretionary participation features	C4.1	–	3,298	3,298	2,784
Core structural borrowings of shareholder-financed operations		–	202	202	169
Operational borrowings attributable to shareholder-financed operations		–	480	480	66
Obligations under funding, securities lending and sale and repurchase agreements		–	3,534	3,534	1,914
Net asset value attributable to unit holders of consolidated unit trusts and similar funds		–	–	–	22
Deferred tax liabilities		–	2,831	2,831	2,086
Current tax liabilities		–	–	–	3
Accruals, deferred income and other liabilities		–	4,749	4,749	4,069
Provisions		–	2	2	6
Derivative liabilities		–	64	64	249
Total liabilities		120,411	69,077	189,488	147,497
Total equity and liabilities		120,411	74,281	194,692	151,651

C2 Analysis of segment statement of financial position by business type continued

C2.3 UK insurance operations

By operating segment	Note	31 Dec 2016 £m With-profits sub-funds note (i)	Other funds and subsidiaries: Unit-linked assets and liabilities	Other funds and subsidiaries: Annuity and other long-term business	Other funds and subsidiaries: Total	31 Dec 2016 £m Total	31 Dec 2015 £m Total
Assets							
Goodwill		153	–	–	–	153	185
Deferred acquisition costs and other intangible assets		25	–	82	82	107	91
Property, plant and equipment		325	–	18	18	343	798
Reinsurers' share of insurance contract liabilities		1,352	134	1,104	1,238	2,590	2,156
Deferred tax assets		82	–	64	64	146	132
Current tax recoverable		1	–	282	282	283	135
Accrued investment income		1,227	101	587	688	1,915	1,622
Other debtors		1,436	322	689	1,011	2,447	2,498
Investment properties		12,391	661	1,583	2,244	14,635	13,412
Investment in joint ventures and associates accounted for using the equity method		409	–	–	–	409	434
Loans	C3.3	1,892	–	1,680	1,680	3,572	3,571
Equity securities and portfolio holdings in unit trusts		38,803	15,183	51	15,234	54,037	47,593
Debt securities	C3.2	48,936	6,277	35,583	41,860	90,796	83,101
Derivative assets		2,388	14	525	539	2,927	1,930
Other investments		4,443	5	1	6	4,449	3,556
Deposits		8,464	1,009	1,232	2,241	10,705	11,226
Assets held for sale note (ii)		726	–	–	–	726	2
Cash and cash equivalents		3,209	694	800	1,494	4,703	2,880
Total assets		126,262	24,400	44,281	68,681	194,943	175,322
Total equity		–	–	5,999	5,999	5,999	5,140
Liabilities							
Insurance contract liabilities	C4.1	49,001	6,029	33,963	39,992	88,993	83,801
Investment contract liabilities with discretionary participation features	C4.1	52,477	–	13	13	52,490	42,708
Investment contract liabilities without discretionary participation features	C4.1	18	16,090	63	16,153	16,171	15,841
Unallocated surplus of with-profits funds	C4.1	11,650	–	–	–	11,650	10,543
Operational borrowings attributable to shareholder-financed operations		–	4	163	167	167	179
Borrowings attributable to with-profits operations		1,345	–	–	–	1,345	1,332
Obligations under funding, securities lending and sale and repurchase agreements		757	–	740	740	1,497	1,651
Net asset value attributable to unit holders of consolidated unit trusts and similar funds		3,513	2,066	15	2,081	5,594	5,049
Deferred tax liabilities		1,279	–	298	298	1,577	1,162
Current tax liabilities		90	59	298	357	447	203
Accruals deferred income and other liabilities		4,649	129	1,398	1,527	6,176	5,430
Provisions		95	–	347	347	442	158
Derivative liabilities		853	23	984	1,007	1,860	2,125
Liabilities held for sale note (ii)		535	–	–	–	535	–
Total liabilities		126,262	24,400	38,282	62,682	188,944	170,182
Total equity and liabilities		126,262	24,400	44,281	68,681	194,943	175,322

Notes

(i) Includes the Scottish Amicable Insurance Fund which, at 31 December 2016, have total assets and liabilities of £6,101 million (2015: £6,230 million). The PAC with-profits sub-fund (WPSF) mainly contains with-profits business but it also contains some non-profit business (unit-linked, term assurances and annuities). The PAC with-profits fund includes £11.2 billion (2015: £10.8 billion) of non-profits annuities liabilities.

(ii) The assets and liabilities held for sale for the UK insurance operations at 31 December 2016 comprise the investment properties and consolidated venture investments of the PAC with-profits fund, for which the sales had been agreed but not yet completed at the year end.

C3 Assets and liabilities

C3.1 Group assets and liabilities – measurement

(a) Determination of fair value

The fair values of the financial instruments, for which fair valuation is required under IFRS, are determined by the use of current market bid prices for exchange-quoted investments or by using quotations from independent third parties such as brokers and pricing services, or by using appropriate valuation techniques.

The estimated fair value of derivative financial instruments reflects the estimated amount the Group would receive or pay in an arm's length transaction. This amount is determined using quoted prices if exchange listed, quotations from independent third parties or valued internally using standard market practices.

The loans and receivables have been shown net of provisions for impairment. The fair value of loans have been estimated from discounted cash flows expected to be received. The rate of discount used was the market rate of interest where applicable.

The fair value of investment properties is based on market values as assessed by professionally qualified external valuers or by the Group's qualified surveyors.

The fair value of the subordinated and senior debt issued by the parent company is determined using quoted prices from independent third parties.

The fair value of financial liabilities (other than derivative financial instruments) is determined using discounted cash flows of the amounts expected to be paid.

(b) Fair value measurement hierarchy of Group assets and liabilities

Assets and liabilities carried at fair value on the statement of financial position

The table below shows the assets and liabilities carried at fair value analysed by level of the IFRS 13 'Fair Value Measurement' defined fair value hierarchy. This hierarchy is based on the inputs to the fair value measurement and reflects the lowest level input that is significant to that measurement.

C3 Assets and liabilities continued

C3.1 Group assets and liabilities – measurement continued

Financial instruments at fair value

	31 Dec 2016 £m			
	Level 1	Level 2	Level 3	Total
	Quoted prices (unadjusted) in active markets	Valuation based on significant observable market inputs	Valuation based on significant unobservable market inputs	
Analysis of financial investments, net of derivative liabilities by business type				
With-profits				
Loans	–	–	27	27
Equity securities and portfolio holdings in unit trusts	45,181	3,669	690	49,540
Debt securities	26,227	43,880	690	70,797
Other investments (including derivative assets)	58	3,357	3,443	6,858
Derivative liabilities	(51)	(1,025)	–	(1,076)
Total financial investments, net of derivative liabilities	71,415	49,881	4,850	126,146
Percentage of total	56%	40%	4%	100%
Unit-linked and variable annuity separate account				
Equity securities and portfolio holdings in unit trusts	146,637	374	22	147,033
Debt securities	5,136	4,462	–	9,598
Other investments (including derivative assets)	6	8	5	19
Derivative liabilities	(4)	(24)	–	(28)
Total financial investments, net of derivative liabilities	151,775	4,820	27	156,622
Percentage of total	97%	3%	0%	100%
Non-linked shareholder-backed				
Loans	–	276	2,672	2,948
Equity securities and portfolio holdings in unit trusts	1,966	3	10	1,979
Debt securities	21,896	67,915	252	90,063
Other investments (including derivative assets)	–	1,492	1,032	2,524
Derivative liabilities	(9)	(1,623)	(516)	(2,148)
Total financial investments, net of derivative liabilities	23,853	68,063	3,450	95,366
Percentage of total	25%	71%	4%	100%
Group total analysis, including other financial liabilities held at fair value				
Group total				
Loans	–	276	2,699	2,975
Equity securities and portfolio holdings in unit trusts	193,784	4,046	722	198,552
Debt securities	53,259	116,257	942	170,458
Other investments (including derivative assets)	64	4,857	4,480	9,401
Derivative liabilities	(64)	(2,672)	(516)	(3,252)
Total financial investments, net of derivative liabilities	247,043	122,764	8,327	378,134
Investment contract liabilities without discretionary participation features held at fair value	–	(16,425)	–	(16,425)
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	(4,217)	(3,587)	(883)	(8,687)
Other financial liabilities held at fair value	–	(385)	(2,851)	(3,236)
Total financial instruments at fair value	242,826	102,367	4,593	349,786
Percentage of total	70%	29%	1%	100%

All assets and liabilities held at fair value are classified as fair value through profit or loss, except for £40,645 million (2015: £33,984 million) of debt securities classified as available-for-sale.

In addition to the financial instruments shown above, the assets and liabilities held for sale on the consolidated statement of financial position at 31 December 2016 in respect of Korea life business included a net financial instruments balance of £3,200 million, primarily for equity securities and debt securities. Of this amount, £2,763 million was classified as level 1 and £437 million as level 2.

	31 Dec 2015 £m			
	Level 1	Level 2	Level 3	Total
	Quoted prices (unadjusted) in active markets	Valuation based on significant observable market inputs	Valuation based on significant unobservable market inputs	
Analysis of financial investments, net of derivative liabilities by business type				
With-profits				
Equity securities and portfolio holdings in unit trusts	35,441	3,200	554	39,195
Debt securities	20,312	40,033	525	60,870
Other investments (including derivative assets)	85	1,589	3,371	5,045
Derivative liabilities	(110)	(1,526)	–	(1,636)
Total financial investments, net of derivative liabilities	55,728	43,296	4,450	103,474
Percentage of total	54%	42%	4%	100%
Unit-linked and variable annuity separate account				
Equity securities and portfolio holdings in unit trusts	116,691	354	22	117,067
Debt securities	4,350	4,940	–	9,290
Other investments (including derivative assets)	5	20	4	29
Derivative liabilities	(2)	(16)	–	(18)
Total financial investments, net of derivative liabilities	121,044	5,298	26	126,368
Percentage of total	96%	4%	0%	100%
Non-linked shareholder-backed				
Loans	–	255	2,183	2,438
Equity securities and portfolio holdings in unit trusts	1,150	10	31	1,191
Debt securities	17,767	59,491	253	77,511
Other investments (including derivative assets)	–	1,378	901	2,279
Derivative liabilities	–	(1,112)	(353)	(1,465)
Total financial investments, net of derivative liabilities	18,917	60,022	3,015	81,954
Percentage of total	23%	73%	4%	100%
Group total analysis, including other financial liabilities held at fair value				
Group total				
Loans	–	255	2,183	2,438
Equity securities and portfolio holdings in unit trusts	153,282	3,564	607	157,453
Debt securities	42,429	104,464	778	147,671
Other investments (including derivative assets)	90	2,987	4,276	7,353
Derivative liabilities	(112)	(2,654)	(353)	(3,119)
Total financial investments, net of derivative liabilities	195,689	108,616	7,491	311,796
Investment contract liabilities without discretionary participation features held at fair value	–	(16,022)	–	(16,022)
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	(5,782)	(1,055)	(1,036)	(7,873)
Other financial liabilities held at fair value	–	(322)	(2,347)	(2,669)
Total financial instruments at fair value	189,907	91,217	4,108	285,232
Percentage of total	67%	32%	1%	100%

Investment properties at fair value

	31 December £m			
	Level 1	Level 2	Level 3	Total
	Quoted prices (unadjusted) in active markets	Valuation based on significant observable market inputs	Valuation based on significant unobservable market inputs	
2016	–	–	14,646	14,646
2015	–	–	13,422	13,422

C3 Assets and liabilities continued

C3.1 Group assets and liabilities – measurement continued

Assets and liabilities at amortised cost for which fair value is disclosed

The table below shows the assets and liabilities carried at amortised cost on the statement of financial position but for which fair value is disclosed in the financial statements. The assets and liabilities that are carried at amortised cost but where the carrying value approximates the fair value, are excluded from the analysis below.

	31 Dec 2016 £m				
	Level 1	Level 2	Level 3	Total fair value	Total carrying value
	Quoted prices (unadjusted) in active markets	Valuation based on significant observable market inputs	Valuation based on significant unobservable market inputs		
Assets					
Loans note (i)	–	4,062	8,846	12,908	12,198
Liabilities					
Investment contract liabilities without discretionary participation features	–	–	(3,333)	(3,333)	(3,298)
Core structural borrowings of shareholder-financed operations note (ii)	–	(7,220)	–	(7,220)	(6,798)
Operational borrowings attributable to shareholder-financed operations	–	(2,313)	(4)	(2,317)	(2,317)
Borrowings attributable to the with-profits funds	–	(1,220)	(133)	(1,353)	(1,349)
Obligations under funding, securities lending and sale and repurchase agreements	–	(1,926)	(3,140)	(5,066)	(5,031)

	31 Dec 2015 £m				
	Level 1	Level 2	Level 3	Total fair value	Total carrying value
	Quoted prices (unadjusted) in active markets	Valuation based on significant observable market inputs	Valuation based on significant unobservable market inputs		
Assets					
Loans note (i)	–	3,423	7,621	11,044	10,520
Liabilities					
Investment contract liabilities without discretionary participation features	–	–	(2,820)	(2,820)	(2,784)
Core structural borrowings of shareholder-financed operations note (ii)	–	(5,419)	–	(5,419)	(5,011)
Operational borrowings attributable to shareholder-financed operations	–	(1,956)	(4)	(1,960)	(1,960)
Borrowings attributable to the with-profits funds	–	(1,270)	(74)	(1,344)	(1,332)
Obligations under funding, securities lending and sale and repurchase agreements	–	(2,040)	(1,735)	(3,775)	(3,765)

Notes

(i) Loans and receivables are reported net of allowance for loan losses of £15 million (2015: £10 million).

(ii) As at 31 December 2016, £306 million (2015: £481 million) of convertible bonds were included in debt securities and £1,455 million (2015: £1,217 million) were included in borrowings.

The fair value of the assets and liabilities in the table above, with the exception of the subordinated and senior debt issued by the parent company, has been estimated from the discounted cash flows expected to be received or paid. Where appropriate, the observable market interest rate has been used and the assets and liabilities are classified within level 2. Otherwise, they are included as level 3 assets or liabilities.

The fair value included for the subordinated and senior debt issued by the parent company is determined using quoted prices from independent third parties.

(c) Valuation approach for level 2 fair valued assets and liabilities

A significant proportion of the Group's level 2 assets are corporate bonds, structured securities and other non-national government debt securities. These assets, in line with market practice, are generally valued using independent pricing services or third-party broker quotes. These valuations are determined using independent external quotations from multiple sources and are subject to a number of monitoring controls, such as monthly price variances, stale price reviews and variance analysis on prices achieved on subsequent trades.

Pricing services, where available, are used to obtain the third-party broker quotes. Where pricing services providers are used, a single valuation is obtained and applied.

When prices are not available from pricing services, quotes are sourced directly from brokers. Prudential seeks to obtain a number of quotes from different brokers so as to obtain the most comprehensive information available on their executability. Where quotes are sourced directly from brokers, the price used in the valuation is normally selected from one of the quotes based on a number of factors, including the timeliness and regularity of the quotes and the accuracy of the quotes considering the spreads provided. The selected quote is the one which best represents an executable quote for the security at the measurement date.

Generally, no adjustment is made to the prices obtained from independent third parties. Adjustment is made in only limited circumstances, where it is determined that the third-party valuations obtained do not reflect fair value (eg either because the value is stale and/or the values are extremely diverse in range). These are usually securities which are distressed or that could be subject to a debt restructure or where reliable market prices are no longer available due to an inactive market or market dislocation. In these instances, prices are derived using internal valuation techniques including those as described below in this note with the objective of arriving at a fair value measurement that reflects the price at which an orderly transaction would take place between market participants on the measurement date. The techniques used require a number of assumptions relating to variables such as credit risk and interest rates. Examples of such variables include an average credit spread based on the corporate bond universe and the relevant duration of the asset being valued. Prudential determines the input assumptions based on the best available information at the measurement dates. Securities valued in such manner are classified as level 3 where these significant inputs are not based on observable market data.

Of the total level 2 debt securities of £116,257 million at 31 December 2016 (2015: £104,464 million), £12,708 million are valued internally (2015: £10,331 million). The majority of such securities are valued using matrix pricing, which is based on assessing the credit quality of the underlying borrower to derive a suitable discount rate relative to government securities of a comparable duration. Under matrix pricing, the debt securities are priced taking the credit spreads on comparable quoted public debt securities and applying these to the equivalent debt instruments factoring in a specified liquidity premium. The majority of the parameters used in this valuation technique are readily observable in the market and, therefore, are not subject to interpretation.

C3 Assets and liabilities continued

C3.1 Group assets and liabilities – measurement continued

(d) Fair value measurements for level 3 fair valued assets and liabilities

Reconciliation of movements in level 3 assets and liabilities measured at fair value

The following table reconciles the value of level 3 fair valued assets and liabilities at 1 January 2016 to that presented at 31 December 2016.

Financial instruments at fair value

	£m									
	At 1 Jan	Total gains/ losses in income statement	Total gains/ losses recorded as other compre-hensive income	Purchases	Sales	Settled	Issued	Transfers into level 3	Transfers out of level 3	At 31 Dec
2016										
Loans	2,183	2	427	–	–	(123)	210	–	–	2,699
Equity securities and portfolio holdings in unit trusts	607	59	(20)	153	(133)	(9)	–	65	–	722
Debt securities	778	85	11	185	(75)	(37)	–	–	(5)	942
Other investments (including derivative assets)	4,276	359	443	720	(1,002)	–	–	73	(389)	4,480
Derivative liabilities	(353)	(163)	–	–	–	–	–	–	–	(516)
Total financial investments, net of derivative liabilities	7,491	342	861	1,058	(1,210)	(169)	210	138	(394)	8,327
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	(1,036)	(18)	(2)	–	24	271	(122)	–	–	(883)
Other financial liabilities	(2,347)	(4)	(457)	–	–	259	(302)	–	–	(2,851)
Total financial instruments at fair value	4,108	320	402	1,058	(1,186)	361	(214)	138	(394)	4,593
2015										
Loans	2,025	2	119	–	–	(168)	205	–	–	2,183
Equity securities and portfolio holdings in unit trusts	747	52	3	32	(143)	–	–	4	(88)	607
Debt securities	790	(75)	1	243	(259)	–	–	82	(4)	778
Other investments (including derivative assets)	4,028	213	68	547	(700)	–	–	120	–	4,276
Derivative liabilities	(338)	(15)	–	–	–	–	–	–	–	(353)
Total financial investments, net of derivative liabilities	7,252	177	191	822	(1,102)	(168)	205	206	(92)	7,491
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	(1,291)	(160)	(1)	(5)	9	412	–	–	–	(1,036)
Other financial liabilities	(2,201)	(3)	(128)	–	–	218	(233)	–	–	(2,347)
Total financial instruments at fair value	3,760	14	62	817	(1,093)	462	(28)	206	(92)	4,108

Of the total net gains and losses in the income statement of £320 million (2015: £14 million), £242 million (2015: £67 million) relates to net unrealised gains of financial instruments still held at the end of the year, which can be analysed as follows:

	2016 £m	**2015** £m
Equity securities	8	94
Debt securities	71	(12)
Other investments	182	160
Derivative liabilities	–	(15)
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	(18)	(160)
Other financial liabilities	(1)	–
Total	242	67

Other assets at fair value – investment properties

	£m							
	At 1 Jan	**Total gains/ losses in income statement**	**Total gains/ losses in other compre-hensive income**	**Purchases**	**Sales**	**Transfers into level 3**	**Transfers out of level 3**	**At 31 Dec**
2016	13,422	273	97	1,527	(632)	–	(41)	14,646
2015	12,764	537	21	757	(662)	5	–	13,422

Of the total net gains and losses in the income statement of £273 million (2015: £537 million), £286 million (2015: £505 million) relates to net unrealised gains of investment properties still held at the end of the year.

Valuation approach for level 3 fair valued assets and liabilities

Financial instruments at fair value

Investments valued using valuation techniques include financial investments which, by their nature, do not have an externally quoted price based on regular trades, and financial investments for which markets are no longer active as a result of market conditions eg market illiquidity. The valuation techniques used include comparison to recent arm's length transactions, reference to other instruments that are substantially the same, discounted cash flow analysis, option adjusted spread models and, if applicable, enterprise valuation. These techniques may include a number of assumptions relating to variables such as credit risk and interest rates. Changes in assumptions relating to these variables could positively or negatively impact the reported fair value of these instruments. When determining the inputs into the valuation techniques used priority is given to publicly available prices from independent sources when available, but overall the source of pricing is chosen with the objective of arriving at a fair value measurement that reflects the price at which an orderly transaction would take place between market participants on the measurement date.

The fair value estimates are made at a specific point in time, based upon available market information and judgements about the financial instruments, including estimates of the timing and amount of expected future cash flows and the credit standing of counterparties. Such estimates do not reflect any premium or discount that could result from offering for sale at one time the Group's entire holdings of a particular financial instrument, nor do they consider the tax impact of the realisation of unrealised gains or losses from selling the financial instrument being fair valued. In some cases the disclosed value cannot be realised in immediate settlement of the financial instrument.

In accordance with the Group's risk management framework, the estimated fair value of derivative financial instruments valued internally using standard market practices are subject to assessment against external counterparties' valuations.

At 31 December 2016, the Group held £4,593 million (2015: £4,108 million) of net financial instruments at fair value within level 3. This represents 1 per cent (2015: 1 per cent) of the total fair valued financial assets net of fair valued financial liabilities.

Included within these amounts were loans of £2,672 million at 31 December 2016 (2015: £2,183 million), measured as the loan outstanding balance, attached to REALIC and held to back the liabilities for funds withheld under reinsurance arrangements. The funds withheld liability of £2,851 million at 31 December 2016 (2015: £2,347 million) was also classified within level 3, accounted for on a fair value basis being equivalent to the carrying value of the underlying assets.

C3 Assets and liabilities continued

C3.1 Group assets and liabilities – measurement continued

Excluding the loans and funds withheld liability under REALIC's reinsurance arrangements as described above, which amounted to a net liability of £(179) million (2015: £(164) million), the level 3 fair valued financial assets net of financial liabilities were £4,772 million (2015: £4,272 million). Of this amount, a net asset of £72 million (2015: net liability of £(77) million) was internally valued, representing less than 0.1 per cent of the total fair valued financial assets net of financial liabilities (2015: less than 0.1 per cent). Internal valuations are inherently more subjective than external valuations. Included within the internally valued net asset/liability were:

(a) Debt securities of £422 million (2015: £381 million), which were either valued on a discounted cash flow method with an internally developed discount rate or on external prices adjusted to reflect the specific known conditions relating to these securities (eg distressed securities or securities which were being restructured).
(b) Private equity and venture investments of £956 million (2015: £852 million) which were valued internally based on management information available for these investments. These investments were principally held by consolidated investment funds that are managed on behalf of third parties.
(c) Liabilities of £(883) million (2015: £(1,013) million) for the net asset value attributable to external unit holders in respect of the consolidated investment funds, that are non-recourse to the Group. These liabilities are valued by reference to the underlying assets.
(d) Derivative liabilities of £(516) million (2015: £(353) million) which are valued internally using standard market practices but are subject to independent assessment against external counterparties' valuations.
(e) Other sundry individual financial investments of £93 million (2015: £56 million).

Of the internally valued net asset referred to above of £72 million (2015: net liability of £(77) million):

(a) A net asset of £315 million (2015: £29 million) was held by the Group's participating funds and therefore shareholders' profit and equity are not impacted by movements in the valuation of these financial instruments.
(b) A net liability of £(243) million (2015: £(106) million) was held to support non-linked shareholder-backed business. If the value of all the level 3 instruments held to support non-linked shareholder-backed business valued internally was varied downwards by 10 per cent, the change in valuation would be £24 million (2015: £11 million), which would reduce shareholders' equity by this amount before tax. Of this amount, a decrease of £24 million (2015: a decrease of £10 million) would pass through the income statement substantially as part of short-term fluctuations in investment returns outside of operating profit and no impact (2015: a decrease of £1 million) would be included as part of other comprehensive income, being unrealised movements on assets classified as available-for-sale.

Other assets at fair value – investment properties

The investment properties of the Group are principally held by the UK insurance operations that are externally valued by professionally qualified external valuers using the Royal Institution of Chartered Surveyors (RICS) valuation standards. An 'income capitalisation' technique is predominantly applied for these properties. This technique calculates the value through the yield and rental value depending on factors such as the lease length, building quality, covenant and location. The variables used are compared to recent transactions with similar features to those of the Group's investment properties. As the comparisons are not with properties that are virtually identical to the Group's investment properties, adjustments are made by the valuers where appropriate to the variables used. Changes in assumptions relating to these variables could positively or negatively impact the reported fair value of the properties.

(e) Transfers into and transfers out of levels

The Group's policy is to recognise transfers into and transfers out of levels as of the end of each half year reporting period except for material transfers which are recognised as of the date of the event or change in circumstances that caused the transfer.

