D: Life assurance business

D1: Group overview

a Products and classification for IFRS reporting

The measurement basis of assets and liabilities of long-term business contracts is dependent upon the classification of the contracts under IFRS. Under IFRS 4, contracts are initially classified as being either 'insurance' contracts, if the level of insurance risk in the contracts is significant, or 'investment' contracts, if the risk is insignificant.

Insurance contracts

Insurance contracts are permitted to be accounted for under previously applied GAAP. The Group has chosen to adopt this approach. However, as an improvement to accounting policy, permitted by IFRS 4, the Group has applied the measurement principles for with-profits contracts of UK regulated entities and disclosures of the UK Standard FRS 27 from 1 January 2005. An explanation of the provisions under FRS 27 is provided in note D2.

Under the previously applied GAAP, UK GAAP, the assets and liabilities of contracts are reported in accordance with the Modified Statutory Basis (MSB) of reporting as set out in the ABI SORP.

The insurance contracts of the Group's shareholder-backed business fall broadly into the following categories:

- UK insurance operations
  – bulk and individual annuity business, and other categories of non participating UK business;
- Jackson
  – fixed and variable annuity business and life insurance; and
- Prudential Corporation Asia
  – non-participating term, whole life, and unit-linked policies, together with accident and health policies.

Investment contracts

Investment contracts are further delineated under IFRS 4 between those with and without discretionary participation features. For those contracts with discretionary participation features, IFRS 4 also permits the continued application of previously applied GAAP. The Group has adopted this approach, again subject to the FRS 27 improvement.

For investment contracts that do not contain discretionary participation features, IAS 39 and, where the contract includes an investment management element, IAS 18, apply measurement principles to assets and liabilities attaching to the contract that may diverge from those previously applied.

Contracts of the Group, which are classified as investment contracts that do not contain discretionary participation features, can be summarised as:

- UK
  – certain unit-linked savings and similar contracts;
- Jackson
  – Guaranteed Investment Contracts (GICs) and funding agreements
  – minor amounts of 'annuity certain' contracts; and
- Prudential Corporation Asia
  – minor amounts for a number of small categories of business.

b Concentration of risk

i Business accepted

The Group's exposure to life assurance risks is well diversified. This is achieved through the geographical spread of the Group's operations and, within those operations, through a broad mix of product types.

As part of the risk management framework, the Group regularly monitors concentration of risk using a variety of risk monitoring tools, including scenario testing and sensitivity analysis of the Group's capital and profitability metrics involving IGD, Group economic capital, EEV and IFRS, to help identify concentrations of risks by risk types, products and business units, as well as the benefits of diversification of risks.

An example of the diversification benefits for Prudential is that adverse scenarios do not affect all business units in the same way, providing natural hedges within the Group. For example, the Group's US business is sensitive to increasing interest rates, whereas, in contrast, several business units in Asia benefit from increasing rates. Conversely, these Asian business units are sensitive towards low interest rates, whereas certain products in the US benefit from falling interest rates. The economic capital framework also takes into account situations where factors are correlated, for example, the extent of correlation between UK and US economies.

Business units are also required to disclose to the Group risk function all material risks, along with information on their severity and likelihood, and mitigating actions taken or planned.

Credit risk remains one of the largest risk exposures. This reflects the relative size of exposure in Jackson and the UK shareholder annuities business. The Group manages concentration of credit risks by setting limits on the maximum exposure to each counterparty based on their credit ratings.

ii Ceded business

The Group cedes certain business to other insurance companies. Although the ceding of insurance does not relieve the Group of 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. At 31 December 2012 the reinsurers' share of insurance contract liabilities was £6,859 million (2011: £1,344 million). The increase arises from the acquisition of REALIC. Further details are shown in note D3(f) and I1. At 31 December 2012, 97 per cent (2011: 91 per cent) of the reinsurance recoverable insurance assets were ceded by the Group's UK and US operations, of which 92 per cent (2011: 94 per cent) of the balance were from reinsurers with Standard & Poor's rating A- and above.