During 2016, the transfers between levels within the Group's portfolio were primarily transfers from level 1 to level 2 of £455 million and transfers from level 2 to level 1 of £902 million. These transfers which relate to equity securities and debt securities arose to reflect the change in the observability of the inputs used in valuing these securities.

In addition, in 2016, the transfers into level 3 were £138 million and the transfers out of level 3 were £394 million. These transfers were between levels 3 and 2 and primarily for equity securities and debt securities.

(f) Valuation processes applied by the Group

The Group's valuation policies, procedures and analyses for instruments categorised as level 3 are overseen by business unit committees as part of the Group's wider financial reporting governance processes. The procedures undertaken include approval of valuation methodologies, verification processes, and resolution of significant or complex valuation issues. In undertaking these activities the Group makes use of the extensive expertise of its asset management functions.

C3.2 Debt securities

This note provides analysis of the Group's debt securities, including asset-backed securities and sovereign debt securities.

(a) Credit rating

Debt securities are analysed below according to external credit ratings issued, with equivalent ratings issued by different ratings agencies grouped together. Standard and Poor's ratings have been used where available, if this isn't the case Moody's and then Fitch have been used as alternatives. In the table below, AAA is the highest possible rating. Investment grade financial assets are classified within the range of AAA to BBB- ratings. Financial assets which fall outside this range are classified as below BBB-. Debt securities with no external credit rating are classified as 'Other'.

	2016 £m						
	AAA	AA+ to AA-	A+ to A-	BBB+ to BBB-	Below BBB-	Other	Total
Asia							
With-profits	3,183	8,522	3,560	2,996	1,887	1,713	21,861
Unit-linked	448	112	525	1,321	494	421	3,321
Non-linked shareholder-backed	1,082	2,435	2,864	2,388	1,680	915	11,364
US							
Non-linked shareholder-backed	445	7,932	10,609	13,950	1,009	6,800	40,745
UK							
With-profits	5,740	9,746	10,679	12,798	3,289	6,684	48,936
Unit-linked	461	2,660	1,158	1,699	212	87	6,277
Non-linked shareholder-backed	4,238	10,371	10,558	4,515	397	5,504	35,583
Other operations	830	1,190	242	97	10	2	2,371
Total debt securities	16,427	42,968	40,195	39,764	8,978	22,126	170,458

	2015 £m						
	AAA	AA+ to AA-	A+ to A-	BBB+ to BBB-	Below BBB-	Other	Total
Asia							
With-profits	2,050	6,212	2,463	2,238	1,879	1,493	16,335
Unit-linked	333	404	420	1,050	203	399	2,809
Non-linked shareholder-backed	700	2,626	1,919	1,736	1,223	944	9,148
US							
Non-linked shareholder-backed	1,209	5,563	8,767	11,623	832	6,077	34,071
UK							
With-profits	5,657	8,318	9,557	12,241	2,673	6,089	44,535
Unit-linked	1,101	1,842	1,164	1,999	272	103	6,481
Non-linked shareholder-backed	4,760	9,022	8,735	4,994	384	4,190	32,085
Other operations	1,686	119	285	101	14	2	2,207
Total debt securities	17,496	34,106	33,310	35,982	7,480	19,297	147,671

The credit ratings, information or data contained in this report which are attributed and specifically provided by S&P, Moody's and Fitch Solutions and their respective affiliates and suppliers ('Content Providers') is referred to here as the 'Content'. Reproduction of any Content in any form is prohibited except with the prior written permission of the relevant party. The Content Providers do not guarantee the accuracy, adequacy, completeness, timeliness or availability of any Content and are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such Content. The Content Providers expressly disclaim liability for any damages, costs, expenses, legal fees, or losses (including lost income or lost profit and opportunity costs) in connection with any use of the Content. A reference to a particular investment or security, a rating or any observation concerning an investment that is part of the Content is not a recommendation to buy, sell or hold any such investment or security, nor does it address the suitability of an investment or security and should not be relied on as investment advice.

C3 Assets and liabilities continued

C3.2 Debt securities continued

Securities with credit ratings classified as 'Other' can be further analysed as follows:

	2016 £m	2015 £m
Asia – non-linked shareholder-backed		
Internally rated		
Government bonds	63	162
Corporate bonds – rated as investment grade by local external ratings agencies	757	481
Other	95	301
Total Asia non-linked shareholder-backed	915	944

	Mortgage-backed securities	Other securities	2016 Total	2015 Total
US				
Implicit ratings of other US debt securities based on NAIC* valuations (see below)				
NAIC 1	2,587	2,172	4,759	4,334
NAIC 2	8	1,901	1,909	1,594
NAIC 3-6	12	120	132	149
Total US	2,607	4,193	6,800	6,077

* The Securities Valuation Office of the NAIC classifies debt securities into six quality categories ranging from Class 1 (the highest) to Class 6 (the lowest). Performing securities are designated as Classes 1 to 5 and securities in or near default are designated Class 6.

	2016 £m	2015 £m
UK		
Internal ratings or unrated		
AAA to A-	6,939	5,570
BBB to B-	3,257	3,234
Below B- or unrated	2,079	1,578
Total UK	12,275	10,382

In addition to the debt securities shown above, the assets held for sale on the consolidated statement of financial position at 31 December 2016 in respect of Korea life business included a debt securities balance of £652 million.

(b) Additional analysis of US insurance operations debt securities

	2016 £m	2015 £m
Corporate and government security and commercial loans:		
Government	5,856	4,242
Publicly traded and SEC Rule 144A securities*	25,992	21,776
Non-SEC Rule 144A securities	4,576	3,733
Asset-backed securities (see note (e))	4,321	4,320
Total US debt securities†	40,745	34,071

* A 1990 SEC rule that facilitates the resale of privately placed securities under Rule 144A that are without SEC registration to qualified institutional investors. The rule was designed to develop a more liquid and efficient institutional resale market for unregistered securities.
† Debt securities for US operations included in the statement of financial position comprise:

	2016 £m	2015 £m
Available-for-sale	40,645	33,984
Fair value through profit or loss:		
Securities held to back liabilities for funds withheld under reinsurance arrangement	100	87
	40,745	34,071

Realised gains and losses, including impairments, recorded in the income statement are as shown in note B1.2 of this report.

(c) Movements in unrealised gains and losses on Jackson available-for-sale securities

There was a movement in the statement of financial position value for debt securities classified as available-for-sale from a net unrealised gain of £592 million to a net unrealised gain of £676 million as analysed in the table below.

	2016 £m	Foreign exchange translation	Changes in unrealised appreciation†	2015 £m
		Reflected as part of movement in other comprehensive income		
Assets fair valued at below book value				
Book value*	14,617			13,163
Unrealised loss	(675)	(118)	116	(673)
Fair value (as included in statement of financial position)	13,942			12,490
Assets fair valued at or above book value				
Book value*	25,352			20,229
Unrealised gain	1,351	230	(144)	1,265
Fair value (as included in statement of financial position)	26,703			21,494
Total				
Book value*	39,969			33,392
Net unrealised gain	676	112	(28)	592
Fair value (as included in the footnote above in the overview table and the statement of financial position)	40,645			33,984

The available-for-sale debt securities of Jackson are analysed into US Treasuries and other debt securities as follows:

	2016 £m	Foreign exchange translation	Changes in unrealised appreciation†	2015 £m
US Treasuries				
Book value*	5,486			3,477
Net unrealised (loss) gain	(412)	(30)	(436)	54
Fair value	5,074			3,531
Other debt securities				
Book value*	34,483			29,915
Net unrealised gain	1,088	142	408	538
Fair value	35,571			30,453
Total debt securities				
Book value*	39,969			33,392
Net unrealised gain	676	112	(28)	592
Fair value	40,645			33,984

* Book value represents cost/amortised cost of the debt securities.
† Translated at the average rate of US$1.3546: £1.00.

C3 Assets and liabilities continued

C3.2 Debt securities continued

(d) US debt securities classified as available-for-sale in an unrealised loss position

(i) Fair value of securities as a percentage of book value

The following table shows the fair value of the debt securities in a gross unrealised loss position for various percentages of book value:

	2016 £m		2015 £m	
	Fair value	Unrealised loss	Fair value	Unrealised loss
Between 90% and 100%	12,326	(405)	11,058	(320)
Between 80% and 90%	1,598	(259)	902	(144)
Below 80%:				
Residential mortgage-backed securities – sub-prime	–	–	4	(1)
Commercial mortgage-backed securities	8	(3)	–	–
Other asset-backed securities	9	(8)	9	(7)
Government bonds	–	–	–	–
Corporates	1	–	517	(201)
	18	(11)	530	(209)
Total	13,942	(675)	12,490	(673)

(ii) Unrealised losses by maturity of security

	2016 £m	2015 £m
1 year to 5 years	(7)	(51)
5 years to 10 years	(118)	(334)
More than 10 years	(510)	(247)
Mortgage-backed and other debt securities	(40)	(41)
Total	(675)	(673)

(iii) Age analysis of unrealised losses for the periods indicated

The following table shows the age analysis of all the unrealised losses in the portfolio by reference to the length of time the securities have been in an unrealised loss position:

	2016 £m			2015 £m		
	Non-investment grade	Investment grade	Total	Non-investment grade	Investment grade	Total
Less than 6 months	(3)	(599)	(602)	(13)	(148)	(161)
6 months to 1 year	–	(2)	(2)	(17)	(332)	(349)
1 year to 2 years	(4)	(27)	(31)	(16)	(63)	(79)
2 years to 3 years	(2)	(1)	(3)	(3)	(38)	(41)
More than 3 years	(2)	(35)	(37)	(3)	(40)	(43)
Total	(11)	(664)	(675)	(52)	(621)	(673)

Further, the following table shows the age analysis as at 31 December, of the securities whose fair values were below 80 per cent of the book value:

	2016 £m		2015 £m	
Age analysis	Fair value	Unrealised loss	Fair value	Unrealised loss
Less than 3 months	1	–	450	(165)
3 months to 6 months	–	–	64	(34)
More than 6 months	17	(11)	16	(10)
	18	(11)	530	(209)

(e) Asset-backed securities

The Group's holdings in Asset-Backed Securities (ABS), which comprise Residential Mortgage-Backed Securities (RMBS), Commercial Mortgage-Backed Securities (CMBS), Collateralised Debt Obligations (CDO) funds and other asset-backed securities, at 31 December are as follows:

	2016 £m	2015 £m
Shareholder-backed operations		
Asia insurance operations note (i)	130	111
US insurance operations note (ii)	4,321	4,320
UK insurance operations (2016: 25% AAA, 40% AA) note (iii)	1,464	1,531
Asset management operations note (iv)	771	911
	6,686	6,873
With-profits operations		
Asia insurance operations note (i)	357	262
UK insurance operations (2016: 55% AAA, 17% AA) note (iii)	5,177	4,600
	5,534	4,862
Total	12,220	11,735

Notes

(i) Asia insurance operations
The Asia insurance operations' exposure to asset-backed securities is primarily held by the with-profits operations. Of the £357 million, 99 per cent (31 December 2015: 84 per cent) are investment grade.

(ii) US insurance operations
US insurance operations' exposure to asset-backed securities at 31 December comprises:

	2016 £m	2015 £m
RMBS		
RMBS sub-prime (2016: 2% AAA, 12% AA, 4% A)	180	191
Alt-A (2016: 3% AAA, 6% A)	177	191
Prime including agency (2016: 72% AA, 3% A)	675	902
CMBS (2016: 76% AAA, 16% AA, 5% A)	2,234	2,403
CDO funds (2016: 35% AAA, 5% AA, 23% A), including £nil exposure to sub-prime	50	52
Other ABS (2016: 21% AAA, 18% AA, 52% A), including £129 million exposure to sub-prime	1,005	581
Total	4,321	4,320

(iii) UK insurance operations
The majority of holdings of the shareholder-backed business are UK securities and relate to PAC's annuity business. Of the holdings of the with-profits operations, £1,623 million (2015: £1,140 million) relates to exposure to the US markets with the remaining exposure being primarily to the UK market.

(iv) Asset management operations
Asset management operations' exposure to asset-backed securities is held by Prudential Capital with no sub-prime exposure. Of the £771 million, 95 per cent (2015: 95 per cent) are graded AAA.

(f) Group sovereign debt and bank debt exposure

The Group exposures held by the shareholder-backed business and with-profits funds in sovereign debts and bank debt securities at 31 December are analysed as follows:

Exposure to sovereign debts

	2016 £m		2015 £m	
	Shareholder-backed business	With-profits funds	Shareholder-backed business	With-profits funds
Italy	56	61	55	60
Spain	33	18	1	17
France	22	–	19	–
Germany*	573	329	409	358
Other Eurozone	83	33	62	44
Total Eurozone	767	441	546	479
United Kingdom	5,510	2,868	4,997	1,802
United States†	6,861	9,008	3,911	6,893
Other, predominantly Asia	3,979	2,079	3,368	1,737
Total	17,117	14,396	12,822	10,911

* Including bonds guaranteed by the federal government.
† The exposure to the United States sovereign debt comprises holdings of the US, UK and Asia insurance operations.

C3 Assets and liabilities continued

C3.2 Debt securities continued

Exposure to bank debt securities

	2016 £m							
	Senior debt			Subordinated debt				
Shareholder-backed business	Covered	Senior	Total senior debt	Tier 1	Tier 2	Total sub-ordinated debt	2016 Total £m	2015 Total £m
Italy	–	32	32	–	–	–	32	30
Spain	148	22	170	–	–	–	170	154
France	28	53	81	10	75	85	166	226
Germany	46	4	50	–	74	74	124	130
Netherlands	–	44	44	–	6	6	50	31
Other Eurozone	–	19	19	–	–	–	19	31
Total Eurozone	222	174	396	10	155	165	561	602
United Kingdom	536	318	854	6	314	320	1,174	957
United States	–	2,494	2,494	6	184	190	2,684	2,457
Other, predominantly Asia	17	511	528	76	414	490	1,018	718
Total	775	3,497	4,272	98	1,067	1,165	5,437	4,734
With-profits funds								
Italy	–	62	62	–	–	–	62	57
Spain	153	60	213	–	–	–	213	182
France	8	140	148	–	65	65	213	250
Germany	96	18	114	–	–	–	114	111
Netherlands	–	189	189	6	7	13	202	205
Other Eurozone	–	31	31	–	–	–	31	35
Total Eurozone	257	500	757	6	72	78	835	840
United Kingdom	544	400	944	2	450	452	1,396	1,351
United States	–	1,851	1,851	58	320	378	2,229	1,796
Other, including Asia	312	1,035	1,347	220	425	645	1,992	1,656
Total	1,113	3,786	4,899	286	1,267	1,553	6,452	5,643

The tables above exclude assets held to cover linked liabilities and those of the consolidated unit trusts and similar funds. In addition, the tables above exclude the proportionate share of sovereign debt holdings of the Group's joint venture operations.

(g) Impairment of US available-for-sale debt securities and other financial assets

In accordance with the Group's accounting policy set out in note A3.1, impairment reviews were performed for available-for-sale securities and loans and receivables.

During the year ended 31 December 2016, net impairment charges of £(44) million (2015: £(35) million) were recognised for available-for-sale securities and loans and receivables analysed as follows:

	2016 £m	2015 £m
Available-for-sale debt securities held by Jackson	(20)	(19)
Loans and receivables*	(24)	(16)
Net charge for impairment net of reversals	(44)	(35)

* The impairment charges relate to loans held by the UK with-profits fund and mortgage loans held by Jackson.

Jackson's portfolio of debt securities is managed proactively with credit analysts closely monitoring and reporting on the credit quality of its holdings. Jackson continues to review its investments on a case-by-case basis to determine whether any decline in fair value represents an impairment. In addition, investments in structured securities are subject to a rigorous review of their future estimated cash flows, including expected and stress case scenarios, to identify potential shortfalls in contractual payments (both interest and principal). Impairment charges are recorded on structured securities when the Company forecasts a contractual payment shortfall. Situations where such a shortfall would not lead to a recognition of a loss are rare. However, some structured securities do not have a single determined set of future cash flows and instead, there can be a reasonable range of estimates that could potentially emerge. With this variability, there could be instances where the projected cash flow shortfall under management's base case set of assumptions is so minor that relatively small and justifiable changes to the base case assumptions would eliminate the need for an impairment loss to be recognised. The impairment loss reflects the difference between the fair value and book value.

In 2016, the Group realised gross losses on sales of available-for-sale securities of £152 million (2015: £85 million) with 59 per cent (2015: 57 per cent) of these losses related to the disposal of fixed maturity securities of the top 10 individual issuers, which were disposed of as part of risk reduction programmes intended to limit future credit loss exposure. Of the £152 million (2015: £ 85 million), £94 million (2015: £54 million) relates to losses on sales of impaired and deteriorating securities.

The effect of changes in the key assumptions that underpin the assessment of whether impairment has taken place depends on the factors described in note A3.1. A key indicator of whether such impairment may arise in future, and the potential amounts at risk, is the profile of gross unrealised losses for fixed maturity securities accounted for on an available-for-sale basis by reference to the time periods by which the securities have been held continuously in an unrealised loss position and by reference to the maturity date of the securities concerned.

For 2016, the amount of gross unrealised losses for fixed maturity securities classified as available-for-sale under IFRS in an unrealised loss position was £675 million (2015: £673 million). Note B1.2 provides further details on the impairment charges and unrealised losses of Jackson's available-for-sale securities.

C3.3 Loans portfolio

(a) Overview of loans portfolio

Loans are accounted for at amortised cost net of impairment except for:

— Certain mortgage loans that have been designated at fair value through profit or loss of the UK insurance operations as this loan portfolio is managed and evaluated on a fair value basis; and
— Certain policy loans of the US insurance operations that are held to back liabilities for funds withheld under reinsurance arrangements and are also accounted on a fair value basis.

The amounts included in the statement of financial position are analysed as follows:

	2016 £m				2015 £m			
	Mortgage loans*	Policy loans†	Other loans‡	Total	Mortgage loans*	Policy loans†	Other loans‡	Total
Asia								
With-profits	–	577	113	690	–	452	88	540
Non-linked shareholder-backed	179	226	208	613	130	269	145	544
US								
Non-linked shareholder-backed	6,055	3,680	–	9,735	4,367	3,051	–	7,418
UK								
With-profits	668	6	1,218	1,892	727	8	1,324	2,059
Non-linked shareholder-backed	1,642	–	38	1,680	1,508	–	4	1,512
Asset management operations	–	–	563	563	–	–	885	885
Total loans securities	8,544	4,489	2,140	15,173	6,732	3,780	2,446	12,958

* All mortgage loans are secured by properties. In the US, mortgage loans are all commercial mortgage loans that are secured on the following property types: industrial, multi-family residential, suburban office, retail or hotel. By carrying value, 96 per cent of the £1,642 million (2015: 78 per cent of the £1,508 million) mortgage loans held for UK shareholder-backed business relates to lifetime (equity release) mortgage business which has an average loan to property value of 30 per cent (2015: 30 per cent).

† In the US, £2,672 million (2015: £2,183 million) policy loans are backing liabilities for funds withheld under reinsurance arrangements and are accounted for at fair value through profit or loss. All other policy loans are accounted for at amortised cost, less any impairment.

‡ Other loans held in UK with-profits funds are commercial loans and comprise mainly syndicated loans. The majority of other loans in shareholder-backed business in Asia are commercial loans held by the Malaysia operation and which are all investment graded by two local rating agencies.

C3 Assets and liabilities continued

C3.3 Loans portfolio continued

(b) Additional information on US loans

The US insurance operations' commercial mortgage loan portfolio does not include any single-family residential mortgage loans and is therefore not exposed to the risk of defaults associated with residential sub-prime mortgage loans. The average loan size is £12.4 million (2015: £8.6 million). The portfolio has a current estimated average loan to value of 59 per cent (2015: 59 per cent).

At 31 December 2016, Jackson had no mortgage loans where the contractual terms of the agreements had been restructured (2015: none).

(c) Loans held by asset management operations

These relate to loans and receivables managed by Prudential Capital. These assets are generally secured but most have no external credit ratings. Internal ratings prepared by the Group's asset management operations, as part of the risk management process, are:

	2016 £m	**2015** £m
Loans and receivables internal ratings:		
AA+ to AA-	29	–
A+ to A-	100	157
BBB+ to BBB-	248	607
BB+ to BB-	185	119
B and other	1	2
Total	563	885

C3.4 Financial instruments – additional information

(a) Financial risk

(i) Liquidity analysis

Contractual maturities of financial liabilities on an undiscounted cash flow basis

The following table sets out the contractual maturities for applicable classes of financial liabilities, excluding derivative liabilities and investment contracts that are separately presented. The financial liabilities are included in the column relating to the contractual maturities at the undiscounted cash flows (including contractual interest payments) due to be paid assuming conditions are consistent with those of year end.

	2016 £m								
	Total carrying value	**1 year or less**	**After 1 year to 5 years**	**After 5 years to 10 years**	**After 10 years to 15 years**	**After 15 years to 20 years**	**Over 20 years**	**No stated maturity**	**Total**
Financial liabilities									
Core structural borrowings of shareholder-financed operations C6.1	6,798	474	778	1,205	1,202	1,011	3,439	3,662	11,771
Operational borrowings attributable to shareholder-financed operations C6.2	2,317	1,657	607	69	–	–	–	–	2,333
Borrowings attributable to with-profits funds C6.2	1,349	475	748	32	20	10	60	144	1,489
Obligations under funding, securities lending and sale and repurchase agreements	5,031	5,031	–	–	–	–	–	–	5,031
Accruals, deferred income and other liabilities	13,825	9,873	320	61	80	103	322	3,272	14,031
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	8,687	8,687	–	–	–	–	–	–	8,687
	38,007	26,197	2,453	1,367	1,302	1,124	3,821	7,078	43,342

	2015 £m								
	Total carrying value	1 year or less	After 1 year to 5 years	After 5 years to 10 years	After 10 years to 15 years	After 15 years to 20 years	Over 20 years	No stated maturity	Total
Financial liabilities									
Core structural borrowings of shareholder-financed operations[C6.1]	5,011	197	1,046	1,210	1,197	1,037	3,555	1,900	10,142
Operational borrowings attributable to shareholder-financed operations[C6.2]	1,960	1,301	616	69	–	–	–	–	1,986
Borrowings attributable to with-profits funds[C6.2]	1,332	256	813	175	53	11	62	157	1,527
Obligations under funding, securities lending and sale and repurchase agreements	3,765	3,765	–	–	–	–	–	–	3,765
Accruals, deferred income and other liabilities	10,416	7,583	99	51	74	100	344	2,440	10,691
Net asset value attributable to unit holders of consolidated unit trusts and similar funds	7,873	7,873	–	–	–	–	–	–	7,873
	30,357	20,975	2,574	1,505	1,324	1,148	3,961	4,497	35,984

Maturity analysis of derivatives

The following table shows the gross and net derivative positions together with a maturity profile of the net derivative position:

	Carrying value of net derivatives £m			Maturity profile of net derivative position £m				
	Derivative assets	Derivative liabilities	Net derivative position	1 year or less	After 1 year to 3 years	After 3 years to 5 years	After 5 years	Total
2016	**3,936**	**(3,252)**	**684**	**1,009**	**(14)**	**(7)**	**18**	**1,006**
2015	2,958	(3,119)	(161)	15	(10)	(7)	45	43

The majority of derivative assets and liabilities have been included at fair value within the one year or less column, representing the basis on which they are managed (ie to manage principally asset or liability value exposures). The Group has no cash flow hedges and in general, contractual maturities are not considered essential for an understanding of the timing of the cash flows for these instruments. The only exception is certain identified interest rate swaps which are fully expected to be held until maturity solely for the purposes of matching cash flows on separately held assets and liabilities. For these instruments, the undiscounted cash flows (including contractual interest amounts) due to be paid under the swap contract, assuming conditions are consistent with those at year end, are included in the column relating to the contractual maturity of the derivative.

Maturity analysis of investment contracts

The table below shows the maturity profile for investment contracts on undiscounted cash flow projections of expected benefit payments.

	£bn							
	1 year or less	After 1 year to 5 years	After 5 years to 10 years	After 10 years to 15 years	After 15 years to 20 years	Over 20 years	Total undis-counted value	Total carrying value
2016	**6**	**24**	**23**	**16**	**11**	**9**	**89**	**73**
2015	6	21	19	14	10	9	79	62

Most investment contracts have options to surrender early, often subject to surrender or other penalties. Therefore, most contracts can be said to have a contractual maturity of less than one year, but in reality the additional charges and term of the contracts mean these are unlikely to be exercised in practice and the more useful information is to present information on expected payment.

The maturity profile above excludes certain corporate unit-linked business with gross policyholder liabilities of £11 billion (2015: £11 billion) which have no stated maturity but which are repayable on demand.

C3 Assets and liabilities continued

C3.4 Financial instruments – additional information continued

The vast majority of the Group's financial assets are held to back the Group's policyholder liabilities. Although asset/liability matching is an important component of managing policyholder liabilities (both those classified as insurance and those classified as investments), this profile is mainly relevant for managing market risk rather than liquidity risk. Within each business unit this asset/liability matching is performed on a portfolio-by-portfolio basis.

In terms of liquidity risk, a large proportion of the policyholder liabilities contain discretionary surrender values or surrender charges, meaning that many of the Group's liabilities are expected to be held for the long term. Much of the Group's investment portfolios are in marketable securities, which can therefore be converted quickly to liquid assets.

For the reasons provided above, an analysis of the Group's assets by contractual maturity is not considered appropriate to evaluate the nature and extent of the Group's liquidity risk.

(ii) Credit risk

The Group's maximum exposure to credit risk of financial instruments before any allowance for collateral or allocation of losses to policyholders is represented by the carrying value of financial instruments on the balance sheet that have exposures to credit risk comprising cash and cash equivalents, deposits, debt securities, loans and derivative assets, and other debtors, the carrying value of which are disclosed at the start of this note and note C3.4(b) below for derivative assets. The collateral in place in relation to derivatives is described in note C3.4(c) below. Note C3.3 describes the security for these loans held by the Group.

Of the total loans and receivables held, £27 million (2015: £27 million) are past their due date but are not impaired. Of the total past due but not impaired, £20 million are less than one year past their due date (2015: £22 million). The Group expects full recovery of these loans and receivables.

No further analysis has been provided of the element of loans and receivables that was neither past due nor impaired for the total portfolio on the grounds of immateriality of the difference between the neither past due nor impaired elements and the total portfolio.

Financial assets that would have been past due or impaired had the terms not been renegotiated amounted to £27 million (2015: £16 million).

In addition, during 2016 and 2015, the Group did not take possession of any other collateral held as security.

Further details of collateral and pledges are provided in note C3.4(c) below.

(iii) Foreign exchange risk

As at 31 December 2016, the Group held 23 per cent (2015: 22 per cent) and 12 per cent (2015: 11 per cent) of its financial assets and financial liabilities respectively, in currencies, mainly US dollar and Euro, other than the functional currency of the relevant business unit.

Of these financial assets, 52 per cent (2015: 53 per cent) are held by the PAC with-profits fund, allowing the fund to obtain exposure to foreign equity markets.

Of these financial liabilities, 28 per cent (2015: 40 per cent) are held by the PAC with-profits fund, mainly relating to foreign currency borrowings.

The exchange risks inherent in these exposures are mitigated through the use of derivatives, mainly forward currency contracts (note 3.4(b) below).

The amount of exchange gain recognised in the income statement in 2016, except for those arising on financial instruments measured at fair value through profit or loss, is £1,005 million (2015: £138 million gain). This constitutes £0.4 million gain (2015: £1 million loss) on Medium Term Notes liabilities and £1,005 million of net gain (2015: £139 million net gain), mainly arising on investments of the PAC with-profits fund. The gains/losses on Medium Term Notes liabilities are fully offset by value movements on cross-currency swaps, which are measured at fair value through profit or loss.

(b) Derivatives and hedging

Derivatives

The Group enters into a variety of exchange traded and over-the-counter derivative financial instruments, including futures, options, forward currency contracts and swaps such as interest rate swaps, cross-currency swaps, swaptions and credit default swaps.

All over-the-counter derivative transactions, with the exception of some Asia transactions, are conducted under standardised ISDA (International Swaps and Derivatives Association Inc) master agreements and the Group has collateral agreements between the individual Group entities and relevant counterparties in place under each of these market master agreements.

Derivatives are used for efficient portfolio management to obtain cost effective and efficient management of exposure to various markets in accordance with the Group's investment strategies and to manage exposure to interest rate, currency, credit and other business risks. The Group also uses interest rate derivatives to reduce exposure to interest rate volatility. In particular:

— UK with-profits funds use derivatives for efficient portfolio management or reduction in investment risks. For UK annuity business derivatives are used to assist with asset and liability cash flow matching;
— US operations and some of the UK operations hold large amounts of interest-rate sensitive investments that contain credit risks on which a certain level of defaults is expected. These businesses have purchased some swaptions to manage the default risk on certain underlying assets and hence reduce the amount of regulatory capital held to support the assets; and
— Some products, especially in the US, have guarantee features linked to equity indices. A mismatch between guaranteed product liabilities and the performance of the underlying assets exposes the Group to equity index risk. In order to mitigate this risk, the relevant business units purchase swaptions, equity options and futures to better match asset performance with liabilities under equity-indexed products.

Hedging

The Group has formally assessed and documented the effectiveness of the following net investment hedges under IAS 39: At 31 December 2016, the Group has designated perpetual subordinated capital securities totalling US$4.5 billion (2015: US$2.8 billion) as a net investment hedge to hedge the currency risks related to the net investment in Jackson. The carrying value of the subordinated capital securities was £3,644 million as at 31 December 2016 (2015: £1,895 million). The foreign exchange loss of £389 million (2015: loss of £104 million) on translation of the borrowings to pounds sterling at the statement of financial position date is recognised in the translation reserve in shareholders' equity. This net investment hedge was 100 per cent effective.

The Group has no cash flow hedges or fair value hedges in place.

(c) Derecognition, collateral and offsetting

Securities lending and reverse repurchase agreements

The Group has entered into securities lending (including repurchase agreements) whereby blocks of securities are loaned to third parties, primarily major brokerage firms. Typically, the value of collateral assets granted to the Group in these transactions is in excess of the value of securities lent, with the excess determined by the quality of the collateral assets granted. Collateral requirements are calculated on a daily basis. The loaned securities are not removed from the Group's consolidated statement of financial position, rather they are retained within the appropriate investment classification. Collateral typically consists of cash, debt securities, equity securities and letters of credit.

At 31 December 2016, the Group has £8,545 million (2015: £5,995 million) of lent securities and assets subject to repurchase agreements, of which £8,113 million (2015: £4,687 million) related to the PAC with-profits fund. The cash and securities collateral held or pledged under such agreements were £9,086 million (2015: £6,542 million) of which £8,653 million (2015: £5,002 million) was held by the PAC with-profits fund.

At 31 December 2016, the Group had entered into reverse repurchase transactions under which it purchased securities and had taken on the obligation to resell the securities. The fair value of the collateral held in respect of these transactions was £9,319 million (2015: £10,076 million).

Collateral and pledges under derivative transactions

At 31 December 2016, the Group had pledged £1,853 million (2015: £1,622 million) for liabilities and held collateral of £2,788 million (2015: £1,865 million) in respect of over-the-counter derivative transactions.

These transactions are conducted under terms that are usual and customary to collateralised transactions including, where relevant, standard securities lending and repurchase agreements.

Offsetting assets and liabilities

The Group's derivative instruments, repurchase agreements and securities lending agreements are subject to master netting arrangements and collateral arrangements. A master netting arrangement with a counterparty creates a right of offset for amounts due to and due from that same counterparty that is enforceable in the event of a default or bankruptcy. The Group recognises amounts subject to master netting arrangements on a gross basis within the consolidated balance sheets.

The following tables present the gross and net information about the Group's financial instruments subject to master netting arrangements:

	31 Dec 2016 £m				
	Gross amount presented in the consolidated statement of financial position note (i)	Related amounts not offset in the consolidated statement of financial position			Net amount
		Financial instruments note (ii)	Cash collateral	Securities collateral note (iii)	
Financial assets:					
Derivative assets	3,869	(1,053)	(1,895)	(733)	188
Reverse repurchase agreements	9,132	–	–	(9,132)	–
Total financial assets	13,001	(1,053)	(1,895)	(9,865)	188
Financial liabilities:					
Derivative liabilities	(2,874)	1,053	698	1,028	(95)
Securities lending and repurchase agreements	(1,927)	–	97	1,830	–
Total financial liabilities	(4,801)	1,053	795	2,858	(95)

05 Financial statements

C3 Assets and liabilities continued

C3.4 Financial instruments – additional information continued

	31 Dec 2015 £m				
	Gross amount presented in the consolidated statement of financial position note (i)	Related amounts not offset in the consolidated statement of financial position			Net amount
		Financial instruments note (ii)	Cash collateral	Securities collateral note (iii)	
Financial assets:					
Derivative assets	2,835	(1,071)	(1,122)	(591)	51
Reverse repurchase agreements	8,591	–	–	(8,591)	–
Total financial assets	11,426	(1,071)	(1,122)	(9,182)	51
Financial liabilities:					
Derivative liabilities	(2,879)	1,071	764	809	(235)
Securities lending and repurchase agreements	(1,979)	–	199	1,780	–
Total financial liabilities	(4,858)	1,071	963	2,589	(235)

Notes
(i) The Group has not offset any of the amounts presented in the consolidated statement of financial position.
(ii) Represents the amount that could be offset under master netting or similar arrangements where Group does not satisfy the full criteria to offset on the consolidated statement of financial position.
(iii) Excludes initial margin amounts for exchange-traded derivatives.

In the tables above, the amounts of assets or liabilities presented in the consolidated statement of financial position are offset first by financial instruments that have the right of offset under master netting or similar arrangements with any remaining amount reduced by the amount of cash and securities collateral. The actual amount of collateral may be greater than amounts presented in the tables.

C4 Policyholder liabilities and unallocated surplus

The note provides information of policyholder liabilities and unallocated surplus of with-profits funds held on the Group's statement of financial position:

C4.1 Movement and duration of liabilities

C4.1(a) Group overview

(i) Analysis of movements in policyholder liabilities and unallocated surplus of with-profits funds

	Insurance operations £m			
	Asia note C4.1(b)	**US** note C4.1(c)	**UK** note C4.1(d)	**Total**
At 1 January 2015	45,022	126,746	154,436	326,204
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	38,705	126,746	144,088	309,539
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	2,102	–	10,348	12,450
– Group's share of policyholder liabilities of joint ventures and associate‡	4,215	–	–	4,215
Net flows:				
Premiums	7,784	16,699	9,692	34,175
Surrenders	(2,550)	(6,759)	(6,363)	(15,672)
Maturities/deaths	(1,265)	(1,464)	(6,991)	(9,720)
Net flows	3,969	8,476	(3,662)	8,783
Shareholders' transfers post-tax	(43)	–	(214)	(257)
Investment-related items and other movements	(364)	(3,824)	2,319	(1,869)
Foreign exchange translation differences	194	7,515	14	7,723
As at 31 December 2015/1 January 2016	**48,778**	**138,913**	**152,893**	**340,584**
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	**41,255**	**138,913**	**142,350**	**322,518**
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	**2,553**	**–**	**10,543**	**13,096**
– Group's share of policyholder liabilities of joint ventures and associate‡	**4,970**	**–**	**–**	**4,970**
Reclassification of Korea life business as held for sale*	**(2,812)**	**–**	**–**	**(2,812)**
Net flows:				
Premiums	**9,639**	**14,766**	**11,129**	**35,534**
Surrenders	**(2,299)**	**(7,872)**	**(6,821)**	**(16,992)**
Maturities/deaths	**(1,558)**	**(1,696)**	**(6,835)**	**(10,089)**
Net flows	**5,782**	**5,198**	**(2,527)**	**8,453**
Shareholders' transfers post-tax	**(44)**	**–**	**(215)**	**(259)**
Investment-related items and other movements	**2,005**	**5,690**	**18,626**	**26,321**
Foreign exchange translation differences	**9,075**	**27,825**	**527**	**37,427**
At 31 December 2016	**62,784**	**177,626**	**169,304**	**409,714**
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position§	**53,716**	**177,626**	**157,654**	**388,996**
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	**2,667**	**–**	**11,650**	**14,317**
– Group's share of policyholder liabilities of joint ventures and associate‡	**6,401**	**–**	**–**	**6,401**
Average policyholder liability balances†				
2016	**51,765**	**158,270**	**150,003**	**360,038**
2015	44,573	132,830	143,219	320,622

* The reclassification of Korea life business as held for sale reflects the value of policyholder liabilities held at 1 January 2016. No other amounts are shown within the 2016 analysis above in respect of Korea.

† Averages have been based on opening and closing balances and adjusted for acquisitions, disposals and corporate transactions in the year and exclude unallocated surplus of with-profits funds.

‡ The Group's investment in joint ventures and associates are accounted for on an equity method basis in the Group's balance sheet. The Group's share of the policyholder liabilities as shown above relate to life businesses in China, India and of the Takaful business in Malaysia.

§ The policyholder liabilities of the Asia insurance operations of £53,716 million (2015: £41,255 million), shown in the table above, is after deducting the intra-group reinsurance liabilities ceded by the UK insurance operations of £1,302 million (2015: £1,261 million) to the Hong Kong with-profits business. Including this amount, total Asia policyholder liabilities are £55,018 million (2015: £42,516 million).

C4 Policyholder liabilities and unallocated surplus continued

C4.1 Movement and duration of liabilities continued

The items above represent the amount attributable to changes in policyholder liabilities and unallocated surplus of with-profits funds as a result of each of the components listed. The policyholder liabilities shown include investment contracts without discretionary participation features (as defined in IFRS 4) and their full movement in the year. The items above are shown gross of external reinsurance.

The analysis includes the impact of premiums, claims and investment movements on policyholders' liabilities. The impact does not represent premiums, claims and investment movements as reported in the income statement. For example, the premiums shown above will exclude any deductions for fees/charges. Claims represent the policyholder liabilities provision released, rather than the claim amount paid to the policyholder.

(ii) Analysis of movements in policyholder liabilities for shareholder-backed business

	Shareholder-backed business £m			
	Asia	**US**	**UK**	**Total**
At 1 January 2015	26,410	126,746	55,009	208,165
Net flows:				
Premiums	4,793	16,699	3,146	24,638
Surrenders	(2,308)	(6,759)	(3,227)	(12,294)
Maturities/deaths	(618)	(1,464)	(2,613)	(4,695)
Net flows note (a)	1,867	8,476	(2,694)	7,649
Investment-related items and other movements	(121)	(3,824)	509	(3,436)
Foreign exchange translation differences	(312)	7,515	–	7,203
At 31 December 2015/1 January 2016	27,844	138,913	52,824	219,581
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	22,874	138,913	52,824	214,611
– Group's share of policyholder liabilities relating to joint ventures	4,970	–	–	4,970
At 1 January 2016	27,844	138,913	52,824	219,581
Reclassification of Korea life business as held for sale*	(2,812)	–	–	(2,812)
Net flows:				
Premiums	4,749	14,766	1,842	21,357
Surrenders	(1,931)	(7,872)	(2,967)	(12,770)
Maturities/deaths	(732)	(1,696)	(2,521)	(4,949)
Net flows note (a)	2,086	5,198	(3,646)	3,638
Investment-related items and other movements	1,116	5,690	6,980	13,786
Foreign exchange translation differences	4,617	27,825	–	32,442
At 31 December 2016	32,851	177,626	56,158	266,635
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	26,450	177,626	56,158	260,234
– Group's share of policyholder liabilities relating to joint ventures	6,401	–	–	6,401

* The reclassification of Korea life business as held for sale reflects the value of policyholder liabilities held at 1 January 2016. No other amounts are shown within the 2016 analysis above in respect of Korea.

Note

(a) Including net flows of the Group's insurance joint ventures and associate.

(iii) Movement in insurance contract liabilities and unallocated surplus of with-profits funds

Further analysis of the movement in the year of the Group's insurance contract liabilities, gross and reinsurance share, and unallocated surplus of with-profits funds is provided below:

	Insurance contract liabilities		Unallocated surplus of with-profits funds
	Gross £m	**Reinsurers' share** £m	£m
At 1 January 2015	250,038	6,315	12,450
Income and expense included in the income statement and other comprehensive income	3,456	342	522
Foreign exchange translation differences	7,259	335	124
At 31 December 2015/1 January 2016	260,753	6,992	13,096
Income and expense included in the income statement and other comprehensive income	20,210	752	768
Foreign exchange translation differences	35,472	1,221	453
At 31 December 2016	316,435	8,965	14,317

(iv) Reinsurers' share of insurance contract liabilities

	Asia	**US**	**UK**	**2016** £m	**2015** £m
Insurance contract liabilities	1,460	6,374	1,131	8,965	6,992
Claims outstanding	79	850	157	1,086	911
	1,539	7,224	1,288	10,051	7,903

The Group cedes certain business to other insurance companies. Although the ceding of insurance does not relieve the Group from its liability to its policyholders, the Group participates in such agreements for the purpose of managing its loss exposure. The Group evaluates the financial condition of its reinsurers and monitors concentration of credit risk from similar geographic regions, activities or economic characteristics of the reinsurers to minimise its exposure from reinsurer insolvencies. Of the reinsurers' share of insurance contract liabilities balance of £10,051 million at 31 December 2016 (2015: £7,903 million), 85 per cent (2015: 90 per cent) were ceded by the Group's UK and US operations, of which 96 per cent (2015: 96 per cent) of the balance were from reinsurers with Standard & Poor's rating A- and above.

The reinsurance asset for Jackson, as shown in the table above, primarily relates to certain fully collateralised former REALIC business retained by Swiss Re through 100 per cent reinsurance agreements. Apart from the reinsurance of REALIC business, the principal reinsurance ceded by Jackson outside the Group is on term life insurance, direct and assumed accident and health business and GMIB variable annuity guarantees. Net commissions received on ceded business and claims incurred ceded to external reinsurers totalled £38 million and £500 million respectively during 2016 (2015: £41 million and £442 million respectively). There were no deferred gains or losses on reinsurance contracts in either 2016 or 2015.

In each of 2016 and 2015, the Group's UK insurance business entered into longevity reinsurance transactions on certain aspects of the UK's annuity liabilities. Further information on these transactions is provided in note B4(b). The gains and losses recognised in profit and loss for the other reinsurance contracts written in the year were immaterial.

C4 Policyholder liabilities and unallocated surplus continued

C4.1 Movement and duration of liabilities continued

C4.1(b) Asia insurance operations

(i) Analysis of movements in policyholder liabilities and unallocated surplus of with-profits funds

A reconciliation of the total policyholder liabilities and unallocated surplus of with-profits funds of Asia insurance operations from the beginning of the year to the end of the year is as follows:

	With-profits business £m	Unit-linked liabilities £m	Other business £m	Total £m
At 1 January 2015	18,612	16,209	10,201	45,022
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	16,510	13,874	8,321	38,705
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	2,102	–	–	2,102
– Group's share of policyholder liabilities relating to joint ventures and associate‡	–	2,335	1,880	4,215
Premiums				
New business	812	1,322	781	2,915
In-force	2,179	1,496	1,194	4,869
	2,991	2,818	1,975	7,784
Surrenders note (c)	(242)	(2,043)	(265)	(2,550)
Maturities/deaths	(647)	(88)	(530)	(1,265)
Net flows note (b)	2,102	687	1,180	3,969
Shareholders' transfers post-tax	(43)	–	–	(43)
Investment-related items and other movements	(243)	(536)	415	(364)
Foreign exchange translation differences note (a)	506	(394)	82	194
At 31 December 2015/1 January 2016	**20,934**	**15,966**	**11,878**	**48,778**
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position	18,381	13,355	9,519	41,255
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	2,553	–	–	2,553
– Group's share of policyholder liabilities relating to joint ventures and associate‡	–	2,611	2,359	4,970
Reclassification of Korea life business as held for sale*	–	(2,187)	(625)	(2,812)
Premiums				
New business	1,701	921	767	3,389
In-force	3,189	1,447	1,614	6,250
	4,890	2,368	2,381	9,639
Surrenders note (c)	(368)	(1,641)	(290)	(2,299)
Maturities/deaths	(826)	(78)	(654)	(1,558)
Net flows note (b)	3,696	649	1,437	5,782
Shareholders' transfers post-tax	(44)	–	–	(44)
Investment-related items and other movements note (d)	889	621	495	2,005
Foreign exchange translation differences note (a)	4,458	2,458	2,159	9,075
At 31 December 2016 note (b)	**29,933**	**17,507**	**15,344**	**62,784**
Comprising:				
– Policyholder liabilities on the consolidated statement of financial position§	27,266	14,289	12,161	53,716
– Unallocated surplus of with-profits funds on the consolidated statement of financial position	2,667	–	–	2,667
– Group's share of policyholder liabilities relating to joint ventures and associate‡	–	3,218	3,183	6,401
Average policyholder liability balances†				
2016	**22,823**	**15,643**	**13,299**	**51,765**
2015	17,446	16,088	11,039	44,573

* The reclassification of Korea life business as held for sale reflects the value of policyholder liabilities held at 1 January 2016. No other amounts are shown within the 2016 analysis above in respect of Korea. If Korea life business had been excluded from the 2015 figures, the average policyholder liability balance for 2015 would have been £41,814 million in total allocated £17,446 million, £13,940 million and £10,428 million for its with-profits business, unit-linked business and other business, respectively.
† Averages have been based on opening and closing balances and adjusted for acquisitions and disposals in the year and exclude unallocated surplus of with-profits funds.
‡ The Group's investment in joint ventures and associate are accounted for on an equity method basis and the Group's share of the policyholder liabilities, as shown above, relate to the life businesses in China, India and of the Takaful business in Malaysia.
§ The policyholder liabilities of the with-profits business of £27,266 million, shown in the table above, is after deducting the intra-group reinsurance liabilities ceded by the UK insurance operations of £1,302 million to the Hong Kong with-profits business (2015: £1,261 million). Including this amount, the Asia with-profits policyholder liabilities are £28,568 million.

Notes

(a) Movements in the year have been translated at the average exchange rates for the year. The closing balance has been translated at the closing spot rates as at the end of the year. Differences upon retranslation are included in foreign exchange translation differences.

(b) Net flows have increased by £1,860 million to £5,782 million in 2016, after excluding Korea 2015 net inflows of £47 million from the comparative period reflecting increased flows from new business and growth in the in-force books.

(c) The rate of surrenders for shareholder-backed business (expressed as a percentage of opening liabilities) was 7.7 per cent in 2016, compared with 7.6 per cent in 2015, excluding Korea (2015: 8.7 per cent including Korea).

(d) Investment-related items and other movements for 2016 principally represent realised gains on equity markets and bonds during the year. The gains were mixed across the region with the greatest impact on with-profits and unit-linked business.

(ii) Duration of liabilities

The table below shows the carrying value of policyholder liabilities and the maturity profile of the cash flows on a discounted basis for 2016 and 2015, taking account of expected future premiums and investment returns:

	2016 £m	**2015** £m
Policyholder liabilities	**53,716**	41,255
	%	%
Expected maturity:		
0 to 5 years	**23**	23
5 to 10 years	**20**	20
10 to 15 years	**16**	17
15 to 20 years	**11**	12
20 to 25 years	**9**	9
Over 25 years	**21**	19

(iii) Summary policyholder liabilities (net of reinsurance) and unallocated surplus

At 31 December 2016, the policyholder liabilities and unallocated surplus for Asia operations of £56.4 billion (2015: £43.8 billion), net of reinsurance of £1,539 million (2015: £798 million), excluding joint ventures, comprised the following:

	2016 £m	**2015** £m
Hong Kong	**23,852**	16,234
Indonesia	**3,405**	2,361
Korea*	**–**	2,810
Malaysia	**4,332**	3,492
Singapore	**15,324**	12,022
Taiwan	**3,504**	2,724
Other countries	**4,427**	3,367
Total Asia operations	**54,844**	43,010

* The Korea life business was accounted for as held for sale at 31 December 2016 (see note D1).

C4 Policyholder liabilities and unallocated surplus continued

C4.1 Movement and duration of liabilities continued

C4.1(c) US insurance operations

(i) Analysis of movements in policyholder liabilities

A reconciliation of the total policyholder liabilities of US insurance operations from the beginning of the year to the end of the year is as follows:

US insurance operations

	Variable annuity separate account liabilities £m	Fixed annuity, GIC and other business £m	Total £m
At 1 January 2015	81,741	45,005	126,746
Premiums	12,899	3,800	16,699
Surrenders	(4,357)	(2,402)	(6,759)
Maturities/deaths	(655)	(809)	(1,464)
Net flows note (b)	7,887	589	8,476
Transfers from general to separate account	847	(847)	–
Investment-related items and other movements	(4,351)	527	(3,824)
Foreign exchange translation differences note (a)	4,898	2,617	7,515
At 31 December 2015/1 January 2016	**91,022**	**47,891**	**138,913**
Premiums	**10,232**	**4,534**	**14,766**
Surrenders	**(5,036)**	**(2,836)**	**(7,872)**
Maturities/deaths	**(803)**	**(893)**	**(1,696)**
Net flows note (b)	**4,393**	**805**	**5,198**
Transfers from general to separate account	**1,164**	**(1,164)**	**–**
Investment-related items and other movements note (c)	**5,246**	**444**	**5,690**
Foreign exchange translation differences note (a)	**18,586**	**9,239**	**27,825**
At 31 December 2016	**120,411**	**57,215**	**177,626**
Average policyholder liability balances*			
2016	**105,717**	**52,553**	**158,270**
2015	86,382	46,448	132,830

* Averages have been based on opening and closing balances.