c Guarantees

Notes D2(d), D3(d) and D4(d) provide details of guarantee features of the Group's life assurance products. In the UK, guarantees of the with-profits products are valued for accounting purposes on a market consistent basis for 2012 as described in section D2(e)(ii). The UK business also has products with guaranteed annuity option features, mostly within Scottish Amicable Insurance Fund (SAIF), as described in section D2(d). There is little exposure to financial options and guarantees in the shareholder-backed business of the UK operations. The US business annuity products have a variety of option and guarantee features as described in section D3(d). Jackson's derivative programme seeks to manage the exposures as described in section D3(h).

d Sensitivity of EEV shareholders' basis profit and equity to market and other risks

The Group prepares supplementary EEV basis financial statements for half-yearly and annual publication. These statements include sensitivity disclosures which are part of the market risk information provided to key management.

e Sensitivity of IFRS basis profit or loss and shareholders' equity to market and other risks

i Overview of risks by business unit

The financial and insurance assets and liabilities attaching to the Group's life assurance business 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.

Market risk is the risk that the fair value or future cash flows of a financial instrument or, in the case of liabilities of insurance contracts, their carrying value, will fluctuate because of changes in market prices. Market risk comprises three types of risk, namely:

- Currency risk: due to changes in foreign exchange rates;
- Interest rate risk: due to changes in market interest rates; and
- Other price risk: due to fluctuations in market prices (other than those arising from interest rate risk or currency risk).

Policyholder liabilities relating to the Group's life assurance businesses are also sensitive to the effects of other changes in experience, or expected future experience, such as for mortality, other insurance risk and lapse risk.

Three key points are to be noted, namely:

- The Group's with-profits and unit-linked funds absorb most market risk attaching to the funds' investments. Except for second order effects, for example, on asset management fees and shareholders' share of cost of bonuses for with-profits business, shareholder results are not directly affected by market value movements on the assets of these funds;
- The Group's shareholder results are most sensitive to market risks for assets of the shareholder-backed business; and
- The main exposures of the Group's IFRS basis results to market risk for its life assurance operations on investments of the shareholder-backed business are for debt securities.

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

D: Life assurance business continued

D1: 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 D2(h))				
With-profits business (including Prudential Annuities Limited)	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 Interest rate risk for assets in excess of liabilities ie assets representing shareholder capital			Mortality experience and assumptions for longevity
US insurance operations (see also section D3(h))				
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 indexed annuity business	Derivative hedge programme to the extent not fully hedged against liability and fund performance	Incidence of equity participation features		
Fixed indexed 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 and by the use of swaption contracts

Type of business	Market and credit risk			Insurance and lapse risk
	Investments/derivatives	Liabilities/unallocated surplus	Other exposure	
Asia insurance operations (see also section D4(h))				
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	
	Asset/liability mismatch risk			
Non-participating business	Credit risk Interest rate and price risk	Interest rates for those operations where the basis of insurance liabilities is sensitive to current market movements		.

ii IFRS shareholder results – Exposures for market and other risk

Key Group exposures

Detailed analyses of sensitivity of IFRS basis profit or loss and shareholders' equity to key market and other risks are provided in notes D2(h), D3(h), D4(h) and E4. 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. Other features to note are as follows.

UK

The IFRS operating profit based on longer-term investment returns for UK insurance operations has high potential sensitivity for changes to 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 US and Asia policyholder liabilities (which in general are measured on a basis that is insensitive to current market movements) and shareholder equity.

US

For Jackson, at the level of operating profit based on longer-term investment returns, the results are sensitive to market conditions to the extent of income earned on spread-based products and second order equity-based exposure in respect of variable annuity asset management fees. Further information is given below in note D3h(iv).

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 which 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 very 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). See D3(h) for details of the hedging.

D: Life assurance business continued

D1: Group overview continued

Asia

For Asia operations, the operating profit based on longer-term investment returns is mainly affected by the impact of market levels on unit-linked business 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.