Notes

(a) Movements in the year have been translated at an average rate of US$1.35/£1.00 (2015: US$1.53/£1.00). The closing balances have been translated at a closing rate of US$1.24/£1.00 (2015: US$1.47/£1.00). Differences upon retranslation are included in foreign exchange translation differences.

(b) Net flows were £5,198 million in 2016, reflecting continued strong in-flows into the variable annuity business.

(c) Positive investment-related items and other movements in variable annuity separate account liabilities of £5,246 million for 2016 primarily reflects the increases in equities and bond values during the year. Fixed annuity, GIC and other business investment and other movements of £444 million primarily reflect the increase in guarantee reserve in the year.

(ii) Duration of liabilities

The table below shows the carrying value of policyholder liabilities and maturity profile of the cash flows on a discounted basis for 2016 and 2015:

	2016			2015		
	Fixed annuity and other business (including GICs and similar contracts) £m	**Variable annuity separate account liabilities** £m	**Total** £m	**Fixed annuity and other business (including GICs and similar contracts)** £m	**Variable annuity separate account liabilities** £m	**Total** £m
Policyholder liabilities	57,215	120,411	177,626	47,891	91,022	138,913
	%	%	%	%	%	%
Expected maturity:						
0 to 5 years	49	43	45	48	43	44
5 to 10 years	26	29	28	26	28	28
10 to 15 years	11	14	14	12	15	14
15 to 20 years	7	8	7	7	8	8
20 to 25 years	3	4	3	4	4	4
Over 25 years	4	2	3	3	2	2

(iii) Aggregate account values

The table below shows the distribution of account values for fixed annuities (fixed interest rate and fixed index), the fixed account portion of variable annuities, and interest-sensitive life business within the range of minimum guaranteed interest rates as described above as at 31 December 2016 and 2015:

	Fixed annuities and the fixed account portion of variable annuities £m		**Interest-sensitive life business** £m	
Minimum guaranteed interest rate	**2016**	**2015**	**2016**	**2015**
> 0% – 1.00%	7,765	5,563	–	–
> 1.0% – 2.0%	8,718	7,670	–	–
> 2.0% – 3.0%	11,249	9,586	243	204
> 3.0% – 4.0%	1,456	1,263	2,675	2,322
> 4.0% – 5.0%	1,954	1,639	2,333	2,023
> 5.0% – 6.0%	247	212	1,839	1,574
Total	31,389	25,933	7,090	6,123

C4 Policyholder liabilities and unallocated surplus continued

C4.1 Movement and duration of liabilities continued

C4.1(d) UK insurance operations

(i) Analysis of movements in policyholder liabilities and unallocated surplus of with-profits funds

A reconciliation of the total policyholder liabilities and unallocated surplus of with-profits funds of UK insurance operations from the beginning of the year to the end of the year is as follows:

		Shareholder-backed funds and subsidiaries		
	With-profits sub-funds† £m	Unit-linked liabilities £m	Annuity and other long-term business £m	Total £m
At 1 January 2015	99,427	23,300	31,709	154,436
Comprising:				
– Policyholder liabilities	89,079	23,300	31,709	144,088
– Unallocated surplus of with-profits funds	10,348	–	–	10,348
Premiums	6,546	1,115	2,031	9,692
Surrenders	(3,136)	(3,168)	(59)	(6,363)
Maturities/deaths	(4,378)	(573)	(2,040)	(6,991)
Net flows note (a)	(968)	(2,626)	(68)	(3,662)
Shareholders' transfers post-tax	(214)	–	–	(214)
Switches	(189)	189	–	–
Investment-related items and other movements	1,999	579	(259)	2,319
Foreign exchange translation differences	14	–	–	14
At 31 December 2015/1 January 2016	**100,069**	**21,442**	**31,382**	**152,893**
Comprising:				
– Policyholder liabilities	**89,526**	**21,442**	**31,382**	**142,350**
– Unallocated surplus of with-profits funds	**10,543**	**–**	**–**	**10,543**
Premiums	**9,287**	**1,227**	**615**	**11,129**
Surrenders	**(3,854)**	**(2,889)**	**(78)**	**(6,821)**
Maturities/deaths	**(4,314)**	**(583)**	**(1,938)**	**(6,835)**
Net flows note (a)	**1,119**	**(2,245)**	**(1,401)**	**(2,527)**
Shareholders' transfers post-tax	**(215)**	**–**	**–**	**(215)**
Switches	**(152)**	**152**	**–**	**–**
Investment-related items and other movements note (b)	**11,798**	**2,770**	**4,058**	**18,626**
Foreign exchange translation differences	**527**	**–**	**–**	**527**
At 31 December 2016	**113,146**	**22,119**	**34,039**	**169,304**
Comprising:				
– Policyholder liabilities	**101,496**	**22,119**	**34,039**	**157,654**
– Unallocated surplus of with-profits funds	**11,650**	**–**	**–**	**11,650**
Average policyholder liability balances*				
2016	**95,511**	**21,781**	**32,711**	**150,003**
2015	89,303	22,371	31,545	143,219

* Averages have been based on opening and closing balances and exclude unallocated surplus of with-profits funds.
† Includes the Scottish Amicable Insurance Fund.

Notes

(a) Net outflows improved from £3,662 million in 2015 to £2,527 million in 2016, due primarily to higher premium flows into our with-profits funds following increased sales into with-profits savings and retirement products. This has been offset by lower premiums into our annuity business following our staged withdrawal from this market in the UK.

(b) Investment-related items and other movements of £18,626 million mainly reflects investment return earned in the year, attributable to policyholders. Gains on shareholder-backed annuity business reflects a fall in bond yields over 2016.

(ii) Duration of liabilities

With the exception of most unitised with-profits bonds and other whole of life contracts, the majority of the contracts of the UK insurance operations have a contract term. In effect, the maturity term of the other contracts reflects the earlier of death, maturity, or the policy lapsing. In addition, as described in note A3.1, with-profits contract liabilities include projected future bonuses based on current investment values. The actual amounts payable will vary with future investment performance of SAIF and the WPSF.

The following tables show the carrying value of the policyholder liabilities and the maturity profile of the cash flows, on a discounted basis for 2016 and 2015:

	2016 £m									
	With-profits business			**Annuity business (insurance contracts)**			**Other**			**Total**
	Insurance contracts	**Invest-ment contracts**	**Total**	**Non-profit annuities within WPSF**	**Share-holder-backed annuity**	**Total**	**Insurance contracts**	**Invest-ment contracts**	**Total**	
Policyholder liabilities	37,848	52,495	90,343	11,153	33,881	45,034	6,111	16,166	22,277	157,654
	2016 %									
Expected maturity:										
0 to 5 years	37	37	37	29	25	26	40	34	37	34
5 to 10 years	23	29	26	24	22	23	23	23	23	25
10 to 15 years	15	16	16	18	18	18	12	17	15	17
15 to 20 years	9	10	10	12	14	13	7	12	10	11
20 to 25 years	7	4	5	7	9	9	4	7	6	6
over 25 years	9	4	6	10	12	11	14	7	9	7
	2015 £m									
Policyholder liabilities	35,962	42,736	78,698	10,828	30,983	41,811	6,028	15,813	21,841	142,350
	2015 %									
Expected maturity:										
0 to 5 years	40	40	40	33	26	27	42	36	39	36
5 to 10 years	23	27	25	25	22	23	26	23	24	24
10 to 15 years	14	17	16	18	18	18	13	17	15	16
15 to 20 years	9	10	10	11	13	13	7	12	10	11
20 to 25 years	6	4	5	6	9	9	4	6	5	6
over 25 years	8	2	4	7	12	10	8	6	7	7

— The cash flow projections of expected benefit payments used in the maturity profile table above are from value of in-force business and exclude the value of future new business, including future vesting of internal pension contracts.
— Benefit payments do not reflect the pattern of bonuses and shareholder transfers in respect of the with-profits business.
— Shareholder-backed annuity business includes the ex-PRIL and the legacy PAC shareholder annuity business.
— Investment contracts under 'Other' comprise certain unit-linked and similar contracts accounted for under IAS 39 and IAS 18.
— For business with no maturity term included within the contracts; for example, with-profits investment bonds such as Prudence Bonds, an assumption is made as to likely duration based on prior experience.

C4 Policyholder liabilities and unallocated surplus continued

C4.1 Movement and duration of liabilities continued

(iii) Annuitant mortality

For annuities in payment, the Continuous Mortality Investigation (CMI) tables used are adjusted to reflect anticipated mortality improvements. The tables and range of percentages used are set out in the table below:

	CMI model, with calibration to reflect future mortality improvements		Non-profit annuities within the WPSF		PRIL	
			Males	Females	Males	Females
2016	CMI 2014	For males: with a long-term improvement rate of 2.25% pa* For females: with a long-term improvement rate of 1.50% pa*	97% – 98% PCMA00	92% – 103% PCFA00	94% – 95% PCMA00	83% – 96% PCFA00
2015	CMI 2014	For males: with a long-term improvement rate of 2.25% pa* For females: with a long-term improvement rate of 1.50% pa*	95% – 97% PCMA00	91% – 103% PCFA00	93% PCMA00	83% – 96% PCFA00

* For both males and females, the initial rates of mortality improvement in the CMI Model are uplifted by 0.25% per annum.

For annuities in deferment, the tables used by both the non-profit annuities within the WPSF and PRIL were AM92 – four years (males) and AF92 – four years (females) for 2015.

C4.2 Products and determining contract liabilities

C4.2(a) Asia

Contract type	Description	Material features	Determination of liabilities
With-profits and participating contracts	Provides savings and/or protection where the basic sum assured can be enhanced by a profit share (or bonus) from the underlying fund as determined at the discretion of the Company.	Participating products often offer a guaranteed maturity or surrender value. Declared regular bonus are guaranteed once vested. Future bonus rates and cash dividends are not guaranteed. Market value adjustments and surrender penalties are used for certain products where the law permits such adjustments. Guarantees are predominantly supported by segregated life funds and their estates.	With-profits contracts are predominantly sold in Hong Kong, Malaysia and Singapore. The total value of the with-profits funds is driven by the underlying asset valuation with movements reflected principally in the accounting value of policyholder liabilities and unallocated surplus. In Taiwan and India, US GAAP is applied for measuring insurance assets and liabilities. The other Asia operations principally adopt a gross premium valuation method.

C4.2(a) Asia continued

Contract type	Description	Material features	Determination of liabilities
Term, whole life and endowment assurance	Non-participating savings and/or protection where the benefits are guaranteed, or determined by a set of defined market-related parameters.	These products often offer a guaranteed maturity and surrender value. It is common in Asia for regulations or market-driven demand and competition to provide some form of capital value protection and minimum crediting interest rate guarantees. This is reflected within the guaranteed maturity and surrender values. Guarantees are borne by shareholders.	The approach to determining the contract liabilities is generally driven by the local solvency basis. A gross premium valuation method is used in those countries where a risk-based capital framework is adopted for local solvency. Under the gross premium valuation method, all cash flows are valued explicitly using best estimate assumptions. In applying this approach, an overlay constraint to the method is applied such that no negative reserves are derived at an individual policyholder level. In Vietnam, the Company uses an estimation basis aligned substantially to that used by the countries applying the gross premium valuation method. For India and Taiwan, US GAAP is applied for measuring insurance assets and liabilities. For these countries, the future policyholder benefit provisions for non-linked business are determined using the net level premium method, with an allowance for surrenders, maintenance and claims expenses. Rates of interest used in establishing the policyholder benefit provisions vary by operation depending on the circumstances attaching to each block of business. The other Asia operations principally adopt a net premium valuation method to determine the future policyholder benefit provisions.
Unit-linked	Combines savings with protection, the cash value of the policy depends on the value of the underlying unitised funds.		The attaching liabilities reflect the unit value obligation driven by the value of the investments of the unit fund.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

C4.2(a) Asia continued

Contract type	Description	Material features	Determination of liabilities
Health and protection	Health and protection features are offered as supplements to the products listed above or sold as stand-alone products. Protection covers mortality or morbidity benefits including health, disability, critical illness and accident coverage.		The determination of the liabilities of health and protection contracts are driven by the local solvency basis. A gross premium valuation method is used in those countries where a risk-based capital framework is adopted for local solvency. Under the gross premium valuation method, all cash flows are valued explicitly using best estimate assumptions. In applying this approach, an overlay constraint to the method is applied such that no negative reserves are derived at an individual policyholder level.

C4.2(b) US

Contract type	Description	Material features	Determination of liabilities
Fixed interest rate annuities	Fixed interest rate annuities are primarily deferred annuity products that are used for asset accumulation in retirement planning and for providing income in retirement. At 31 December 2016, fixed interest rate annuities accounted for 8 per cent (2015: 9 per cent) of policy and contract liabilities of Jackson. The policyholder of a fixed interest rate annuity pays Jackson a premium, which is credited to the policyholder's account. Periodically, interest is credited to the policyholder's account and in some cases administrative charges are deducted from the policyholder's account. Jackson makes benefit payments at a future date as specified in the policy based on the value of the policyholder's account at that date. The policy provides that at Jackson's discretion it may reset the interest rate, subject to a guaranteed minimum.	Guaranteed minimum interest rate. At 31 December 2016, Jackson had fixed interest rate annuities totalling £14.2 billion (2015: £12.1 billion) in account value with minimum guaranteed rates ranging from 1.0 per cent to 5.5 per cent and a 2.96 per cent average guaranteed rate (2015: 1.0 per cent to 5.5 per cent and a 3.00 per cent average guaranteed rate).	As explained in note A3.1 all of Jackson's insurance liabilities are based on US GAAP. An overview of the deferral and amortisation of acquisition costs for Jackson is provided in note C5(b). With minor exceptions the following is applied to most of Jackson's contracts. Contracts are accounted for as investment contracts as defined for US GAAP purposes by applying a retrospective deposit method to determine the liability for policyholder benefits. This is then augmented by: — Any amounts that have been assessed to compensate the insurer for services to be performed over future periods (ie deferred income); — Any amounts previously assessed against policyholders that are refundable on termination of the contract; and — Any probable future loss on the contract (ie premium deficiency).

C4.2(b) US continued

Contract type	Description	Material features	Determination of liabilities
Fixed interest rate annuities continued	Approximately 62 per cent (2015: 62 per cent) of the fixed interest rate annuities Jackson wrote in 2016 provide for a (positive or negative) market value adjustment ('MVA') on surrender. This formula-based adjustment approximates the change in value that assets supporting the product would realise as interest rates move.		Capitalised acquisition costs and deferred income for these contracts are amortised over the life of the book of contracts. The present value of the estimated gross profits is computed using the rate of interest that accrues to policyholder balances (sometimes referred to as the contract rate). Estimated gross profits include estimates of the following, each of which will be determined based on the best estimate of amounts over the life of the book of contracts without provision for adverse deviation: — Amounts expected to be assessed for mortality less benefit claims in excess of related policyholder balances; — Amounts expected to be assessed for contract administration less costs incurred for contract administration; — Amounts expected to be earned from the investment of policyholder balances less interest credited to policyholder balances; — Amounts expected to be assessed against policyholder balances upon termination of contracts (sometimes referred to as surrender charges); and — Other expected assessments and credits. The interest guarantees are not explicitly valued but are reflected as they are earned in the current account liability value.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

C4.2(b) US continued

Contract type	Description	Material features	Determination of liabilities
Fixed index annuities	Fixed index annuities vary in structure but are generally deferred annuities that enable policyholders to obtain a portion of an equity-linked return (based on participation rates and caps), and provide a guaranteed minimum return. Fixed index annuities accounted for 6 per cent (2015: 6 per cent) of Jackson's policy and contract liabilities at 31 December 2016. Jackson hedges the equity return risk on fixed index products using offsetting equity exposure in the variable annuity product. The cost of hedging is taken into account in setting the index participation rates or caps.	Guaranteed minimum rates are generally set at 1.0 to 3.0 per cent. At 31 December 2016, Jackson had fixed index annuities allocated to indexed funds totalling £7.3 billion (2015: £6.4 billion) in account value with minimum guaranteed rates on index accounts ranging from 1.0 per cent to 3.0 per cent and a 1.77 per cent average guaranteed rate (2015: 1.0 per cent to 3.0 per cent and a 1.79 per cent average guaranteed rate). Jackson also offers fixed interest accounts on some fixed index annuity products. At 31 December 2016, fixed interest accounts of fixed index annuities totalled £2.6 billion (2015: £1.9 billion) in account value. Minimum guaranteed rates on fixed interest accounts range from 1.0 per cent to 3.0 per cent and a 2.55 per cent average guaranteed rate (2015: 1.0 per cent to 3.0 per cent and a 2.52 per cent average guaranteed rate).	The liability for policyholder benefits that represent the guaranteed minimum return is determined similarly to the liabilities of the fixed interest annuity above. The equity-linked return option within the contract is treated as an embedded liability under IAS 39 and therefore this element of the liability is recognised at fair value.
Variable annuities	Variable annuities are deferred annuities that have the same tax advantages and payout options as fixed interest rates and fixed index annuities. They are also used for asset accumulation in retirement planning and to provide income in retirement. At 31 December 2016, variable annuities accounted for 74 per cent (2015: 70 per cent) of Jackson's policy and contract liabilities. The rate of return depends upon the performance of the selected fund portfolio. Policyholders may allocate their investment to either the fixed account or a selection of variable accounts. Investment risk on the variable account is borne by the policyholder, while investment risk on the fixed account is borne by Jackson through guaranteed minimum fixed rates of return. At 31 December 2016, 6 per cent (2015: 6 per cent) of variable annuity funds were in fixed accounts.	Jackson had variable annuity funds in fixed accounts totalling £7.3 billion (2015: £5.5 billion) with minimum guaranteed rates ranging from 1.0 per cent to 3.0 per cent and a 1.64 per cent average guaranteed rate (2015: 1.0 per cent to 3.0 per cent and a 1.70 per cent average guaranteed rate). Jackson offers a choice of guaranteed benefit options within its variable annuity product portfolio, which can be elected for additional fees. These guaranteed benefits might be expressed as the return of either: (a) total deposits made to the contract adjusted for any partial withdrawals, (b) total deposits made to the contract adjusted for any partial withdrawals, plus a minimum return, or (c) the highest contract value on a specified anniversary date adjusted for any withdrawals following that contract anniversary.	The general principles for fixed annuity and fixed index annuity also apply to variable annuities. The impact of any fixed account interest guarantees is reflected as they are earned in the current account value.

C4.2(b) US continued

Contract type	Description	Material features	Determination of liabilities
Variable annuities continued		Jackson hedges these risks using equity options and futures contracts as described in note C7.3. The benefit guarantee types are set out below:	Jackson regularly evaluates estimates used and adjusts the benefit guarantee liability balances, with a related charge or credit to benefit expense if actual experience or other evidence suggests that earlier assumptions should be revised.
		Benefits that are payable in the event of death (guaranteed minimum death benefit).	Determined each period end by estimating the expected value of benefits in excess of the projected account balance and recognising the excess ratably over the life of the contract based on total expected assessments. At 31 December 2016, these liabilities were valued using a series of stochastic investment performance scenarios, a mean investment return of 7.4 per cent (2015: 7.4 per cent) net of external fund management fees, and assumptions for policyholder behaviour, mortality and expense that are similar to those used in amortising the capitalised acquisition costs.
		Benefits that are payable upon the depletion of funds (guaranteed minimum withdrawal benefit).	The liability for the GMWB 'for life' portion is determined similarly to GMDB above. GMWB 'not for life' features are treated as embedded derivatives under IAS 39. Therefore, provisions for these benefits are recognised at fair value. Non-performance risk is incorporated into the fair value calculation through the use of discount interest rates sourced from an AA corporate credit curve as a proxy for Jackson's own credit risk. Other risk margins, particularly for policyholder behaviour and long-term volatility, are also incorporated into the model through the use of explicitly conservative assumptions. On a periodic basis, Jackson validates the resulting fair values based on comparisons to other models and market movements.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

C4.2(b) US continued

Contract type	Description	Material features	Determination of liabilities
Variable annuities continued		Benefits that are payable at annuitisation (guaranteed minimum income benefit) This feature is no longer offered and existing coverage is substantially reinsured.	The direct GMIB liability is determined by estimating the expected value of the annuitisation benefits in excess of the projected account balance at the date of annuitisation and recognising the excess ratably over the accumulation period based on total expected assessments. GMIB are essentially fully reinsured, subject to a deductible and annual claim limits. As this reinsurance benefit is net settled, it is considered to be a derivative under IAS 39, and is therefore recognised at fair value with the change in fair value included as a component of short-term fluctuations. Volatility and non-performance risk is considered as per GMWB above.
		Benefits that are payable at the end of a specified period (guaranteed minimum accumulation benefit). This feature is no longer offered.	GMAB is treated as embedded derivatives under IAS 39. Therefore, provisions for these benefits are recognised at fair value. Volatility and non-performance risk is considered as per GMWB above.

C4.2(b) US continued

Contract type	Description	Material features	Determination of liabilities
Life insurance	Life products include term life and interest-sensitive life (universal life and variable universal life). Life insurance products accounted for 10 per cent (2015: 11 per cent) of Jackson's policy and contract liabilities at 31 December 2016. Jackson discontinued new sales of life insurance products in 2012. Term life provides protection for a defined period and a benefit that is payable to a designated beneficiary upon death of the insured. Universal life provides permanent individual life insurance for the life of the insured and includes a savings element. Variable universal life is a type of life insurance policy that combines death benefit protection with the ability for the policyholder account to be invested in separate account funds. For certain fixed universal life plans, additional provisions are held to reflect the existence of guarantees offered in the past that are no longer supported by earnings on the existing asset portfolio, or for situations where future mortality charges are not expected to be sufficient to provide for future mortality costs.	Excluding the business that is subject to the retrocession treaties at 31 December 2016, Jackson had interest sensitive life business in force with total account value of £7.1 billion (2015: £6.1 billion), with minimum guaranteed interest rates ranging from 2.5 per cent to 6.0 per cent with a 4.66 per cent average guaranteed rate (2015: 2.5 per cent to 6.0 per cent with a 4.66 per cent average guaranteed rate).	For traditional life insurance contracts, provisions for future policy benefits are determined under US GAAP using the net level premium method and assumptions as the issue date as to mortality, interest, policy lapses and expenses plus provisions for adverse deviation. For universal life and variable universal life a retrospective deposit method is used to determine the liability for policyholder benefits. This is then augmented by additional liabilities to account for no-lapse guarantees, profits followed by losses, contract features such as persistency bonuses, and cost of interest rate guarantees.
Institutional products	Institutional products are: guaranteed investment contracts (GICs), funding agreements (including agreements issued in conjunction with Jackson's participation in the US Federal Home Loan Bank programme) and Medium Term Note funding agreements. At 31 December 2016 institutional products accounted for 1% of contract liabilities (2015: 3%).	GICs feature a lump sum policyholder deposit on which interest is paid at a rate fixed at inception. Market value adjustments are made to the value of any early withdrawals. Funding agreements feature either lump sum or periodic policyholder deposits. Interest is paid at a fixed or index linked rate. Funding agreements have a duration of between one and 30 years. In 2016 and 2015, there were no funding agreements terminable by the policyholder with less than 90 days notice.	Institutional products are classified as investment contracts, and are accounted for as financial liabilities. The currency risk on contracts that represent currency obligations other than US dollars are hedged using cross-currency swaps.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

C4.2(c) UK

Contract type	Description	Material features	Determination of liabilities
With-profits contracts in WPSF	With-profits contracts provide returns to policyholders through bonuses that are 'smoothed'. There are two types of bonuses: 'regular' and 'final'. Regular bonus rates are determined for each type of policy primarily by targeting the bonus level at a prudent proportion of the long-term expected future investment return on underlying assets, reduced as appropriate for each type of policy to allow for items such as expenses, charges, tax and shareholders' transfers. In normal investment conditions, PAC expects changes in regular bonus rates to be gradual over time. However, PAC retains the discretion whether or not to declare a regular bonus each year, and there is no limit on the amount by which regular bonus rates can change. A final bonus which is normally declared annually, may be added when a claim is paid or when units of a unitised product are realised. The rates of final bonus usually vary by type of policy and by reference to the period, usually a year, in which the policy commences or each premium is paid. These rates are determined by reference to the asset shares for the sample policies but subject to the smoothing approach as explained below.	Regular bonuses are declared once a year, and once credited, are guaranteed in accordance with the terms of the particular product. Final bonus rates are guaranteed only until the next bonus declaration.	The policyholder liabilities reported for the WPSF are primarily for two broad types of business. These are accumulating and conventional with-profits contracts. The policyholder liabilities of the WPSF are accounted for in accordance with the requirements of FRS 27. For with-profits business a market consistent valuation is performed. Additional assumptions required are for persistency and the management actions under which the fund is managed. Assumptions used for a market-consistent valuation typically do not contain margins, whereas those used for the valuation of other classes of business do. The provisions have been determined on a basis consistent with the detailed methodology included in regulations contained in the PRA's previously issued rules for the determination of reserves on the PRA's 'realistic' Peak 2 basis. Though no longer in force for regulatory purposes, these rules continue to be applied to determine with-profits contract liabilities in accordance with IFRS 4. In aggregate, the regime has the effect of placing a value on the liabilities of UK with-profits contracts, which reflects the amounts expected to be paid based on the current value of investments held by the with-profits funds and current circumstances. These contracts are a combination of insurance and investment contracts with discretionary participation features, as defined by IFRS 4. The PRA's Peak 2 calculation under the realistic regime requirement is explained further in note A3.1 under the UK regulated with-profits section. Mortality assumptions are set based on the results of the most recent experience analysis looking at the experience over recent years of the relevant business.