Impact of diversification on risk exposure

The Group enjoys significant diversification benefits. This arises because not all risk scenarios will happen at the same time and across all geographic regions. Relevant correlation factors include:

Correlation across geographic regions
- Financial risk factors
- Non-financial risk factors

Correlation across risk factors
- Longevity risk
- Expenses
- Persistency
- Other risks

The effect of Group diversification across the Group's life businesses is to significantly reduce the aggregate standalone 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 longevity risk.

f Duration of liabilities

Under the terms of the Group's contracts, as for life assurance contracts generally, the contractual maturity date is the earlier of the end of the contract term, death, other insurable events or surrender. The Group has therefore chosen to provide details of liability duration that reflect the actuarially determined best estimate of the likely incidence of these factors on contract duration. Details are shown in sections D2(i), D3(i) and D4(i).

In the years 2008 to 2012, claims paid on the Group's life assurance contracts, including those classified as investment contracts under IFRS 4, ranged from £17 billion to £21 billion. Indicatively, it is to be expected that, of the Group's policyholder liabilities (excluding unallocated surplus) at 31 December 2012 of £260.8 billion, the amounts likely to be paid in 2013 will be of a similar magnitude.

D2: UK insurance operations

a Summary statement of financial position

In order to show the statement of financial position by reference to the differing degrees of policyholder and shareholder economic interest of the different types of fund and business, the analysis below is structured to show separately assets and liabilities of the Scottish Amicable Insurance Fund (SAIF), the PAC with-profits sub-fund (WPSF), unit-linked assets and liabilities and annuity (principally PRIL) and other long-term business.

£97 billion of the £150 billion of investments are held by SAIF and the PAC WPSF. Shareholders are exposed only indirectly to value movements on these assets.

	31 Dec 2012 £m						31 Dec 2011 £m
			Other funds and subsidiaries				
By operating segment	Scottish Amicable Insurance Fund note (iii)	PAC with-profits fund notes (i), (ii)	Unit-linked assets and liabilities	Annuity and other long-term business	Total	UK insurance operations Total	UK insurance operations Total
Assets							
Intangible assets attributable to shareholders:							
Deferred acquisition costs and other intangible assets	–	–	–	105	105	105	113
Total	–	–	–	105	105	105	113
Intangible assets attributable to with-profits funds:							
In respect of acquired subsidiaries for venture fund and other investment purposes	–	178	–	–	–	178	178
Deferred acquisition costs	–	6	–	–	–	6	6
Total	–	184	–	–	–	184	184
Total intangible assets	–	184	–	105	105	289	297
Deferred tax assets	1	113	–	69	69	183	231
Other non-investment and non-cash assets	369	2,440	385	2,230	2,615	5,424	4,771
Investments of long-term business and other operations:							
Investment properties[note (iv)]	500	8,159	622	1,571	2,193	10,852	10,712
Associate investments accounted for using the equity method	–	–	–	72	72	72	70
Financial investments:							
Loans[note (v)]	116	1,993	–	1,264	1,264	3,373	3,115
Equity securities and portfolio holdings in unit trusts	2,070	19,875	14,071	11	14,082	36,027	36,722
Debt securities	3,864	46,643	6,310	27,045	33,355	83,862	77,953
Other investments[note (vi)]	283	3,958	10	325	335	4,576	4,568
Deposits	910	8,395	822	1,004	1,826	11,131	9,287
Total investments	7,743	89,023	21,835	31,292	53,127	149,893	142,427
Properties held for sale	–	98	–	–	–	98	–
Cash and cash equivalents	120	1,077	889	552	1,441	2,638	2,965
Total assets	8,233	92,935	23,109	34,248	57,357	158,525	150,691