C4.2(c) UK continued

Contract type	Description	Material features	Determination of liabilities
With-profits contracts in WPSF continued			Maintenance and, for some classes of business, termination expense assumptions are expressed as per policy amounts. They are set based on the expenses incurred during the year, including an allowance for ongoing investment expenditure and allocated between entities and product groups in accordance with the operation's internal cost allocation model. The contract liabilities for with-profits business also require assumptions for persistency. These are set based on the results of recent experience analysis.
SAIF with-profits	SAIF is a ring-fenced with-profits sub-fund of PAC. No new business is written in SAIF, although regular premiums are still being paid on in-force policies. The fund is solely for the benefit of policyholders of SAIF. Shareholders have no interest in the profits of this fund although they are entitled to asset management fees on this business. The process for determining policyholder bonuses of SAIF with-profits policies, is similar to that for the with-profits policies of the WPSF. However, in addition, the surplus assets in SAIF are allocated to policies in an orderly and equitable distribution over time as enhancements to policyholder benefits.	Provision is made for the risks attaching to some SAIF unitised with-profits policies that have (Market Value Reduction) MVR-free dates and for those SAIF products which have a guaranteed minimum benefit on death or maturity of premiums accumulated at 4 per cent per annum. The Group's main exposure to guaranteed annuities in the UK is through SAIF and a provision of £571 million was held in SAIF at 31 December 2016 (2015: £412 million) to honour the guarantees. As SAIF is a separate sub-fund solely for the benefit of policyholders of SAIF, this provision has no impact on the financial position of the Group's shareholders' equity.	The process of determining policyholder liabilities of SAIF is similar to that for the with-profits policies of the WPSF.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

C4.2(c) UK continued

Contract type	Description	Material features	Determination of liabilities
Annuities – level, fixed increase and inflation linked annuities	**Level** Provide a fixed annuity payment over the policyholders life. **Fixed increase** Provide for a regular annuity payment which incorporates automatic increases in annuity payments by fixed amounts over the policyholder's life. **Inflation-linked** Provide for a regular annuity payment to which an additional amount is added periodically based on the increase in the UK RPI. **With-profits** Written in the WPSF, these combine the income features of annuity products with the investment smoothing features of with-profits products and enable policyholders to obtain exposure to investment return on the WPSF's equity shares, property and other investment categories over time.	As per with-profits products.	Annuity liabilities are calculated as the expected future value of future annuity payments discounted by a valuation interest rate. Key assumptions include: *Mortality* The mortality assumptions are set in light of recent population and internal experience. The assumptions used are percentages of standard actuarial mortality tables with an allowance for future mortality improvements. Where annuities have been sold on an enhanced basis to impaired lives an additional age adjustment is made. The percentages of the standard table used are selected according to the source of business. New mortality projection models are released annually by the Continuous Mortality Investigation (CMI). The CMI 2014 model was used to produce the 2016 results calibrated to reflect an appropriate view of future mortality improvements. For annuities in payment, the tables and range of percentages used are set out in C4.1(d)(iii). *Expense* Maintenance expense assumptions are expressed as per policy amounts. They are set based on the expenses incurred during the year, including an allowance for ongoing investment expenditure and allocated between entities and product groups in accordance with the operation's internal cost allocation model. A margin for adverse deviation is added to this amount. Expense inflation assumptions are set consistent with the economic basis and based on the inflation swap spot curve.

C4.2(c) UK continued

Contract type	Description	Material features	Determination of liabilities
Annuities – level, fixed increase and inflation linked annuities continued			*Valuation interest rates* Valuation interest rates used to discount the liabilities are based on the yields as at the valuation date on the assets backing the technical provisions. For fixed interest securities the internal rate of return of the assets backing the liabilities is used. Properties are valued using the lower of the rental yield and the redemption yield, and for equities it is the greater of the dividend yield and the average of the dividend yield and the earnings yield. An adjustment is made to the yield on non-risk-free fixed-interest securities and property to reflect credit risk. *Credit risk* For IFRS reporting, the results for UK shareholder-backed annuity business are particularly sensitive to the allowances made for credit risk on fixed-interest securities. Further details on credit risk allowance are provided in note B4(b).
Unit-linked	Prudential UK insurance operations also have an extensive book of unit-linked policies.	There are no guaranteed maturity values or guaranteed annuity options on unit-linked policies except for minor amounts for certain policies linked to cash units within SAIF.	For unit-linked contracts the attaching liability reflects the unit value obligation and provision for expenses and mortality risk. The latter component is determined by applying mortality assumptions on a basis that is appropriate for the policyholder profile. For those contracts where the level of insurance risk is insignificant, the assets and liabilities arising under the contracts are distinguished between those that relate to the financial instrument liability and acquisition costs and deferred income that relate to the component of the contract that relates to investment management. Acquisition costs and deferred income are recognised consistent with the level of service provision in line with the requirements of IAS 18. To calculate the non-unit reserves for linked business, assumptions have been set for the gross unit growth rate and the rate of inflation of maintenance expenses, as well as for the valuation interest rate as described in the annuities section above.

C4 Policyholder liabilities and unallocated surplus continued

C4.2 Products and determining contract liabilities continued

Operation of the UK with-profits sub-funds

The WPSF mainly contains with-profits business but it also contains some non-profit business (unit-linked, term assurances and annuities). The WPSF's profits, apportioned 90 per cent to its policyholders and 10 per cent to shareholders as surplus for distribution, are determined via the annual actuarial valuation.

Application of significant judgement

Determining bonuses using the table described in the material features table above requires the PAC board to apply significant judgement in many respects, including in particular the following:

- Determining what constitutes fair treatment of customers;
- Smoothing of investment returns; and
- Determining at what level to set bonuses to ensure that they are competitive.

Key assumptions

The overall rate of return on investments and the expectation of future investment returns are the most important influences in bonus rates, subject to the smoothing described below. Prudential determines the assumptions to apply in respect of these factors, including the effects of reasonably likely changes in key assumptions, in the context of the overarching discretionary and smoothing framework that applies to its with-profits business. As such, it is not possible to specifically quantify the effects of each of these assumptions, or of reasonably likely changes in these assumptions.

Prudential's approach, in applying significant judgement and discretion in relation to determining bonus rates, is consistent conceptually with the approach adopted by other firms that manage a with-profits business and is also consistent with the requirements of the Principles and Practices of Financial Management (PPFM) that are applied in the management of their with-profits funds.

In accordance with industry-wide regulatory requirements, the PAC board has appointed:

- A Chief Actuary who provides the PAC board with all actuarial advice;
- A With-Profits Actuary whose specific duty is to advise the PAC board on the reasonableness and proportionality of the manner in which its discretion has been exercised in applying the Principles and Practices of Financial Management and the manner in which any conflicting interests have been addressed; and
- A With-Profits Committee of independent individuals, which assesses the degree of compliance with the PPFM and the manner in which conflicting rights have been addressed.

Smoothing of investment return

In determining bonus rates for the UK with-profits policies, smoothing is applied to the allocation of the overall earnings of the UK with-profits fund of which the investment return is a significant element.

The degree of smoothing is illustrated numerically by comparing in the following table the relatively 'smoothed' level of policyholder bonuses declared as part of the surplus for distribution, with the more volatile movement in investment return and other items of income and expenditure of the UK component of the PAC with-profits fund for each year presented.

	2016 £m	**2015** £m
Net income of the fund:		
Investment return	13,185	3,130
Claims incurred	(7,410)	(6,745)
Movement in policyholder liabilities	(11,824)	(1,307)
Add back policyholder bonuses for the year (as shown below)	1,934	1,943
Claims incurred and movement in policyholder liabilities (including charge for provision for asset shares and excluding policyholder bonuses)	(17,300)	(6,109)
Earned premiums, net of reinsurance	9,261	6,507
Other income	177	210
Acquisition costs and other expenditure	(1,288)	(1,318)
Share of profits from investment joint ventures	22	53
Tax charge	(739)	(148)
Net income of the fund before movement in unallocated surplus	3,318	2,325
Movement in unallocated surplus	(1,169)	(168)
Surplus for distribution	2,149	2,157
Surplus for distribution allocated as follows:		
– 90% policyholders' bonus (as shown above)	1,934	1,943
– 10% shareholders' transfers	215	214
	2,149	2,157

C5 Intangible assets

(a) Goodwill

	Attributable to:			
	Shareholders	**With-profits**	**2016** £m	**2015** £m
Cost				
At beginning of year	1,463	185	1,648	1,769
Disposal of Japan life business	–	–	–	(120)
Charge for reclassification as held for sale	(15)	(41)	(56)	–
Additional consideration paid on previously acquired business	1	6	7	2
Exchange differences	26	3	29	(3)
Net book amount at end of year	1,475	153	1,628	1,648

Goodwill comprises:

	2016 £m	**2015** £m
M&G – attributable to shareholders	1,153	1,153
Other – attributable to shareholders	322	310
Goodwill – attributable to shareholders	1,475	1,463
Venture fund investments – attributable to with-profits funds	153	185
	1,628	1,648

Other goodwill represents amounts allocated to entities in Asia and the US operations. These goodwill amounts are not individually material.

Impairment testing

Goodwill does not generate cash flows independently of other groups of assets and thus is assigned to cash-generating units for the purposes of impairment testing. These cash-generating units are based upon how management monitors the business and represent the lowest level to which goodwill can be allocated on a reasonable basis.

Assessment of whether goodwill may be impaired

Goodwill is tested for impairment by comparing the cash-generating units' carrying amount, including any goodwill, with its recoverable amount.

With the exception of M&G, the goodwill attributable to shareholders mainly relates to acquired life businesses. The Company routinely compares the aggregate of net asset value and acquired goodwill on an IFRS basis of acquired life business with the value of the current in-force business as determined using the EEV methodology. Any excess of IFRS over EEV carrying value is then compared with EEV basis value of current and projected future new business to determine whether there is any indication that the goodwill in the IFRS statement of financial position may be impaired. The methodology and assumptions underpinning the Group's EEV basis of reporting are included in the EEV basis supplementary information in this Annual Report.

Goodwill for venture fund investments is tested for impairment by comparing the business's carrying value, including goodwill to its recoverable amount (fair value less costs to sell).

M&G

The recoverable amount for the M&G cash-generating units has been determined by calculating its value in use. This has been calculated by aggregating the present value of future cash flows expected to be derived from the M&G operating segment (based upon management projections).

The discounted cash flow valuation has been based on a three-year plan prepared by M&G, and approved by management, and cash flow projections for later years.

The value in use is particularly sensitive to a number of key assumptions as follows:

i The set of economic, market and business assumptions used to derive the three-year plan. The direct and secondary effects of recent developments, eg changes in global equity markets, are considered by management in arriving at the expectations for the financial projections for the plan;

ii The assumed growth rate on forecast cash flows beyond the terminal year of the plan. A growth rate of 2.0 per cent (2015: 2.5 per cent) has been used to extrapolate beyond the plan period representing management's best estimate view of the long-term growth rate of the business after considering the future and past growth rates and external sources of data;

C5 Intangible assets continued

iii The risk discount rate. Differing discount rates have been applied in accordance with the nature of the individual component businesses. For retail and institutional business, a risk discount rate of 12 per cent (2015: 12 per cent) has been applied to post-tax cash flows. The pre-tax risk discount rate was 16 per cent (2015: 16 per cent). Management have determined the risk discount rate by reference to an average implied discount rate for comparable UK listed asset managers calculated by reference to risk-free rates, equity risk premiums of 4.25 per cent and an average 'beta' factor for relative market risk of comparable UK listed asset managers. A similar approach has been applied for the other component businesses of M&G; and

iv That asset management contracts continue on similar terms. Management believes that any reasonable change in the key assumptions would not cause the recoverable amount of M&G to fall below its carrying amount.

(b) Deferred acquisition costs and other intangible assets

	2016 £m	**2015** £m
Deferred acquisition costs and other intangible assets attributable to shareholder	10,755	8,422
Deferred acquisition costs and other intangible assets attributable to with-profits funds	52	50
Total of deferred acquisition costs and other intangible assets	10,807	8,472

The deferred acquisition costs and other intangible assets attributable to shareholders comprise:

	2016 £m	**2015** £m
Deferred acquisition costs related to insurance contracts as classified under IFRS 4	9,114	6,948
Deferred acquisition costs related to investment management contracts, including life assurance contracts classified as financial instruments and investment management contracts under IFRS 4	64	74
	9,178	7,022
Present value of acquired in-force policies for insurance contracts as classified under IFRS 4 (PVIF)	43	45
Distribution rights and other intangibles	1,534	1,355
	1,577	1,400
Total of deferred acquisition costs and other intangible assets	10,755	8,422

	2016 £m						**2015** £m
	Deferred acquisition costs						
	Asia	**US**	**UK**	**Asset management**	**PVIF and other intangibles***	**Total**	**Total**
Balance at 1 January	781	6,148	81	12	1,400	8,422	7,261
Additions	267	678	12		222	1,179	1,190
Amortisation to the income statement:†							
Operating profit	(147)	(434)	(14)	(4)	(87)	(686)	(762)
Non-operating profit	–	565	–	–	(8)	557	93
	(147)	131	(14)	(4)	(95)	(129)	(669)
Disposals and transfers‡	(251)	–	–	–	(17)	(268)	(8)
Exchange differences and other movements	138	1,270	–	–	67	1,475	311
Amortisation of DAC related to net unrealised valuation movements on the US insurance operation's available-for-sale securities recognised within other comprehensive income†	–	76	–	–	–	76	337
Balance at 31 December	788	8,303	79	8	1,577	10,755	8,422

* PVIF and other intangibles includes amounts in relation to software rights with additions of £38 million, amortisation of £32 million, reclassification to held for sale assets of £14 million, forex gains of £3 million and a balance at 31 December 2016 of £66 million.

† Under the Group's application of IFRS 4, US GAAP is used for measuring the insurance assets and liabilities of its US and certain Asia operations. Under US GAAP, most of the US insurance operation's products are accounted for under Accounting Standard no. 97 of the Financial Accounting Standards Board (FAS 97) whereby deferred acquisition costs are amortised in line with the emergence of actual and expected gross profits which are determined using an assumption for long-term investment returns for the separate account of 7.4 per cent (2015: 7.4 per cent) (gross of asset management fees and other charges to policyholders, but net of external fund management fees). The amounts included in the income statement and other comprehensive income affect the pattern of profit emergence and thus the DAC amortisation attaching. DAC amortisation is allocated to the operating and non-operating components of the Group's supplementary analysis of profit and other comprehensive income by reference to the underlying items.

‡ The entire £251 million for the Asia deferred acquisition costs and £14 million out of the £17 million for the PVIF and other intangibles within the 'Disposals and transfers' line relate to the reclassification of the Korea life business as held for sale.

Note
PVIF and other intangibles comprise PVIF, distribution rights and other intangibles such as software rights. Distribution rights relate to amounts that have been paid or have become unconditionally due for payment as a result of past events in respect of bancassurance partnership arrangements in Asia. These agreements allow for bank distribution of Prudential's insurance products for a fixed period of time.

US insurance operations

The DAC amount in respect of US insurance operations comprises amounts in respect of:

	2016 £m	**2015** £m
Variable annuity business	**7,844**	5,713
Other business	**696**	703
Cumulative shadow DAC (for unrealised gains booked in other comprehensive income)*	**(237)**	(268)
Total DAC for US operations	**8,303**	6,148

* Consequent upon the negative unrealised valuation movement in 2016 of £28 million (2015: negative unrealised valuation movement of £1,305 million), there is a gain of £76 million (2015: a gain of £337 million) for altered shadow DAC amortisation booked within other comprehensive income. These adjustments reflect movement from period to period, in the changes to the pattern of reported gross profits that would have occurred if the assets reflected in the statement of financial position had been sold, crystallising the unrealised gains and losses, and the proceeds reinvested at the yields currently available in the market. At 31 December 2016, the cumulative shadow DAC balance, as shown in the table above, was negative £237 million (2015: negative £268 million).

Sensitivity of amortisation charge

The amortisation charge to the income statement is reflected in both operating profit and short-term fluctuations in investment returns. The amortisation charge to the operating profit in a reporting period comprises:

(i) A core amount that reflects a relatively stable proportion of underlying premiums or profit; and
(ii) An element of acceleration or deceleration arising from market movements differing from expectations.

In periods where the cap and floor feature of the mean reversion technique (which is used for moderating the effect of short-term volatility in investment returns) are not relevant, the technique operates to dampen the second element above. Nevertheless, extreme market movements can cause material acceleration or deceleration of amortisation in spite of this dampening effect.

Furthermore, in those periods where the cap or floor is relevant, the mean reversion technique provides no further dampening and additional volatility may result.

In 2016, the DAC amortisation charge for operating profit was determined after including a credit for decelerated amortisation of £93 million (2015: charge for accelerated amortisation of £2 million). The 2016 amount primarily reflects the impact of the positive separate account performance, which is higher than the assumed level for the year, and the effect of releasing the 2013 fund returns of 17 per cent from the mean reversion formula.

The application of the mean reversion formula, (described in note A3.1) has the effect of dampening the impact of equity market movements on DAC amortisation while the mean reversion assumption lies within the corridor. In 2017, it would take approximate movements in separate account values of more than either negative 19 per cent or positive 63 per cent for the mean reversion assumption to move outside the corridor.

Deferred acquisition costs and other intangible assets attributable to with-profits funds

Other intangible assets in the Group consolidated statement of financial position attributable to with-profits funds consist of:

	2016 £m	**2015** £m
Deferred acquisition costs related to insurance contracts attributable to the PAC with-profits fund	**2**	3
Distribution rights attributable to with-profits funds of the Asia insurance operations	**–**	27
Computer software and other intangibles attributable to with-profits funds	**50**	20
	52	50

C5 Intangible assets continued

(i) Deferred acquisition costs related to insurance and investment contracts

The movements in deferred acquisition costs relating to insurance and investment contracts are as follows:

	2016 £m		2015 £m	
	Insurance contracts	**Investment management** note (i)	**Insurance contracts**	**Investment management** note (i)
DAC at 1 January	6,948	74	5,840	87
Additions	954	3	1,007	3
Amortisation	(21)	(13)	(566)	(16)
Exchange differences	1,408	–	330	–
Disposals and transfers	(251)	–	–	–
Change in shadow DAC related to movement in unrealised appreciation of Jackson's securities classified as available-for-sale	76	–	337	–
DAC at 31 December	9,114	64	6,948	74

Note

(i) All of the additions are through internal development. The carrying amount of the balance comprises the following gross and accumulated amortisation amounts:

	2016 £m	**2015** £m
Gross amount	145	144
Accumulated amortisation	(81)	(70)
Net book amount	64	74

(ii) Present value of acquired in-force (PVIF) and other intangibles attributable to shareholders

	2016 £m				2015 £m			
		Other intangibles				Other intangibles		
	PVIF note (i)	**Distribution rights** note (ii)	**Other intangibles (including software)** note (iii)	**Total**	**PVIF** note (i)	**Distribution rights** note (ii)	**Other intangibles (including software)** note (iii)	**Total**
At 1 January								
Cost	209	1,387	278	1,874	222	1,269	238	1,729
Accumulated amortisation	(164)	(129)	(181)	(474)	(163)	(82)	(150)	(395)
	45	1,258	97	1,400	59	1,187	88	1,334
Additions	–	172	50	222	–	139	42	181
Amortisation charge	(8)	(52)	(35)	(95)	(8)	(50)	(33)	(91)
Disposals and transfers	–	(3)	(14)	(17)	–	(8)	–	(8)
Exchange differences and other movements	6	57	4	67	(6)	(10)	–	(16)
At 31 December	43	1,432	102	1,577	45	1,258	97	1,400
Comprising:								
Cost	226	1,628	321	2,175	209	1,387	278	1,874
Accumulated amortisation	(183)	(196)	(219)	(598)	(164)	(129)	(181)	(474)
	43	1,432	102	1,577	45	1,258	97	1,400

Notes

(i) All of the PVIF balances relate to insurance contracts. The PVIF attaching to investment contracts have been fully amortised. Amortisation is charged over the period of provision of asset management services as those profits emerge.

(ii) Distribution rights relate to fees paid in relation to the bancassurance partnership arrangements for the bank distribution of Prudential's insurance products for a fixed period of time. The distribution rights amounts are amortised over the term of the distribution contracts.

(iii) Software is amortised over its useful economic life, which generally represents the licence period of the software acquired.

C6 Borrowings

C6.1 Core structural borrowings of shareholder-financed operations

	2016 £m	2015 £m
Holding company operations: note (i)		
US$1,000m 6.5% Notes (Tier 2)	809	678
US$250m 6.75% Notes (Tier 1) note (vi)	202	170
US$300m 6.5% Notes (Tier 1) note (vi)	243	203
US$700m 5.25% Notes (Tier 2) note (vi)	565	472
US$550m 7.75% Notes (Tier 1) note (vi)	445	372
US$1,000m 5.25% Notes (Tier 2) note (iv)	800	–
US$725m 4.375% Notes (Tier 2) note (v)	580	–
Perpetual Subordinated Capital Securities	3,644	1,895
€20m Medium Term Notes 2023 (Tier 2) note (vii)	17	15
£435m 6.125% Notes 2031 (Tier 2)	430	430
£400m 11.375% Notes 2039 (Tier 2)	395	393
£600m 5% Notes 2055 (Tier 2)	590	590
£700m 5.7% Notes 2063 (Tier 2)	696	695
Subordinated Notes	2,128	2,123
Subordinated debt total	5,772	4,018
Senior debt: note (ii)		
£300m 6.875% Bonds 2023	300	300
£250m 5.875% Bonds 2029	249	249
Holding company total	6,321	4,567
Prudential Capital bank loan note (iii)	275	275
Jackson US$250m 8.15% Surplus Notes 2027 note (viii)	202	169
Total (per consolidated statement of financial position)	6,798	5,011

Notes

(i) These debt tier classifications (including those noted for the comparative balances) are consistent with the treatment of capital for regulatory purposes under the Solvency II regime.
The Group has designated all US$4.5 billion (2015: US$2.8 billion) of its US dollar denominated subordinated debt as a net investment hedge under IAS 39 to hedge the currency risks related to the net investment in Jackson.

(ii) The senior debt ranks above subordinated debt in the event of liquidation.

(iii) The Prudential Capital bank loan of £275 million is drawn at a cost of 12 month GBP LIBOR plus 0.4 per cent and matures on 20 December 2017.

(iv) In June 2016, the Company issued core structural borrowings of US$1,000 million 5.25 per cent Tier 2 perpetual subordinated notes. The proceeds, net of costs, were £681 million.

(v) In September 2016, the Company issued core structural borrowings of US$725 million 4.38 per cent Tier 2 perpetual subordinated notes. The proceeds, net of costs, were £546 million.

(vi) These borrowings can be converted, in whole or in part, at the Company's option and subject to certain conditions, on any interest payment date, into one or more series of Prudential preference shares.

(vii) The €20 million borrowings were issued at 20-year Euro Constant Maturity Swap (capped at 6.5 per cent). These have been swapped into borrowings of £14 million with interest payable at three-month £LIBOR plus 1.2 per cent.

(viii) Jackson's borrowings are unsecured and subordinated to all present and future indebtedness, policy claims and other creditor claims of Jackson.

Prudential plc has debt ratings from Standard & Poor's, Moody's and Fitch. Prudential plc's long-term senior debt is rated A+, A2 and A from Standard & Poor's, Moody's and Fitch, while short-term ratings are A-1, P-1 and F1 respectively.

The financial strength of The Prudential Assurance Company Limited is rated AA by Standard & Poor's, Aa3 by Moody's and AA by Fitch.

Jackson National Life Insurance Company's financial strength is rated AA by Standard & Poor's, A1 by Moody's, AA by Fitch and A+ by AM Best.

Prudential Assurance Co. Singapore (Pte) Ltd.'s (Prudential Singapore) financial strength is rated AA by Standard & Poor's.

All ratings on Prudential and its subsidiaries have been reaffirmed on stable outlook except for PAC, which was placed on negative outlook by Moody's in June 2016 following the UK referendum on EU membership.

C6 Borrowings continued

C6.2 Other borrowings

(a) Operational borrowings attributable to shareholder-financed operations

	2016 £m	2015 £m
Commercial Paper	1,052	1,107
Medium Term Notes 2018 note (i)	599	598
Borrowings in respect of short-term fixed income securities programmes note (i)	1,651	1,705
Bank loans and overdrafts	19	10
Obligations under finance leases	5	4
Other borrowings note (ii)	642	241
Other borrowings	666	255
Total note (iii)	2,317	1,960

Notes

(i) In January and November 2015, the Company issued £300 million Medium Term Notes that will mature in January 2018 and November 2018 respectively. The proceeds, net of costs, were £299 million for the January 2015 issue and £299 million for the November 2015 issue.

(ii) Other borrowings mainly include senior debt issued through the Federal Home Loan Bank of Indianapolis (FHLB), secured by collateral posted with the FHLB by Jackson. In addition, other borrowings include amounts whose repayment to the lender is contingent upon future surplus emerging from certain contracts specified under the arrangement. If insufficient surplus emerges on those contracts, there is no recourse to other assets of the Group and the liability is not payable to the degree of shortfall.

(iii) In all instances the holders of the debt instruments issued by these subsidiaries and funds do not have recourse beyond the assets of those subsidiaries and funds.

(b) Borrowings attributable to with-profits operations

	2016 £m	2015 £m
Non-recourse borrowings of consolidated investment funds*	1,189	1,158
£100m 8.5% undated subordinated guaranteed bonds of Scottish Amicable Finance plc†	100	100
Other borrowings (predominantly obligations under finance leases)	60	74
Total	1,349	1,332

* In all instances the holders of the debt instruments issued by these subsidiaries and funds do not have recourse beyond the assets of these subsidiaries and funds.
† The interests of the holders of the bonds issued by Scottish Amicable Finance plc, a subsidiary of the Scottish Amicable Insurance Fund, are subordinated to the entitlements of the policyholders of that fund.

C6.3 Maturity analysis

The following table sets out the remaining contractual maturity analysis of the Group's borrowings as recognised in the statement of financial position:

	Shareholder-financed operations				With-profits operations	
	Core structural borrowings		Operational borrowings		Borrowings	
	2016 £m	2015 £m	2016 £m	2015 £m	2016 £m	2015 £m
Less than 1 year	275	–	1,636	1,293	118	137
1 to 2 years	–	275	599	–	48	226
2 to 3 years	–	–	–	598	108	168
3 to 4 years	–	–	1	–	8	36
4 to 5 years	–	–	1	–	146	32
Over 5 years	6,523	4,736	80	69	921	733
Total	6,798	5,011	2,317	1,960	1,349	1,332

C7 Risk and sensitivity analysis

C7.1 Group overview

The Group's risk framework and the management of the risk, including those attached to the Group's financial statements including financial assets, financial liabilities and insurance liabilities, together with the inter-relationship with the management of capital, have been included in the audited sections of the Group Chief Risk Officer's report on the risks facing our business and how these are managed.

The financial and insurance assets and liabilities on the Group's balance sheet are, to varying degrees, subject to market and insurance risk and other changes of experience assumptions that may have a material effect on IFRS basis profit or loss and shareholders' equity. The market and insurance risks, including how they affect Group's operations and how these are managed are discussed in the Group Chief Risk Officer's report.

The most significant items that the IFRS shareholders' profit or loss and shareholders' equity for the Group's life assurance business is sensitive to are shown in the following tables. The distinction between direct and indirect exposure is not intended to indicate the relative size of the sensitivity.

Type of business	Market and credit risk			Insurance and lapse risk
	Investments/derivatives	Liabilities/unallocated surplus	Other exposure	
Asia insurance operations (see also section C7.2)				
All business	Currency risk			Mortality and morbidity risk Persistency risk
With-profits business	Net neutral direct exposure (indirect exposure only)		Investment performance subject to smoothing through declared bonuses	
Unit-linked business	Net neutral direct exposure (indirect exposure only)		Investment performance through asset management fees	
Non-participating business	Asset/liability mismatch risk			
	Credit risk	Interest rates for those operations where the basis of insurance liabilities is sensitive to current market movements		
	Interest rate and price risk			
US insurance operations (see also section C7.3)				
All business	Currency risk		Persistency risk	
Variable annuity business	Net effect of market risk arising from incidence of guarantee features and variability of asset management fees offset by derivative hedging programme			
Fixed index annuity business	Derivative hedge programme to the extent not fully hedged against liability	Incidence of equity participation features		
Fixed index annuities, fixed annuities and GIC business	Credit risk Interest rate risk Profit and loss and shareholders' equity are volatile for these risks as they affect the values of derivatives and embedded derivatives and impairment losses. In addition, shareholders' equity is volatile for the incidence of these risks on unrealised appreciation of fixed income securities classified as available-for-sale under IAS 39		Spread difference between earned rate and rate credited to policyholders	Lapse risk, but the effects of extreme events are mitigated by the application of market value adjustments

C7 Risk and sensitivity analysis continued

C7.1 Group overview continued

Type of business	Market and credit risk			Insurance and lapse risk
	Investments/derivatives	Liabilities/unallocated surplus	Other exposure	
UK insurance operations (see also section C7.4)				
With-profits business	Net neutral direct exposure (indirect exposure only)		Investment performance subject to smoothing through declared bonuses	Persistency risk to future shareholder transfers
SAIF sub-fund	Net neutral direct exposure (indirect exposure only)		Asset management fees earned by M&G	
Unit-linked business	Net neutral direct exposure (indirect exposure only)		Investment performance through asset management fees	Persistency risk
Shareholder-backed annuity business	Asset/liability mismatch risk			
	Credit risk for assets covering liabilities and shareholder capital			Mortality experience and assumptions for longevity
	Interest rate risk for assets in excess of liabilities ie assets representing shareholder capital			

Detailed analyses of sensitivity of IFRS basis profit or loss and shareholders' equity to key market and other risks by business unit are provided in notes C7.2, C7.3, C7.4 and C7.5. The sensitivity analyses provided show the effect on profit or loss and shareholders' equity to changes in the relevant risk variables, all of which are reasonably possible at the relevant balance sheet date. In the equity risk sensitivity analysis shown below, the Group has considered the impact of an instantaneous 20 per cent fall in equity markets. If equity markets were to fall by more than 20 per cent, the Group believes that this would not be an instantaneous fall, but rather would be expected to occur over a period of time, during which the Group would be able to put mitigating management actions in place. In addition, the equity risk sensitivity analysis provided assumed that all equity indices fall by the same percentage.

Impact of diversification on risk exposure

The Group benefits from significant diversification benefits achieved through the geographical spread of the Group's operations and, within those operations, through a broad mix of product types. This arises because not all risk scenarios are likely to happen at the same time and across all geographic regions. Relevant correlation factors include:

Correlation across geographic regions:
— Financial risk factors; and
— Non-financial risk factors.

Correlation across risk factors:
— Longevity risk;
— Expenses;
— Persistency; and
— Other risks.

The effect of Group diversification across the Group's life businesses is to significantly reduce the aggregate stand-alone volatility risk to IFRS operating profit based on longer-term investment returns. The effect is almost wholly explained by the correlations across risk types, in particular mortality and longevity risk.

C7.2 Asia insurance operations

Exposure and sensitivity of IFRS basis profit and shareholders' equity to market and other risks

The Asia operations sell with-profits and unit-linked policies, and the investment portfolio of the with-profits funds contains a proportion of equities. Non-participating business is largely backed by debt securities or deposits. The Group's exposure to market risk arising from its Asia operations is therefore at modest levels. This reflects the fact that the Asia operations have a balanced portfolio of with-profits, unit-linked and other types of business.

In Asia, adverse persistency experience can impact the IFRS profitability of certain types of business written in the region. This risk is managed at a business unit level through regular monitoring of experience and the implementation of management actions as necessary. These actions could include product enhancements, increased management focus on premium collection, as well as other customer retention efforts. The potential financial impact of lapses is often mitigated through the specific features of the products, eg surrender charges, or through the availability of premium holiday or partial withdrawal policy features.

In summary, for Asia operations, the operating profit based on longer-term investment returns is mainly affected by the impact of market levels on unit-linked persistency, and other insurance risks. At the total IFRS profit level the Asia result is affected by short-term value movements on the asset portfolio for non-linked shareholder-backed business.

i Sensitivity to risks other than foreign exchange risk

Interest rate risk

Excluding its with-profits and unit-linked businesses, the results of the Asia business are sensitive to the vagaries of routine movements in interest rates.

For the purposes of analysing sensitivity to variations in interest rates, reference has been made to the movements in the 10-year government bond rates of the territories. At 31 December 2016, 10-year government bond rates vary from territory to territory and range from 1.2 per cent to 8.1 per cent (2015: 1.0 per cent to 8.9 per cent).

For the sensitivity analysis as shown in the table below, the reasonably possible interest rate movement used is 1 per cent for all territories.

The estimated sensitivity to the decrease and increase in interest rates at 31 December 2016 and 2015 is as follows:

	2016 £m		**2015** £m	
	Decrease of 1%	**Increase of 1%**	**Decrease of 1%**	**Increase of 1%**
Profit before tax attributable to shareholders	213	(509)	185	(339)
Related deferred tax (where applicable)	(41)	62	(34)	59
Net effect on profit and shareholders' equity	172	(447)	151	(280)

The pre-tax impacts, if they arose, would mostly be recorded within the category short-term fluctuations in investments returns in the Group's segmental analysis of profit before tax.

The degree of sensitivity of the results of the non-linked shareholder-backed business of the Asia operations to movements in interest rates depends upon the degree to which the liabilities under the 'grandfathered' IFRS 4 measurement basis reflects market interest rates from period to period. For example, for those countries, such as those applying US GAAP, the results can be more sensitive as the effect of interest rate movements on the backing investments may not be offset by liability movements.

In addition, the degree of sensitivity of the results shown in the table above is dependent on the interest rate level at that point of time. The low interest rates in certain countries have had an adverse impact on the degree of sensitivity to a decrease in interest rates.

An additional factor to the direction of the sensitivity of the Asia operations as a whole is movement in the country mix.

Equity price risk

The non-linked shareholder-backed business has limited exposure to equity and property investment (31 December 2016: £1,410 million). Generally changes in equity and property investment values are not directly offset by movements in non-linked policyholder liabilities.

The estimated sensitivity to a 10 per cent and 20 per cent change in equity and property prices for shareholder-backed Asia other business (including those held by the Group's joint venture and associate businesses), which would be reflected in the short-term fluctuation component of the Group's segmental analysis of profit before tax, at 31 December 2016 and 2015 would be as follows:

	2016 £m		**2015** £m	
	Decrease		**Decrease**	
	of 20%	**of 10%**	**of 20%**	**of 10%**
Profit before tax attributable to shareholders	(386)	(192)	(225)	(112)
Related deferred tax (where applicable)	4	2	21	10
Net effect on profit and shareholders' equity	(382)	(190)	(204)	(102)

A 10 or 20 per cent increase in their value would have an approximately equal and opposite effect on profit and shareholders' equity to the sensitivities shown above.

C7 Risk and sensitivity analysis continued

C7.2 Asia insurance operations continued

Insurance risk

Many of the territories in Asia are exposed to mortality/morbidity risk and provision is made within policyholder liabilities on a prudent regulatory basis to cover the potential exposure. If these prudent assumptions were strengthened by 5 per cent then it is estimated that post-tax profit and shareholders' equity would be decreased by approximately £61 million (2015: £43 million). Mortality and morbidity have a symmetrical effect on the portfolio and any weakening of these assumptions would have a similar equal and opposite impact.

ii Sensitivity to foreign exchange risk

Consistent with the Group's accounting policies, the profits of the Asia insurance operations are translated at average exchange rates and shareholders' equity at the closing rate for the reporting period. For 2016, the rates for the most significant operations are given in note A1.

A 10 per cent increase (strengthening of the pound sterling) or decrease (weakening of the pound sterling) in these rates would have reduced or increased profit before tax attributable to shareholders, profit for the year and shareholders' equity, excluding goodwill attributable to Asia operations respectively as follows:

	A 10% increase in local currency to £ exchange rates		A 10% decrease in local currency to £ exchange rates	
	2016 £m	2015 £m	2016 £m	2015 £m
Profit before tax attributable to shareholders	(97)	(94)	118	115
Profit for the year	(77)	(79)	94	97
Shareholders' equity, excluding goodwill, attributable to Asia operations	(442)	(367)	540	449

C7.3 US insurance operations

Exposure and sensitivity of IFRS basis profit and shareholders' equity to market and other risks

At the level of operating profit based on longer-term investment returns, Jackson's results are sensitive to market conditions to the extent of income earned on spread-based products and indirectly in respect of variable annuity asset management fees.

Jackson's main exposures are to market risk through its exposure to interest rate risk and equity risk. Approximately 91 per cent (2015: 92 per cent) of its general account investments support fixed interest rate and fixed index annuities, variable annuity fixed account deposits and guarantees, life business and surplus, and 9 per cent (2015: 8 per cent) support institutional businesses. All of these types of business contain considerable interest rate guarantee features and, consequently, require that the assets that support them are primarily fixed income or fixed maturity.

Jackson is exposed primarily to the following risks:

Risks	Risk of loss
Equity risk	— Related to the incidence of benefits related to guarantees issued in connection with its variable annuity contracts; and — Related to meeting contractual accumulation requirements in fixed index annuity contracts.
Interest rate risk	— Related to meeting guaranteed rates of accumulation on fixed annuity products following a sharp and sustained fall in interest rates; — Related to increases in the present value of projected benefits related to guarantees issued in connection with its variable annuity contracts following a sharp and sustained fall in interest rates in conjunction with a fall in equity markets; — Related to the surrender value guarantee features attached to the company's fixed annuity products and to policyholder withdrawals following a sharp and sustained increase in interest rates; and — The risk of mismatch between the expected duration of certain annuity liabilities and prepayment risk and extension risk inherent in mortgage-backed securities.

Jackson's derivative programme is used to manage interest rate risk associated with a broad range of products and equity market risk attaching to its equity-based products. Movements in equity markets, interest rates and credit spreads materially affect the carrying value of derivatives that are used to manage the liabilities to policyholders and backing investment assets. Combined with the use of US GAAP measurement (as 'grandfathered' under IFRS 4) for the insurance contracts assets and liabilities which is largely insensitive to current period market movements, the Jackson total profit (ie including short-term fluctuations in investment returns) is sensitive to market movements. In addition to these effects, the Jackson shareholders' equity is sensitive to the impact of interest rate and credit spread movements on the value of fixed income securities. Movements in unrealised appreciation on these securities are included as movement in shareholders' equity (ie outside the income statement).

Jackson enters into financial derivative transactions, including those noted below to reduce and manage business risks. These transactions manage the risk of a change in the value, yield, price, cash flows or quantity of, or a degree of exposure with respect to assets, liabilities or future cash flows, which Jackson has acquired or incurred.

Jackson uses free-standing derivative instruments for hedging purposes. Additionally, certain liabilities, primarily trust instruments supported by funding agreements, fixed index annuities, certain variable annuity features and reinsured Guaranteed Minimum Income Benefit variable annuity features contain embedded derivatives as defined by IAS 39, 'Financial Instruments: Recognition and Measurement'. Jackson does not account for such derivatives as either fair value or cash flow hedges as might be permitted if the specific hedge documentation requirements of IAS 39 were followed. Financial derivatives, including derivatives embedded in certain host liabilities that have been separated for accounting and financial reporting purposes are carried at fair value.

The principal types of derivatives used by Jackson and their purpose are as follows:

Derivative	**Purpose**
Interest rate swaps	These generally involve the exchange of fixed and floating payments over the period for which Jackson holds the instrument without an exchange of the underlying principal amount. These agreements are used for hedging purposes.
Swaption contracts	These contracts provide the purchaser with the right, but not the obligation, to require the writer to pay the present value of a long-duration interest rate swap at future exercise dates. Jackson both purchases and writes swaptions in order to hedge against significant movements in interest rates.
Treasury futures contracts	These derivatives are used to hedge Jackson's exposure to movements in interest rates.
Equity index futures contracts and equity index options	These derivatives (including various call and put options and interest rate contingent options) are used to hedge Jackson's obligations associated with its issuance of certain VA guarantees. Some of these annuities and guarantees contain embedded options that are fair valued for financial reporting purposes.
Cross-currency swaps	Cross-currency swaps, which embody spot and forward currency swaps and additionally, in some cases, interest rate swaps and equity index swaps, are entered into for the purpose of hedging Jackson's foreign currency denominated funding agreements supporting trust instrument obligations.
Credit default swaps	These swaps represent agreements under which Jackson has purchased default protection on certain underlying corporate bonds held in its portfolio. These contracts allow Jackson to sell the protected bonds at par value to the counterparty if a default event occurs, in exchange for periodic payments made by Jackson for the life of the agreement. Jackson does not write default protection using credit derivatives.

The estimated sensitivity of Jackson's profit and shareholders' equity to equity and interest rate risks provided below is net of the related changes in amortisation of DAC. The effect on the related changes in amortisation of DAC provided is based on the current 'grandfathered' US GAAP DAC basis but does not include any effect from an acceleration or deceleration of amortisation of DAC.

C7 Risk and sensitivity analysis continued

C7.3 US insurance operations continued

i Sensitivity to equity risk

At 31 December 2016 and 2015, Jackson had variable annuity contracts with guarantees, for which the net amount at risk ('NAR') is defined as the amount of guaranteed benefit in excess of current account value, as follows:

31 December 2016	Minimum return	Account value £m	Net amount at risk £m	Weighted average attained age	Period until expected annuitisation
Return of net deposits plus a minimum return					
GMDB	0-6%	93,512	2,483	65.6 years	
GMWB – premium only	0%	2,217	39		
GMWB*	0-5%†	256	22		
GMAB – premium only	0%	44	–		
Highest specified anniversary account value minus withdrawals post-anniversary					
GMDB		8,798	346	66.0 years	
GMWB – highest anniversary only		2,479	125		
GMWB*		747	83		
Combination net deposits plus minimum return, highest specified anniversary account value minus withdrawals post-anniversary					
GMDB	0-6%	5,309	699	68.7 years	
GMIB‡	0-6%	1,595	595		0.5 years
GMWB*	0-8%†	85,402	9,293		

31 December 2015	Minimum return	Account value £m	Net amount at risk £m	Weighted average attained age	Period until expected annuitisation
Return of net deposits plus a minimum return					
GMDB	0-6%	70,732	2,614	65.3 years	
GMWB – premium only	0%	1,916	56		
GMWB*	0-5%†	229	23		
GMAB – premium only	0%	45	–		
Highest specified anniversary account value minus withdrawals post-anniversary					
GMDB		7,008	587	65.4 years	
GMWB – highest anniversary only		2,025	202		
GMWB*		698	101		
Combination net deposits plus minimum return, highest specified anniversary account value minus withdrawals post-anniversary					
GMDB	0-6%	4,069	640	68.3 years	
GMIB‡	0-6%	1,422	518		0.5 years
GMWB*	0-8%†	63,924	7,758		

* Amounts shown for GMWB comprise sums for the 'not for life' portion (where the guaranteed withdrawal base less the account value equals to the net amount at risk (NAR)), and a 'for life' portion (where the NAR has been estimated as the present value of future expected benefit payment remaining after the amount of the 'not for life' guaranteed benefits is zero).
† Ranges shown based on simple interest. The upper limits of 5 per cent or 8 per cent simple interest are approximately equal to 4.1 per cent and 6 per cent respectively, on a compound interest basis over a typical 10-year bonus period. For example 1 + 10 x 0.05 is similar to 1.04 growing at a compound rate of 4 per cent for a further nine years.
‡ The GMIB reinsurance guarantees are essentially fully reinsured.

Account balances of contracts with guarantees were invested in variable separate accounts as follows:

	2016 £m	2015 £m
Mutual fund type:		
Equity	73,430	55,488
Bond	15,044	11,535
Balanced	17,441	13,546
Money market	994	832
Total	106,909	81,401

As noted above, Jackson is exposed to equity risk through the options embedded in the fixed index annuity liabilities and guarantees included in certain variable annuity benefits as illustrated above. This risk is managed using an equity hedging programme to minimise the risk of a significant economic impact as a result of increases or decreases in equity market levels, while taking advantage of naturally offsetting exposures in Jackson's operations. Jackson purchases external futures and options that hedge the risks inherent in these products, while also considering the impact of rising and falling guaranteed benefit fees.

As a result of this hedging programme, if the equity markets were to increase further in the future, the net effect of Jackson's free-standing derivatives would decrease in value. However, over time, this movement would be broadly offset by increased separate account fees and reserve decreases, net of the related changes to amortisation of deferred acquisition costs. Due to the nature of the free-standing and embedded derivatives, this hedge, while highly effective on an economic basis, may not completely mute in the financial reporting the immediate impact of equity market movements as the free-standing derivatives reset immediately while the hedged liabilities reset more slowly and fees are recognised prospectively. The opposite impact would be observed if the equity markets were to decrease.

In addition to the exposure explained above, Jackson is also exposed to equity risk from its holding of equity securities, partnerships in investment pools and other financial derivatives.

At 31 December 2016, the estimated sensitivity of Jackson's profit and shareholders' equity to immediate increases and decreases in equity markets is shown below. The sensitivities are shown net of related changes in DAC amortisation.

	2016 £m				2015 £m			
	Decrease		Increase		Decrease		Increase	
	of 20%	of 10%	of 20%	of 10%	of 20%	of 10%	of 20%	of 10%
Pre-tax profit, net of related changes in amortisation of DAC	1,061	488	370	59	738	259	(86)	(128)
Related deferred tax effects	(371)	(171)	(129)	(21)	(258)	(91)	30	45
Net sensitivity of profit after tax and shareholders' equity	690	317	241	38	480	168	(56)	(83)

Note

The table above has been prepared to exclude the impact of the instantaneous equity movements on the separate account fees. In addition, the sensitivity movements shown include those relating to the fixed index annuity and the reinsurance of GMIB guarantees.

The above table provides sensitivity movements, at a point in time, while the actual impact on financial results would vary contingent upon the volume of new product sales and lapses, changes to the derivative portfolio, correlation of market returns and various other factors including volatility, interest rates and elapsed time.

The directional movements in the sensitivities reflect the hedging programme in place at 31 December 2016 and 2015.

C7 Risk and sensitivity analysis continued

C7.3 US insurance operations continued

ii Sensitivity to interest rate risk

Except in the circumstances of interest rate scenarios where the guarantee rates included in contract terms are higher than crediting rates that can be supported from assets held to cover liabilities, the accounting measurement of fixed annuity liabilities of Jackson's products is not generally sensitive to interest rate risk. This position derives from the nature of the products and the US GAAP basis of measurement. The GMWB features attached to variable annuity business (other than 'for life' components) are accounted for as embedded derivatives which are fair valued and, therefore, will be sensitive to changes in interest rate.

Debt securities and related derivatives are marked to fair value. Value movements on derivatives, again net of related changes to amortisation of DAC and deferred tax, are recorded within the income statement. Fair value movements on debt securities, net of related changes to amortisation of DAC and deferred tax, are recorded within other comprehensive income. The estimated sensitivity of these items and policyholder liabilities to a 1 per cent and 2 per cent decrease and increase in interest rates at 31 December 2016 and 2015 is as follows:

	2016 £m				2015 £m			
	Decrease		Increase		Decrease		Increase	
	of 2%	of 1%	of 1%	of 2%	of 2%	of 1%	of 1%	of 2%
Profit and loss:								
Pre-tax profit effect (net of related changes in amortisation of DAC)	(2,899)	(1,394)	1,065	2,004	(1,776)	(847)	628	1,120
Related effect on charge for deferred tax	1,015	488	(373)	(701)	621	296	(220)	(392)
Net profit effect	(1,884)	(906)	692	1,303	(1,155)	(551)	408	728
Other comprehensive income:								
Direct effect on carrying value of debt securities (net of related changes in amortisation of DAC)	3,364	1,883	(1,883)	(3,364)	3,167	1,782	(1,782)	(3,167)
Related effect on movement in deferred tax	(1,177)	(659)	659	1,177	(1,108)	(624)	624	1,108
Net effect	2,187	1,224	(1,224)	(2,187)	2,059	1,158	(1,158)	(2,059)
Total net effect on shareholders' equity	303	318	(532)	(884)	904	607	(750)	(1,331)

These sensitivities are shown only for interest rates in isolation and do not include other movements in credit risk that may affect credit spreads and valuations of debt securities. Similar to sensitivity to equity risk, the sensitivity movements provided in the table above are at a point in time and reflect the hedging programme in place on the balance sheet date, while the actual impact on financial results would vary contingent upon a number of factors.

iii Sensitivity to foreign exchange risk

Consistent with the Group's accounting policies, the profits of the Group's US operations are translated at average exchange rates and shareholders' equity at the closing rate for the reporting period. For 2016, the average and closing rates were US$1.35 (2015: $1.53) and US$1.24 (2015: US$1.47) to £1.00 sterling, respectively. A 10 per cent increase (weakening of the dollar) or decrease (strengthening of the dollar) in these rates would reduce or increase profit before tax attributable to shareholders, profit for the year and shareholders' equity attributable to US insurance operations respectively, as follows:

	A 10% increase in US$:£ exchange rates		A 10% decrease in US$:£ exchange rates	
	2016 £m	2015 £m	2016 £m	2015 £m
Profit before tax attributable to shareholders	(48)	(109)	59	133
Profit for the year	(54)	(87)	66	107
Shareholders' equity attributable to US insurance operations	(473)	(378)	578	462

iv Other sensitivities

The total profit of Jackson is sensitive to market risk on the assets covering liabilities other than variable annuity business segregated in the separate accounts.