D: Life assurance business continued

D2: UK insurance operations continued

By operating segment	Scottish Amicable Insurance Fund note (iii)	PAC with-profits fund notes (i),(ii)	Other funds and subsidiaries: Unit-linked assets and liabilities	Other funds and subsidiaries: Annuity and other long-term business	Other funds and subsidiaries: Total	UK insurance operations Total	31 Dec 2011 £m UK insurance operations Total
	31 Dec 2012 £m						
Equity and liabilities							
Equity							
Shareholders' equity	–	–	–	3,033	3,033	3,033	2,581
Non-controlling interests	–	1	–	–	–	1	33
Total equity	–	1	–	3,033	3,033	3,034	2,614
Liabilities							
Policyholder liabilities and unallocated surplus of with-profits funds:							
Contract liabilities (including amounts in respect of contracts classified as investment contracts under IFRS 4)	7,878	76,529	22,197	27,308	49,505	133,912	127,024
Unallocated surplus of with-profits funds (reflecting application of 'realistic' basis provisions for UK regulated with-profits funds)	–	10,526	–	–	–	10,526	9,165
Total	7,878	87,055	22,197	27,308	49,505	144,438	136,189
Operational borrowings attributable to shareholder-financed operations	–	–	1	126	127	127	103
Borrowings attributable to with-profits funds	17	1,016	–	–	–	1,033	972
Deferred tax liabilities	39	663	–	483	483	1,185	1,349
Other non-insurance liabilities	299	4,200	911	3,298	4,209	8,708	9,464
Total liabilities	8,233	92,934	23,109	31,215	54,324	155,491	148,077
Total equity and liabilities	8,233	92,935	23,109	34,248	57,357	158,525	150,691

Notes

(i) For the purposes of this table and subsequent explanation, references to the WPSF also include, for convenience, the amounts attaching to the Defined Charges Participating Sub-fund which comprises 3.3 per cent of the total assets of the WPSF and includes the with-profits annuity business transferred to Prudential from the Equitable Life Assurance Society on 1 December 2007 (with assets of approximately £1.7 billion). Profits to shareholders on this with-profits annuity business emerge on a 'charges less expenses' basis and policyholders are entitled to 100 per cent of the investment earnings. Included in the PAC with-profits fund is £13.3 billion (2011: £12.6 billion) of non-profits annuities liabilities.

(ii) Excluding policyholder liabilities of the Hong Kong branch of PAC.

(iii) SAIF is a separate sub-fund within the PAC long-term business fund.

(iv) Investment properties

At 31 December 2012, the Group's UK insurance operations had £10,852 million (2011: £10,712 million) of investment properties. The following table shows the property portfolio by type of investment. The properties are shown at market value below in accordance with the policies described in note A3.

	2012		2011	
	£m	%	£m	%
Office buildings	4,195	38.7	4,443	41.5
Shopping centres/commercial	4,389	40.4	4,315	40.3
Retail warehouses/industrial	1,624	15.0	1,406	13.1
Development	465	4.3	383	3.6
Other	179	1.6	165	1.5
Total	10,852	100.0	10,712	100.0

47.6 per cent (2011: 42.9 per cent) of the UK held investment property is located in London and Southeast England with 35.4 per cent (2011: 41.1 per cent) located throughout the rest of the UK and the remaining 17.0 per cent (2011: 16.0 per cent) located overseas.

(v) Loans

The loans of the Group's UK insurance operations comprise:

	2012 £m	2011 £m
SAIF and PAC WPSF:		
Mortgage loans*	1,311	1,036
Policy loans	16	20
Other loans†	782	917
Total SAIF and PAC WPSF loans	2,109	1,973
Shareholder-backed:		
Mortgage loans*	1,259	1,137
Other loans	5	5
Total shareholder-backed loans	1,264	1,142
Total UK insurance operations loans	3,373	3,115

* The mortgage loans are collateralised by properties. By carrying value, 86 per cent of the £1,259 million held for shareholder-backed business relates to lifetime (equity release) mortgage business which has an average loan to property value of 29 per cent.

† Other loans held by the PAC with-profits fund are all commercial loans and comprise mainly syndicated loans.

(vi) Other investments comprise:

	2012 £m	2011 £m
Derivative assets*	1,349	1,461
Partnerships in investment pools and other†	3,227	3,107
	4,576	4,568

* After including derivative liabilities of £1,007 million (2011: £1,298 million), which are also included in the statement of financial position, the overall derivative position was a net asset of £342 million (2011: £163 million).

† Partnerships in investment pools and other comprise mainly investments held by the PAC with-profits fund. These investments are primarily investments in limited partnerships and additionally, investments in property funds.