For term business, acquisition costs are deferred and amortised in line with expected premiums. For annuity and interest-sensitive life business, acquisition costs are deferred and amortised in line with expected gross profits on the relevant contracts. For interest-sensitive business, the key assumption is the expected long-term spread between the earned rate and the rate credited to policyholders, which is based on an annual spread analysis. In addition, expected gross profits depend on mortality assumptions, assumed unit costs and terminations other than deaths (including the related charges), all of which are based on a combination of actual experience of Jackson, industry experience and future expectations. A detailed analysis of actual experience is measured by internally developed expense, mortality and persistency studies.

Except to the extent of mortality experience, which primarily affects profits through variations in claim payments and GMDB reserves, the profits of Jackson are relatively insensitive to changes in insurance risk.

Jackson is sensitive to lapse risk and other types of policyholder behaviour, such as the take-up of its GMWB product features. Jackson's persistency assumptions reflect a combination of recent past experience for each relevant line of business and expert judgement, especially where a lack of relevant and credible experience data exists. In the absence of hedging, equity and interest rate movements can both cause a loss directly and cause an increased future sensitivity to policyholder behaviour. Jackson has an extensive derivative programme that seeks to manage the exposure to such altered equity markets and interest rates.

For variable annuity business, the key assumption is the expected long-term level of separate account returns, which, for 2016, was 7.4 per cent (2015: 7.4 per cent). The impact of using this return is reflected in two principal ways, namely:

— Through the projected expected gross profits that are used to determine the amortisation of deferred acquisition costs. This is applied through the use of a mean reversion technique which is described in more detail in note A3.1 above; and
— The required level of provision for claims for guaranteed minimum death, 'for life' withdrawal, and income benefits.

C7.4 UK insurance operations

Exposure and sensitivity of IFRS basis profit and shareholders' equity to market and other risks

The IFRS basis results of the UK insurance operations are most sensitive to asset/liability matching, mortality and default rate experience and longevity assumptions and the difference between the return on corporate bond and risk-free rate for shareholder-backed annuity business of the PAC non-profit sub-fund. Further details are described below.

The IFRS operating profit based on longer-term investment returns for UK insurance operations is sensitive to changes in longevity assumptions affecting the carrying value of liabilities to policyholders for UK shareholder-backed annuity business. At the total IFRS profit level, the result is particularly sensitive to temporary value movements on assets backing the capital of the shareholder-backed annuity business.

With-profits business

With-profits sub-fund business

The shareholder results of the UK with-profits business (including non-participating annuity business of the with-profits sub-fund) are only sensitive to market risk through the indirect effect of investment performance on declared policyholder bonuses.

The investment assets of PAC with-profits funds are subject to market risk. Changes in their carrying value, net of related changes to asset-share liabilities of with-profits contracts, affect the level of unallocated surplus of the fund. Therefore, the level of unallocated surplus is particularly sensitive to the level of investment returns on the portion of the assets that represents surplus. However, as unallocated surplus is accounted for as a liability under IFRS, movements in its value do not affect shareholders' profit and equity.

The shareholder results of the UK with-profits fund correspond to the shareholders' share of the cost of bonuses declared on the with-profits business, which is currently one-ninth of the cost of bonuses declared. Investment performance is a key driver of bonuses, and hence the shareholders' share of the cost of bonuses. Due to the 'smoothed' basis of bonus declaration, the sensitivity to investment performance in a single year is low relative to movements in the period to period performance. However, over multiple periods, it is important as it may affect future expected shareholder transfers. Altered persistency trends may affect future expected shareholder transfers.

C7 Risk and sensitivity analysis continued

C7.4 UK insurance operations continued

Shareholder-backed annuity business

Profits from shareholder-backed annuity business are most sensitive to:

— The extent to which the duration of the assets held closely matches the expected duration of the liabilities under the contracts;
— Actual versus expected default rates on assets held;
— The difference between long-term rates of return on corporate bonds and risk-free rates;
— The variance between actual and expected mortality experience;
— The extent to which changes to the assumed rate of improvements in mortality give rise to changes in the measurement of liabilities; and
— Changes in renewal expense levels.

In addition, the level of profit is affected by change in the level of reinsurance cover.

A decrease in assumed mortality rates of 1 per cent would decrease pre-tax profit by approximately £67 million (2015: £67 million). A decrease in credit default assumptions of five basis points would increase pre-tax profit by £200 million (2015: £176 million). A decrease in renewal expenses (excluding asset management expenses) of 5 per cent would increase pre-tax profit by £41 million (2015: £35 million). The effect on profit would be approximately symmetrical for changes in assumptions that are directionally opposite to those explained above. The net effect on profit after tax and shareholders' equity from all the changes in assumptions as described above would be an increase of approximately £144 million (2015: £115 million).

Unit-linked and other business

Unit-linked and other business represents a comparatively small proportion of the in-force business of the UK insurance operations.

Due to the matching of policyholder liabilities to attaching asset value movements, the UK unit-linked business is not directly affected by market or credit risk. The liabilities of the other business are also broadly insensitive to market risk. Profits from unit-linked and similar contracts primarily arise from the excess of charges to policyholders for management of assets, over expenses incurred. The former is most sensitive to the net accretion of funds under management as a function of new business and lapse and timing of death. The accounting impact of the latter is dependent upon the amortisation of acquisition costs in line with the emergence of margins (for insurance contracts) and amortisation in line with service provision (for the investment management component of investment contracts). By virtue of the design features of most of the contracts which provide low levels of mortality cover, the profits are relatively insensitive to changes in mortality experience.

Sensitivity to interest rate risk and other market risk

By virtue of the fund structure, product features and basis of accounting, the policyholder liabilities of the UK insurance operations are, except annuity business, not generally exposed to interest rate risk. At 31 December 2016, annuity liabilities accounted for 98 per cent (2015: 98 per cent) of UK shareholder-backed business liabilities. For annuity business, liabilities are exposed to interest rate risk. However, the net exposure is very substantially ameliorated by virtue of the close matching of assets with appropriate duration. The level of matching from period to period can vary depending on management actions and economic factors so it is possible for a degree of mis-matching profits or losses to arise.

The close matching by the Group of assets of appropriate duration to annuity liabilities is based on maintaining economic and regulatory capital. The measurement of liabilities under Solvency II reporting requirements and IFRS are not the same with additional assets used for the IFRS annuity liabilities. As a result, IFRS has a different sensitivity to interest rate and credit risk than under Solvency II.

The estimated sensitivity of the UK non-linked shareholder-backed business (principally annuities business) to a movement in interest rates is as follows:

	2016 £m				2015 £m			
	A decrease of 2%	A decrease of 1%	An increase of 1%	An increase of 2%	A decrease of 2%	A decrease of 1%	An increase of 1%	An increase of 2%
Carrying value of debt securities and derivatives	12,353	5,508	(4,527)	(8,313)	10,862	4,812	(3,935)	(7,219)
Policyholder liabilities	(10,023)	(4,466)	3,636	6,635	(8,738)	(3,909)	3,208	5,872
Related deferred tax effects	(396)	(177)	151	285	(402)	(172)	138	257
Net sensitivity of profit after tax and shareholders' equity	1,934	865	(740)	(1,393)	1,722	731	(589)	(1,090)

In addition, the shareholder-backed portfolio of UK non-linked insurance operations covering liabilities and shareholders' equity includes equity securities and investment properties. Excluding any second order effects on the measurement of the liabilities for future cash flows to the policyholder, a fall in their value would have given rise to the following effects on pre-tax profit, profit after tax and shareholders' equity.

	2016 £m		2015 £m	
	A decrease of 20%	A decrease of 10%	A decrease of 20%	A decrease of 10%
Pre-tax profit	(326)	(163)	(327)	(163)
Related deferred tax effects	66	33	66	33
Net sensitivity of profit after tax and shareholders' equity	(260)	(130)	(261)	(130)

A 10 or 20 per cent increase in their value would have an approximately equal and opposite effect on profit and shareholders' equity to the sensitivities shown above. The market risk sensitivities shown above reflect the impact of temporary market movements, and therefore, the primary effect of such movements would, in the Group's segmental analysis of profits, be included within the short-term fluctuations in investment returns.

C7.5 Asset management and other operations

a Asset management

i Sensitivities to foreign exchange risk

Consistent with the Group's accounting policies, the profits of Eastspring Investments and US asset management operations are translated at average exchange rates and shareholders' equity at the closing rate for the reporting period. The rates for the functional currencies of most significant operations are shown in note A1.

A 10 per cent increase in the relevant exchange rates (strengthening of the pound sterling) would have reduced reported profit before tax attributable to shareholders and shareholders' equity, excluding goodwill attributable to Eastspring Investments and US asset management operations, by £12 million and £47 million respectively (2015: £11 million and £38 million, respectively).

ii Sensitivities to other financial risks for asset management operations

The principal sensitivities to other financial risk of asset management operations are credit risk on the bridging loan portfolio of the Prudential Capital operation and the indirect effect of changes to market values of funds under management. Due to the nature of the asset management operations there is limited direct sensitivity to movements in interest rates. Total debt securities held at 31 December 2016 by asset management operations were £2,359 million (2015: £2,204 million), the majority of which are held by the Prudential Capital operation. Debt securities held by Prudential Capital are in general variable rate bonds and so market value is limited in sensitivity to interest rate movements and consequently, any change in interest rates would not have a material impact on profit or shareholders' equity. The Group's asset management operations do not hold significant investments in property or equities.

b Other operations

The Group holds certain derivatives that are used to manage foreign currency movements and macroeconomic exposures. The fair value of these derivatives is sensitive to the combined effect of movements in exchange rates, interest rates and inflation rates. The possible permutations cover a wide range of scenarios. For indicative purposes, a reasonably possible range of fair value movements could be plus or minus £150 million.

C8 Tax assets and liabilities

C8.1 Deferred tax

The statement of financial position contains the following deferred tax assets and liabilities in relation to:

	Deferred tax assets		Deferred tax liabilities	
	2016 £m	**2015** £m	**2016** £m	**2015** £m
Unrealised losses or gains on investments	23	21	(1,534)	(1,036)
Balances relating to investment and insurance contracts	1	1	(730)	(543)
Short-term temporary differences	4,196	2,752	(3,071)	(2,400)
Capital allowances	16	10	(35)	(31)
Unused tax losses	79	35	–	–
Total	4,315	2,819	(5,370)	(4,010)

Of the short-term temporary differences of £4,196 million, £3,843 million relating to the US insurance operations is expected to be recovered in line with the run-off of the in-force book, and the remaining balances of the £353 million are expected to be recovered within 10 years.

The deferred tax asset at 31 December 2016 and 2015 arises in the following parts of the Group:

	2016 £m	**2015** £m
Asia insurance operations	98	66
US insurance operations	3,861	2,448
UK insurance operations	146	132
Other operations	210	173
Total	4,315	2,819

Deferred tax assets are recognised to the extent that they are regarded as recoverable, that is on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits from which the future reversal of the underlying temporary differences can be deducted.

The taxation regimes applicable across the Group often apply separate rules to trading and capital profits and losses. The distinction between temporary differences that arise from items of either a trading or capital nature may affect the recognition of deferred tax assets. For the 2016 full year results and financial position at 31 December 2016, the following tax benefits have not been recognised:

	2016		2015	
	Tax benefit £m	**Losses** £bn	**Tax benefit** £m	**Losses** £bn
Capital losses	89	0.4	98	0.5
Trading losses	41	0.2	52	0.3

Of the unrecognised trading losses, losses of £31 million will expire within the next seven years, £1 million will expire within 20 years and the rest have no expiry date.

Under IAS 12, 'Income Taxes', deferred tax is measured at the tax rates that are expected to apply to the period when the asset is realised or the liability settled, based on the tax rates (and laws) that have been enacted or are substantively enacted at the end of the reporting period.

The reduction in the UK corporation tax rate to 17 per cent from 1 April 2020 was substantively enacted on 6 September 2016, and has had the effect of reducing the UK with-profits and shareholder-backed business element of the overall net deferred tax liabilities by £5 million as at 31 December 2016. The effects of these changes are reflected in the financial statements for the year ended 31 December 2016.

C8.2 Current tax

Of the £440 million (2015: £477 million) current tax recoverable, the majority is expected to be recovered in one year or less. The current tax recoverable includes £112 million in relation to the ongoing litigation relating to the historic tax treatment of dividends received from overseas portfolio investments of life insurance companies. PAC is the test case for this litigation. In April 2016, the UK Court of Appeal found in PAC's favour on all substantive points in the litigation. HM Revenue & Customs have been granted permission to appeal the Court of Appeal's judgment to the Supreme Court. The Supreme Court hearing has not yet been scheduled. However, it is expected to be at some time in 2018.

The current tax liability increased to £649 million (2015: £325 million) due to positive market movements in the UK insurance operations.

C9 Defined benefit pension schemes

(a) Background and summary economic and IAS 19 financial positions

The Group's businesses operate a number of pension schemes. The specific features of these schemes vary in accordance with the regulations of the country in which the employees are located, although they are, in general, funded by the Group and based either on a cash balance formula or on years of service and salary earned in the last year or years of employment. The largest defined benefit scheme is the principal UK scheme, namely the Prudential Staff Pension Scheme (PSPS). PSPS accounts for 82 per cent (2015: 84 per cent) of the underlying scheme liabilities of the Group's defined benefit schemes.

The Group also operates two smaller UK defined benefit schemes in respect of Scottish Amicable (SASPS) and M&G (M&GGPS). In addition, there are two small defined benefit schemes in Taiwan which have negligible deficits.

Under the IAS 19, 'Employee Benefits' valuation basis, the Group applies the principles of IFRIC 14, 'IAS 19 – The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction', whereby a surplus is only recognised to the extent that the Company is able to access the surplus either through an unconditional right of refund to the surplus or through reduced future contributions relating to ongoing service, which have been substantively enacted or contractually agreed. Further, the IFRS financial position recorded, reflects the higher of any underlying IAS 19 deficit and any obligation for committed deficit funding where applicable.

The Group asset/liability in respect of defined benefit pension schemes is as follows:

	2016 £m					2015 £m				
	PSPS note (i)	SASPS note (ii)	M&GGPS	Other schemes	Total	PSPS note (i)	SASPS note (ii)	M&GGPS	Other schemes	Total
Underlying economic surplus (deficit)	717	(237)	84	(1)	563	969	(82)	75	(1)	961
Less: unrecognised surplus note (i)	(558)	–	–	–	(558)	(800)	–	–	–	(800)
Economic surplus (deficit) (including investment in Prudential insurance policies)	159	(237)	84	(1)	5	169	(82)	75	(1)	161
Attributable to:										
PAC with-profits fund	111	(95)	–	–	16	118	(33)	–	–	85
Shareholder-backed operations	48	(142)	84	(1)	(11)	51	(49)	75	(1)	76
Consolidation adjustment against policyholder liabilities for investment in Prudential insurance policies note (iii)	–	–	(134)	–	(134)	–	–	(77)	–	(77)
IAS 19 pension asset (liability) on the Group statement of financial position note (iv)	159	(237)	(50)	(1)	(129)	169	(82)	(2)	(1)	84

Notes

(i) For PSPS, the Group does not have an unconditional right of refund to any surplus of the scheme. The PSPS pension asset represents the present value of the economic benefit (impact) of the Company from the difference between future ongoing contributions to the scheme and estimated accrued cost of service. No deficit or other funding is required for PSPS. Deficit funding, where applicable, is apportioned in the ratio of 70/30 between the PAC with-profits fund and shareholder-backed operations following detailed considerations in 2005 of the sourcing of previous contributions. Employer contributions for ongoing service of current employees are apportioned in the ratio relevant to current activity.

(ii) The deficit of SASPS has been allocated 40 per cent to the PAC with-profits fund and 60 per cent to the shareholders' fund as at 31 December 2016 and 2015.

(iii) The underlying position on an economic basis reflects the assets (including investments in Prudential insurance policies that are offset against liabilities to policyholders on the Group consolidation) and the liabilities of the schemes.

(iv) At 31 December 2016, the PSPS pension asset of £159 million (2015: £169 million) and the other schemes' pension liabilities of £288 million (2015: £85 million) are included within 'Other debtors' and 'Provisions' respectively on the consolidated statement of financial position.

C9 Defined benefit pension schemes continued

(a) Background and summary economic and IAS 19 financial positions continued

Triennial actuarial valuations

Defined benefit pension schemes in the UK are generally required to be subject to full actuarial valuations every three years in order to assess the appropriate level of funding for schemes in relation to their commitments. These valuations include assessments of the likely rate of return on the assets held within the separate trustee administered funds.

The information on the latest completed actuarial valuation for the UK schemes is shown in the table below:

	PSPS	SASPS	M&GGPS
Last completed actuarial valuation date	5 April 2014	31 March 2014	31 December 2014
Valuation actuary, all Fellows of the Institute and Faculty of Actuaries	C G Singer Towers Watson Limited	Jonathan Seed Xafinity Consulting	Paul Belok AON Hewitt Limited
Funding level at the last valuation	107 per cent	78 per cent	99 per cent
Deficit funding arrangement agreed with the Trustees based on the last valuation	No deficit or other funding required. Ongoing contributions for active members are at the minimum level required under the scheme rules (approximately £6 million per annum excluding expenses)	Deficit funding of £21 million per annum from 1 January 2015 until 31 March 2024, or earlier if the scheme's funding level reaches 100 per cent before this date. The deficit funding will be reviewed every three years at subsequent valuations	No deficit funding required from 1 January 2016

For PSPS, the market value of the scheme assets as at the 5 April 2014 valuation was £6,165 million. The actuarial assumptions used in determining benefit obligations and the net periodic benefit costs for the purposes of the 2014 valuation were as follows:

	%
Rate of increase in salaries	Nil
Rate of inflation:	
Retail Prices Index (RPI)	3.5
Consumer Prices Index (CPI)	2.8
Rate of increase of pensions in payment for inflation:	
Guaranteed (maximum 5%)	2.8
Guaranteed (maximum 2.5%)	2.5
Discretionary	Nil
Expected returns on plan assets	3.3

Mortality assumptions:

The tables used for PSPS pensions in payment at 5 April 2014 were:

Base post-retirement mortality

For current male (female) pensioners 113 per cent (108 per cent) of the mortality rates of the 2000 series mortality tables (PNMA00/PNFA00), published by the Continuous Mortality Investigation Bureau (CMI).

For male (female) non-pensioners 107 per cent (92 per cent) of the 2000 series rates (PNMA00/PNFA00).

Allowance for future improvements to post-retirement mortality

For males (females) up to 2009 100 per cent (75 per cent) of Medium Cohort subject to a minimum rate of improvement of 2.00 per cent per annum (1.25 per cent per annum) up to age 90, decreasing linearly to zero by age 120. From 2010 onwards, in line with the CMI's 2009 projection model with a long-term rate of 1.75 per cent per annum (1.50 per cent per annum), and minor scheme-specific calibrations.

Risks to which the defined benefit schemes expose the Group

Responsibility of making good of any deficit that may arise in the schemes lies with the employers of the schemes, which are subsidiaries of the Group. Accordingly, the pension schemes expose the Group to a number of risks, the most significant of which are interest rate and investment risk, inflation risk and mortality risk.

Corporate governance

The Group's UK pension schemes are regulated by 'The Pension Regulator' in accordance with the Pension Act 1995. Trustees have been appointed for each pension scheme and they have the ultimate responsibility to ensure that the scheme is managed in accordance with the Trust Deed & Rules.

All of the three Group's UK defined benefit pension schemes (the PSPS, SASPS and M&GGPS) are final salary schemes, which are closed to new entrants.

The Trustee of each scheme sets the general investment policy and specifies any restrictions on types of investment and the degrees of divergence permitted from the benchmark, but delegates the responsibility for selection and realisation of specific investments to the Investment Managers. The Trustee consults the Principal Employer (eg The Prudential Assurance Company for PSPS), on the investment principles, but the ultimate responsibility for the investment of the assets of the scheme lies with the Trustee.

The Trustee of each of the schemes manages the investment strategy of the scheme to achieve an acceptable balance between investing in the assets that most closely match the expected benefit payments and assets that are expected to achieve a greater return, in the hope of reducing the contributions required or providing additional benefits to members.

The PSPS scheme has entered into a derivatives-based strategy to match the duration and inflation profile of its liabilities. This involved a reallocation from other investments to other assets with an interest and inflation swap overlay. As at 31 December 2016, the nominal value of the interest and inflation-linked swaps amounted to £0.8 billion (2015: £0.7 billion) and £5.0 billion (2015: £3.4 billion) respectively. The SASPS and M&GGPS use very limited or no derivatives to manage their risks.

(b) Assumptions

The actuarial assumptions used in determining benefit obligations and the net periodic benefit costs for the years ended 31 December were as follows:

	2016 %	2015 %
Discount rate*	2.6	3.8
Rate of increase in salaries	3.2	3.0
Rate of inflation†		
Retail Prices Index (RPI)	3.2	3.0
Consumer Prices Index (CPI)	2.2	2.0
Rate of increase of pensions in payment for inflation:		
PSPS:		
Guaranteed (maximum 5%)	2.5	2.5
Guaranteed (maximum 2.5%)	2.5	2.5
Discretionary	2.5	2.5
Other schemes	3.2	3.0

* The discount rate has been determined by reference to an 'AA' corporate bond index, adjusted where applicable, to allow for the difference in duration between the index and the pension liabilities.

† The rate of inflation reflects the long-term assumption for the UK RPI or CPI depending on the tranche of the schemes.

The calculations are based on current mortality estimates with an allowance made for future improvements in mortality. This allowance was updated in 2016 to reflect the CMI's 2014 mortality improvements model, with scheme-specific calibrations. For immediate annuities in payment, in 2016 and 2015, a long-term mortality improvement rate of 1.75 per cent per annum and 1.25 per cent per annum was applied for males and females, respectively.

(c) Estimated pension scheme surpluses and deficits

This section illustrates the financial position of the Group's defined benefit pension schemes on an economic basis and the IAS 19 basis.

The underlying pension position on an economic basis reflects the assets (including investments in Prudential policies that are offset against liabilities to policyholders on the Group consolidation) and the liabilities of the schemes. The IAS 19 basis excludes the investments in Prudential policies. At 31 December 2016, the investments in Prudential insurance policies comprise £134 million (2015: £77 million) for the M&GGPS and there were no investments in Prudential insurance policies for PSPS and SASPS (2015: £125 million for PSPS). In principle, on consolidation, the investments are eliminated against policyholder liabilities of UK insurance operations, so that the formal IAS 19 position for the scheme in isolation excludes these items. This treatment applies to the M&GGPS investments. However, in 2015, as a substantial portion of the Company's interest in the underlying surplus of PSPS was not recognised, the adjustment was not necessary for the PSPS investments.