D: Life assurance business continued

D2: UK insurance operations continued

b Reconciliation of movement 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:

	SAIF and PAC with-profits sub-fund £m	Other shareholder-backed funds and subsidiaries: Unit-linked liabilities £m	Other shareholder-backed funds and subsidiaries: Annuity and other long-term business £m	Total £m
At 1 January 2011	91,773	21,671	22,273	135,717
Comprising:				
Policyholder liabilities	81,586	21,671	22,273	125,530
Unallocated surplus of with-profits funds	10,187	–	–	10,187
Premiums	3,413	1,854	1,721	6,988
Surrenders	(2,285)	(1,851)	(119)	(4,255)
Maturities/Deaths	(5,551)	(655)	(1,607)	(7,813)
Net flows[note (a)]	(4,423)	(652)	(5)	(5,080)
Shareholders' transfers post tax	(216)	–	–	(216)
Switches	(237)	237	–	–
Investment-related items and other movements[note (b)]	3,338	25	2,499	5,862
Foreign exchange translation differences	(94)	–	–	(94)
At 31 December 2011/1 January 2012	**90,141**	**21,281**	**24,767**	**136,189**
Comprising:				
Policyholder liabilities	**80,976**	**21,281**	**24,767**	**127,024**
Unallocated surplus of with-profits funds	**9,165**	**–**	**–**	**9,165**
Premiums	**4,539**	**1,775**	**2,026**	**8,340**
Surrenders	**(2,200)**	**(2,378)**	**(207)**	**(4,785)**
Maturities/Deaths	**(5,664)**	**(658)**	**(1,687)**	**(8,009)**
Net flows[note (a)]	**(3,325)**	**(1,261)**	**132**	**(4,454)**
Shareholders' transfers post tax	**(205)**	**–**	**–**	**(205)**
Switches	**(236)**	**236**	**–**	**–**
Investment-related items and other movements[note (b)]	**8,656**	**1,941**	**2,409**	**13,006**
Foreign exchange translation differences	**(98)**	**–**	**–**	**(98)**
At 31 December 2012	**94,933**	**22,197**	**27,308**	**144,438**
Comprising:				
Policyholder liabilities	**84,407**	**22,197**	**27,308**	**133,912**
Unallocated surplus of with-profits funds	**10,526**	**–**	**–**	**10,526**
Average policyholder liability balances*				
2012	**82,691**	**21,739**	**26,038**	**130,468**
2011	81,281	21,476	23,520	126,277

* Averages have been based on opening and closing balances and exclude unallocated surplus of with-profits funds.

Notes

(a) Net outflows decreased from £5,080 million in 2011 to £4,454 million in 2012. An improvement in the net outflows of the with-profits business, following increased sales of with-profits bonds in the year, has been greater than the increase in outflows in the unit-linked business. The levels of inflows/outflows for unit-linked business is driven by the activity of corporate pension schemes with transfers in or out from only one or two schemes influencing the level of flows in the year. The net flows of negative £1,261 million in unit-linked business was a result of lower single premiums in and higher transfers out of this business in 2012.

(b) Investment-related items and other movements of £13,006 million across fund types reflected the continued strong performance of UK equity markets in 2012, as well as investment gains from debt securities following falling bond yields, and other asset classes.

c Information on credit risk of debt securities

The following table summarises by rating the securities held by UK insurance operations as at 31 December 2012 and 2011:

UK insurance operations

	31 Dec 2012 £m						31 Dec 2011 £m
			Other funds and subsidiaries				
	Scottish Amicable Insurance Fund	PAC with-profits fund	Unit-linked assets	PRIL	Other annuity and long-term business	Total	Total
S&P – AAA	441	4,716	582	3,023	438	9,200	9,928
S&P – AA+ to AA-	527	4,908	829	3,041	318	9,623	8,647
S&P – A+ to A-	1,031	12,345	1,805	6,934	885	23,000	21,474
S&P – BBB+ to BBB-	911	10,614	1,340	4,210	645	17,720	15,746
S&P – Other	224	2,358	115	307	39	3,043	3,175
	3,134	34,941	4,671	17,515	2,325	62,586	58,970
Moody's – Aaa	241	3,780	1,239	2,557	629	8,446	7,945
Moody's – Aa1 to Aa3	41	538	106	622	113	1,420	651
Moody's – A1 to A3	32	505	26	321	43	927	1,008
Moody's – Baa1 to Baa3	54	818	113	370	30	1,385	1,030
Moody's – Other	15	224	30	30	8	307	242
	383	5,865	1,514	3,900	823	12,485	10,876
Fitch	20	295	26	165	21	527	492
Other	327	5,542	99	2,157	139	8,264	7,615
Total debt securities	3,864	46,643	6,310	23,737	3,308	83,862	77,953