C9 Defined benefit pension schemes continued

(c) Estimated pension scheme surpluses and deficits continued

Movements on the pension scheme deficit determined on the economic basis are as follows, with the effect of the application of IFRIC 14 being shown separately:

	2016 £m				
	Surplus (deficit) in schemes at 1 Jan 2016	(Charge) credit to income statement	Actuarial gains and losses in other comprehensive income	Contributions paid	Surplus (deficit) in schemes at 31 Dec 2016
All schemes					
Underlying position (without the effect of IFRIC 14)					
Surplus	961	(1)	(442)	45	563
Less: amount attributable to PAC with-profits fund	(658)	(12)	261	(16)	(425)
Shareholders' share:					
Gross of tax surplus (deficit)	303	(13)	(181)	29	138
Related tax	(60)	3	36	(6)	(27)
Net of shareholders' tax	243	(10)	(145)	23	111
Application of IFRIC 14 for the derecognition of PSPS surplus					
Derecognition of surplus	(800)	(32)	274	–	(558)
Less: amount attributable to PAC with-profits fund	573	21	(185)	–	409
Shareholders' share:					
Gross of tax	(227)	(11)	89	–	(149)
Related tax	45	2	(18)	–	29
Net of shareholders' tax	(182)	(9)	71	–	(120)
With the effect of IFRIC 14					
Surplus (deficit)	161	(33)	(168)	45	5
Less: amount attributable to PAC with-profits fund	(85)	9	76	(16)	(16)
Shareholders' share:					
Gross of tax surplus (deficit)	76	(24)	(92)	29	(11)
Related tax	(15)	5	18	(6)	2
Net of shareholders' tax	61	(19)	(74)	23	(9)

Underlying investments of the schemes

On the 'economic basis', after including the underlying assets represented by the investments in Prudential insurance policies as scheme assets, the plans' assets at 31 December comprise the following investments:

	2016				2015			
	PSPS £m	Other schemes £m	Total £m	%	PSPS £m	Other schemes £m	Total £m	%
Equities								
UK	18	85	103	1	126	70	196	3
Overseas	293	368	661	7	151	329	480	6
Bonds*								
Government	5,411	550	5,961	66	4,795	427	5,222	67
Corporate	1,169	196	1,365	15	970	145	1,115	14
Asset-backed securities	144	6	150	2	135	21	156	2
Derivatives	252	(2)	250	3	183	(5)	178	2
Properties	71	109	180	2	70	62	132	2
Other assets	269	67	336	4	298	42	340	4
Total value of assets†	7,627	1,379	9,006	100	6,728	1,091	7,819	100

* 93 per cent of the bonds are investment graded (2015: 93 per cent).
† 98 per cent of the total value of the scheme assets are derived from quoted prices in an active market (2015: 98 per cent). None of the scheme assets included shares in Prudential plc or property occupied by the Prudential Group. The IAS 19 basis plan assets at 31 December 2016 of £8,872 million (2015: £7,617 million) is different from the economic basis plan assets of £9,006 million (2015: £7,819 million) as shown above due to the exclusion of investment in Prudential insurance policies, which are eliminated on consolidation of £134 million (2015: £202 million) comprising £134 million for the M&G scheme (2015: £77 million) and nil for PSPS (2015: £125 million).

The movements in the IAS 19 pension schemes' surplus and deficit between scheme assets and liabilities as consolidated in the financial statements were:

Attributable to policyholders and shareholders

	Plan assets	Present value of benefit obligations note (i)	Net surplus (deficit) (without the effect of IFRIC 14)	Effect of IFRIC 14 for derecognition of PSPS surplus	Economic basis net surplus (deficit)	Other adjustments including for investments in Prudential insurance policies note (ii)	IAS 19 basis net deficit
2016 £m							
Net surplus (deficit), beginning of year	7,819	(6,858)	961	(800)	161	(77)	84
Current service cost		(34)	(34)		(34)		(34)
Net interest on net defined benefit liability (asset)	292	(254)	38	(32)	6	(3)	3
Administration expenses	(5)		(5)		(5)		(5)
Benefit payments	(350)	350	–		–		–
Employers' contributions note (iii)	45		45		45		45
Employees' contributions	2	(2)	–		–		–
Actuarial gains and losses note (iv)	1,203	(1,645)	(442)	274	(168)	(13)	(181)
Transfer into investment in Prudential insurance policies	–	–	–	–	–	(41)	(41)
Net surplus (deficit), end of year	9,006	(8,443)	563	(558)	5	(134)	(129)
2015 £m							
Net deficit, beginning of year	8,067	(7,312)	755	(710)	45	(132)	(87)
Current service cost		(36)	(36)		(36)		(36)
Negative past service cost		48	48		48		48
Net interest on net defined benefit liability (asset)	278	(250)	28	(26)	2	(5)	(3)
Administration expenses	(5)		(5)		(5)		(5)
Benefit payments	(301)	301	–		–		–
Employers' contributions note (iii)	56		56		56		56
Employees' contributions	2	(2)	–		–		–
Actuarial gains and losses note (iv)	(278)	393	115	(64)	51	6	57
Transfer out of investment in Prudential insurance policies	–	–	–	–	–	54	54
Net surplus (deficit), end of year	7,819	(6,858)	961	(800)	161	(77)	84

05 Financial statements

C9 Defined benefit pension schemes continued

(c) Estimated pension scheme surpluses and deficits continued

Notes

(i) Maturity profile of the benefit obligations

The weighted average duration of the benefit obligations of the schemes is 19.5 years (2015: 18.2 years).

The following table provides an expected maturity analysis of the benefit obligations as at 31 December:

	All schemes £m						
	1 year or less	After 1 year to 5 years	After 5 years to 10 years	After 10 years to 15 years	After 15 years to 20 years	Over 20 years	Total
2016	243	1,090	1,585	1,694	1,704	8,508	14,824
2015	240	1,045	1,554	1,688	1,711	8,791	15,029

(ii) The adjustments for investments in Prudential insurance policies are consolidation adjustments for intra-group assets and liabilities with no impact to operating results.

(iii) Total employer contributions expected to be paid into the Group defined benefit schemes for the year ending 31 December 2017 amount to £45 million (2016: £45 million).

(iv) The actuarial gains and losses attributable to policyholders and shareholders as shown in the table above are analysed as follows:

	2016 £m	2015 £m
Actuarial gains and losses		
Return on the scheme assets less amount included in interest income	1,203	(278)
Losses on changes in demographic assumptions	(18)	(3)
(Losses)/gains on changes in financial assumptions	(1,733)	371
Experience gains on scheme liabilities	106	25
	(442)	115
Effect of derecognition of PSPS surplus	274	(64)
Consolidation adjustment for investments in Prudential insurance policies and other adjustments	(13)	6
	(181)	57

The losses of £1,733 million in 2016 on change in financial assumptions primarily reflect the effect of the decrease in the discount rate used in determining the scheme liabilities from 3.8 per cent in 2015 to 2.6 per cent in 2016. These losses were partially offset by the increase in the return on the scheme assets, which was greater than the amount included in interest income by £1,203 million.

(d) Sensitivity of the pension scheme liabilities to key variables

The sensitivity information below is based on the core scheme liabilities and assumptions at the balance sheet date. The sensitivity is calculated based on a change in one assumption with all other assumptions being held constant. As such, interdependencies between the assumptions are excluded.

The sensitivity of the underlying pension scheme liabilities as shown above does not directly equate to the impact on the profit or loss attributable to shareholders or shareholders' equity due to the effect of the application of IFRIC 14 on PSPS and the allocation of a share of the interest in financial position of the PSPS and SASPS to the PAC with-profits fund as described above.

	Assumption applied			Impact of sensitivity on scheme liabilities on IAS 19 basis		
	2016	2015	Sensitivity change in assumption		2016	2015
Discount rate	2.6%	3.8%	Decrease by 0.2%	Increase in scheme liabilities by:		
				PSPS	3.5%	3.3%
				Other schemes	5.3%	5.0%
Discount rate	2.6%	3.8%	Increase by 0.2%	Decrease in scheme liabilities by:		
				PSPS	3.5%	3.1%
				Other schemes	5.0%	4.6%
Rate of inflation	3.2%	3.0%	RPI: Decrease by 0.2%	Decrease in scheme liabilities by:		
	2.2%	2.0%	CPI: Decrease by 0.2%	PSPS	0.6%	0.5%
			with consequent reduction in salary increases	Other schemes	4.1%	4.0%
Mortality rate			Increase life expectancy by 1 year	Increase in scheme liabilities by:		
				PSPS	3.5%	3.2%
				Other schemes	3.7%	2.8%

C10 Share capital, share premium and own shares

Issued shares of 5p each fully paid	2016 Number of ordinary shares	2016 Share capital £m	2016 Share premium £m	2015 Number of ordinary shares	2015 Share capital £m	2015 Share premium £m
At 1 January	2,572,454,958	128	1,915	2,567,779,950	128	1,908
Shares issued under share-based schemes	8,606,615	1	12	4,675,008	–	7
At 31 December	2,581,061,573	129	1,927	2,572,454,958	128	1,915

Amounts recorded in share capital represent the nominal value of the shares issued. The difference between the proceeds received on issue of shares, net of issue costs, and the nominal value of shares issued is credited to the share premium account.

At 31 December 2016, there were options outstanding under save as you earn schemes to subscribe for shares as follows:

	Number of shares to subscribe for	Share price range from	Share price range to	Exercisable by year
31 December 2016	7,068,884	466p	1,155p	2022
31 December 2015	8,795,617	288p	1,155p	2021

Transactions by Prudential plc and its subsidiaries in Prudential plc shares

The Group buys and sells Prudential plc shares ('own shares') either in relation to its employee share schemes or via transactions undertaken by authorised investment funds that the Group is deemed to control. The cost of own shares of £226 million as at 31 December 2016 (2015: £219 million) is deducted from retained earnings. The Company has established trusts to facilitate the delivery of shares under employee incentive plans. At 31 December 2016, 10.7 million (2015: 10.5 million) Prudential plc shares with a market value of £175 million (2015: £161 million) were held in such trusts, all of which are for employee incentive plans. The maximum number of shares held during 2016 was 11.2 million which was in June 2016.

The Company purchased the following number of shares in respect of employee incentive plans. The shares purchased each month are as follows:

	2016 Number of shares	2016 Share price Low £	2016 Share price High £	2016 Cost £	2015 Number of shares	2015 Share price Low £	2015 Share price High £	2015 Cost £
January	67,625	13.73	14.00	932,711	52,474	14.83	15.11	786,584
February	79,077	11.96	12.01	947,993	49,423	16.01	16.14	795,683
March	735,361	13.09	13.72	9,686,101	4,660,458	16.44	17.01	78,940,633
April	84,848	12.91	13.31	1,115,919	52,371	16.78	17.24	892,795
May	2,272,344	13.17	13.31	30,238,832	145,542	16.07	16.61	2,357,705
June	576,386	11.28	13.09	6,604,231	160,078	15.65	16.20	2,563,060
July	84,883	11.96	12.32	1,040,732	55,208	15.04	15.99	868,713
August	73,602	14.01	14.25	1,040,528	57,653	15.07	15.17	868,091
September	173,166	13.69	14.14	2,372,037	154,461	13.57	14.31	2,149,244
October	71,253	14.37	14.50	1,026,260	58,087	15.14	15.22	879,999
November	69,976	13.49	15.40	1,044,194	56,948	15.01	15.61	866,033
December	71,626	15.76	16.37	1,134,181	61,441	15.00	15.08	923,600
Total	4,360,147			57,183,719	5,564,144			92,892,140

The Group has consolidated a number of authorised investment funds where it is deemed to control these funds under IFRS. Some of these funds hold shares in Prudential plc. The total number of shares held by these funds at 31 December 2016 was 6.0 million (2015: 6.1 million) and the cost of acquiring these shares of £61 million (2015: £54 million) is included in the cost of own shares. The market value of these shares as at 31 December 2016 was £97 million (2015: £94 million). During 2016, these funds made net disposals of 77,423 Prudential shares (2015: net disposals of 1,402,697) for a net increase of £7.9 million to book cost (2015: net increase of £13 million).

All share transactions were made on an exchange other than the Stock Exchange of Hong Kong.

Other than set out above the Group did not purchase, sell or redeem any Prudential plc listed securities during 2016 or 2015.

C11 Provisions

	2016 £m	2015 £m
Provision in respect of defined benefit pension schemes: C9	288	85
Other provisions (see below)	659	519
Total provisions	947	604

Analysis of other provisions:

	2016 £m				2015 £m			
	Legal provisions	Restructuring provisions note (i)	Other provisions note (ii)	Total	Legal provisions	Restructuring provisions note (i)	Other provisions note (ii)	Total
At 1 January	12	13	494	519	9	11	487	507
Charged to income statement:								
Additional provisions	5	–	376	381	6	10	341	357
Unused amounts released	(4)	(5)	(44)	(53)	(1)	(1)	(53)	(55)
Used during the year	(7)	(1)	(214)	(222)	(3)	(7)	(275)	(285)
Exchange differences	1	–	33	34	1	–	(6)	(5)
Total at 31 December	7	7	645	659	12	13	494	519

Notes

(i) Restructuring provisions primarily relate to restructuring activities of UK insurance operations. The provisions pertain to property liabilities resulting from the closure of regional sales centres and branches and staff terminations and other transformation costs to enable streamlining of operations.

(ii) Other provisions comprise staff benefits provisions of £415 million (2015: £384 million) that are generally expected to be paid out within the next three years, provisions for onerous contracts of £20 million (2015: £31 million), other provisions of £35 million (2015: £79 million) and a provision for review of past annuity sales of £175 million (2015: £nil). Prudential has agreed with the Financial Conduct Authority (FCA) to review annuities sold without advice after 1 July 2008 to its contract-based defined contribution pension customers. The review will examine whether customers were given sufficient information about their potential eligibility to purchase an enhanced annuity, either from Prudential or another pension provider. The review is expected to commence in 2017 and last a period of three years. A provision of £175 million has been established at 31 December 2016 to cover the costs of undertaking the review and any potential redress. The ultimate amount that will be expended by the Group on the review remains uncertain. Although the Group's professional indemnity insurance may mitigate the overall financial impact of this review, with potential insurance recoveries of up to £175 million, no such recovery has been factored in the provision, in accordance with the requirements of IAS 37, 'Provisions, Contingent Liabilities and Contingent Assets'.

C12 Capital

(a) Group objectives, policies and processes for managing capital

(i) Capital measure

The Group manages its Group Solvency II own funds as its measure of capital. At 31 December 2016, estimated Group Solvency II Own Funds were £24.8 billion.

(ii) External capital requirements

From 1 January 2016, Solvency II is the Group's consolidated capital regime. Solvency II is a risk-based solvency framework required under the European Solvency II Directive as implemented by the Prudential Regulatory Authority in the UK. The Solvency II surplus represents the aggregated capital held by the Group less solvency capital requirements.

(iii) Meeting of capital management objectives

The Group solvency capital requirement has been met during 2016.

As well as holding sufficient capital to meet Solvency II requirements at Group level, the Group also closely manages the cash it holds within its central holding companies so that it can:

a) Maintain flexibility, fund new opportunities and absorb shock events
b) Fund dividends
c) Cover central costs and debt payments

More details on holding company cash flows and balances are given in the section II(a) of the additional unaudited financial information.

While the Group at a consolidated level is subject to the Solvency II requirements, at a business unit level capital is defined by local capital regulations and local business needs.

Each of the Group's long-term business operations is capitalised to a sufficiently strong level for its individual circumstances.

The Group manages its assets, liabilities and capital locally, in accordance with local regulatory requirements and reflecting the different types of liabilities in each business. As a result of the diversity of products offered by Prudential and the different regulatory regimes under which it operates, the Group employs differing methods of asset/liability and capital management, depending on the business concerned.

Stochastic modelling of assets and liabilities is undertaken in the UK, US and Asia to assess the economic capital requirements. A stochastic approach models the inter-relationship between asset and liability movements, taking into account asset correlation, management actions and policyholder behaviour under a large number of alternative economic scenarios.

In addition, reserve adequacy testing under a range of scenarios and dynamic solvency testing is carried out, including under certain scenarios mandated by the UK, US and Asian regulators.

The sensitivity of liabilities and other components of total capital vary depending upon the type of business concerned and this conditions the approach to asset/liability management.

(b) Local capital regulations

The most significant local capital requirements are:

(i) Asia insurance operations

The estimated capital position for Asia life insurance operations with reconciliation to shareholders equity is shown below:

	2016 £m	**2015** £m
Group IFRS shareholders' equity	4,993	3,956
Adjustments to regulatory basis		
Unallocated surplus of with-profits funds	2,667	2,553
Deferred acquisition costs, distribution rights and goodwill of non-participating business not recognised for regulatory reporting	(1,365)	(1,301)
Other adjustments	1,627	(31)
Total adjustments	2,929	1,221
Total available capital resources of life assurance businesses on local regulatory bases	7,922	5,177

The capital requirements of material territories are:

Hong Kong

The capital requirement varies by underlying risk and duration of liabilities, but is generally determined as 4 per cent of mathematical reserves plus 0.3 per cent of the capital at risk. Mathematical reserves are based on a best estimate basis with prudent margins for adverse deviations, discounted at a valuation interest rate based on a blend between the risk-adjusted portfolio yield and reinvestment rate.

Indonesia

Solvency capital is determined using a risk-based capital approach. Insurance companies in Indonesia are expected to maintain the level of net assets above 120 per cent of solvency capital.

Malaysia

A risk-based capital framework applies in Malaysia. The local regulator has set a Supervisory Target Capital Level of 130 per cent below which supervisory actions of increasing intensity will be taken. Each insurer is also required to set its own Individual Target Capital Level to reflect its own risk profile and this is expected to be higher than the Supervisory Target Capital Level.

Singapore

A risk-based capital framework applies in Singapore. A registered insurer incorporated in Singapore is required at all times to maintain a minimum level of paid-up ordinary share capital and to ensure that its financial resources are not less than the greater of (i) the total risk requirement arising from the assets and liabilities of the insurer, calculated in accordance with the Singapore Insurance Act; or (ii) a minimum amount of 5 million Singapore Dollars. The regulator also has the authority to direct that the insurer satisfy additional capital adequacy requirements in addition to those set forth under the Singapore Insurance Act if it considers such additional requirements appropriate.

C12 Capital continued

(b) Local capital regulations continued

(ii) US insurance operations

The estimated capital position for Jackson with reconciliation to shareholders equity is shown below:

	2016 £m	2015 £m
Group IFRS shareholders' equity	5,204	4,154
Adjustments to regulatory basis		
Deferred acquisition costs, distribution rights and goodwill of non-participating business not recognised for regulatory reporting	(8,303)	(6,148)
Jackson surplus notes	202	169
Investment and policyholder liabilities valuation differences between IFRS and regulatory basis for Jackson	6,657	4,927
Other adjustments	535	364
Total adjustments	(909)	(688)
Total available capital resources of life assurance businesses on local regulatory bases	4,295	3,466

The regulatory framework for Jackson is governed by the requirements of the US NAIC approved Risk-Based Capital standards. Under these requirements life insurance companies report using a formula-based capital standard which includes components calculated by applying factors to various asset, premium and reserve items and a separate model-based component for market risk associated primarily with variable annuity products.

At 31 December 2016, Jackson had a permitted practice in effect as granted by the local regulator allowing Jackson to carry certain interest rate swaps at book value, as if statutory hedge accounting were in place, instead of at fair value as would have been otherwise required. Jackson is required to demonstrate the effectiveness of its interest rate swap programme pursuant to the Michigan Insurance Code. The total effect of this permitted practice, net of tax, was to decrease statutory surplus by £334 million at 31 December 2016.

Under the equivalence provisions of Solvency II, Jackson is incorporated into the Group's Solvency II position at a level equal to available capital in excess of 250 per cent of the US local risk-based capital requirement.

(iii) UK insurance operations

From 1 January 2016, UK insurance operations are subject to Solvency II capital requirements on an individual basis. The UK solvency capital requirement has been met during 2016.

(iv) Asset management operations – regulatory and other surplus

Certain asset management subsidiaries of the Group are subject to regulatory requirements. The movement in the year of the surplus regulatory capital position of those subsidiaries, combined with the movement in the IFRS basis shareholders' funds for unregulated asset management operations, is as follows:

	Asset management operations					
	2016 £m					2015 £m
	M&G	US	Prudential Capital	Eastspring Investments	Total	Total
Regulatory and other surplus						
Beginning of year	402	182	70	149	803	534
Gains (losses) during the year	339	8	(23)	122	446	392
Movement in capital requirement	(46)	–	–	(8)	(54)	36
Capital injection	–	–	–	–	–	4
Distributions made to the parent company	(290)	(18)	(45)	(79)	(432)	(262)
Exchange and other movements	–	33	20	20	73	99
End of year	405	205	22	204	836	803

(c) Transferability of available capital

In the UK, the Solvency II regime became effective on 1 January 2016. PAC is required to meet the Solvency II capital requirements as a company as a whole, ie covering both its ring-fenced with-profits funds and non-profit funds. Further, the surplus of the with-profits funds is ring-fenced from the shareholder balance sheet with restrictions as to its distribution. Distributions from the with-profits funds to shareholders continue to reflect the shareholders' one-ninth share of the cost of declared policyholders' bonuses.

For Jackson, capital retention is maintained at a level consistent with an appropriate rating by Standard & Poor's. Currently, Jackson is rated AA. Jackson can pay dividends on its capital stock only out of earned surplus unless prior regulatory approval is obtained. Furthermore, dividends which exceed the greater of statutory net gain from operations less net realised investments losses for the prior year or 10 per cent of Jackson's prior year end statutory surplus, excluding any increase arising from the application of permitted practices, require prior regulatory approval.

For Asia subsidiaries, the amounts retained within the companies are at levels that provide an appropriate level of capital strength in excess of the local regulatory minimum. For ring-fenced with-profits funds, the excess of assets over liabilities is retained with distribution tied to the shareholders' share of bonuses through declaration of actuarially determined surplus. The businesses in Asia may, in general, remit dividends to the UK, provided the statutory insurance fund meets the local regulatory solvency targets.

Available capital of the non-insurance business units is transferable to the life assurance businesses after taking account of an appropriate level of operating capital, based on local regulatory solvency targets, over and above basis liabilities.

C13 Property, plant and equipment

Property, plant and equipment comprise Group occupied properties and tangible assets. A reconciliation of the carrying amount of these items from the beginning of the year to the end of the year is as follows:

	2016 £m			2015 £m		
	Group occupied property	Tangible assets	Total	Group occupied property	Tangible assets	Total
At 1 January						
Cost	480	1,387	1,867	390	1,165	1,555
Accumulated depreciation	(69)	(601)	(670)	(58)	(519)	(577)
Net book amount	411	786	1,197	332	646	978
Year ended 31 December						
Opening net book amount	411	786	1,197	332	646	978
Exchange differences	50	52	102	(2)	(10)	(12)
Depreciation charge	(15)	(144)	(159)	(11)	(118)	(129)
Additions	15	333	348	40	216	256
Arising on acquisitions of subsidiaries*	–	–	–	52	84	136
Disposals and transfers	(110)	(635)	(745)	–	(32)	(32)
Closing net book amount	351	392	743	411	786	1,197
At 31 December						
Cost	439	1,077	1,516	480	1,387	1,867
Accumulated depreciation	(88)	(685)	(773)	(69)	(601)	(670)
Net book amount	351	392	743	411	786	1,197

* Arising on an acquisition made for venture fund purposes by the PAC with-profits fund.

Tangible assets

Of the £392 million of tangible assets, £247 million were held by the Group's with-profits operations, primarily by the consolidated subsidiaries for venture fund and other investment purposes of the PAC with-profits fund.

Capital expenditure: property, plant and equipment by segment

The capital expenditure of £333 million (2015: £216 million) arose as follows: £244 million in UK, £17 million in US and £61 million in Asia in insurance operations with the remaining balance of £11 million arising from asset management operations and unallocated corporate expenditure (2015: £143 million in UK, £20 million in US and £35 million in Asia in insurance operations with the remaining balance of £18 million arising from asset management operations and unallocated corporate expenditure).

C14 Investment properties

Investment properties principally relate to the PAC with-profits fund and are carried at fair value. A reconciliation of the carrying amount of investment properties at the beginning and end of the year is set out below:

	2016 £m	2015 £m
At 1 January	13,422	12,764
Additions:		
Resulting from property acquisitions	1,338	680
Resulting from expenditure capitalised	189	77
Disposals	(632)	(662)
Net gain from fair value adjustments	273	537
Net foreign exchange differences	97	21
Transfers (to) from held for sale assets	(41)	5
At 31 December	14,646	13,422

The 2016 income statement includes rental income from investment properties of £781 million (2015: £769 million) and direct operating expenses including repairs and maintenance arising from these properties of £67 million (2015: £42 million).

Investment properties of £6,020 million (2015: £5,468 million) are held under finance leases. The present value of minimum lease payments under these leases is £49 million (2015: £78 million) and 76 per cent (2015: 77 per cent) of lease payments are due in over five years.

The Group's policy is to let investment properties to tenants through operating leases. Minimum future rentals to be received on non-cancellable operating leases of the Group's freehold investment properties are receivable in the following periods:

	2016 £m	2015 £m
Less than 1 year	314	309
1 to 5 years	1,077	1,091
Over 5 years	2,634	2,595
Total	4,025	3,995

The total minimum future rentals to be received on non-cancellable sub-leases for the Group's investment properties held under finance leases at 31 December 2016 are £2,238 million (2015: £2,888 million).