Where no external ratings are available, internal ratings produced by the Group's asset management operation, which are prepared on the Company's assessment of a comparable basis to external ratings, are used where possible. The £8,264 million total debt securities held at 31 December 2012 (2011: £7,615 million) which are not externally rated are either internally rated or unrated. These are analysed as follows:

	2012 £m	2011 £m
Internal ratings or unrated:		
AAA to A-	3,150	2,726
BBB to B-	3,752	3,773
Below B- or unrated	1,362	1,116
Total	8,264	7,615

The majority of unrated debt security investments were held in SAIF and the PAC with-profits sub-fund and relate to convertible debt and other investments which are not covered by ratings analysts, nor have an internal rating attributed to them. Of the £2,296 million PRIL and other annuity and long-term business investments which are not externally rated, £6 million were internally rated AAA, £429 million AA, £737 million A, £895 million BBB, £115 million BB and £114 million were internally rated B+ and below or unrated.

During 2011 Standard & Poor's withdrew its ratings of debt securities issued by a number of sovereigns. Where these are no longer available Moody's ratings have been used. This primarily impacts the UK and Asia insurance operations.

As detailed in note D2(h) below, the primary sensitivity of IFRS basis profit or loss and shareholders' equity relates to non-linked shareholder-backed business which is represented by 'PRIL' and 'other annuity and long-term business' in the table above.

D: Life assurance business continued

D2: UK insurance operations continued

d Products and guarantees

Prudential's long-term products in the UK consist of life insurance, pension products and pension annuities.

These products are written primarily in:

- One of three separate sub-funds of the PAC long-term fund, namely the with-profits sub-fund (WPSF), SAIF, and the non-profit sub-fund;
- Prudential Annuities Limited (PAL), which is owned by the PAC with-profits sub-fund;
- Prudential Retirement Income Limited (PRIL), a shareholder-owned subsidiary; or
- Other shareholder-backed subsidiaries writing mainly non-profit unit-linked business.

i With-profits products and PAC with-profits sub-fund

Within the statement of financial position of UK insurance operations at 31 December 2012, as shown in note D2(a), there are policyholder liabilities and unallocated surplus of £87.1 billion (2011: £81.6 billion) that relate to the WPSF. These amounts include the liabilities and capital of Prudential Annuities Limited, a wholly-owned subsidiary of the fund. 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 are apportioned 90 per cent to its policyholders and 10 per cent to shareholders as surplus for distribution is determined via the annual actuarial valuation.

The WPSF held a provision of £47 million at 31 December 2012 (2011: £90 million) to honour guarantees on a small amount of guaranteed annuity products. SAIF's exposure to guaranteed annuities is described below.

With-profits products provide returns to policyholders through bonuses that are 'smoothed'. There are two types of bonuses: 'annual' and 'final'. Annual bonuses are declared once a year, and once credited, are guaranteed in accordance with the terms of the particular product. Unlike annual bonuses, final bonuses are guaranteed only until the next bonus declaration. The main factors that influence the determination of bonus rates are the return on the investments of the with-profits fund, inflation, taxation, the expenses of the fund chargeable to policyholders and the degree to which investment returns are smoothed. The overall rate of return earned on investments and the expectation of future investment returns are the most important influences on bonus rates.

A high proportion of the assets backing the with-profits business are invested in equities and real estate. If the financial strength of the with-profits business is affected, then a higher proportion of fixed interest or similar assets might be held by the fund.

Further details on the determination of the two types of the bonuses: 'regular' and 'final', the application of significant judgement, key assumptions and the degree of smoothing of investment returns in determining the bonus rates are provided below.

Regular bonus rates

For regular bonuses, the 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. The expected future investment return is reduced as appropriate for each type of policy to allow for items such as expenses, charges, tax and shareholders' transfers. However, the rates declared may differ by product type, or by the date of payment of the premium, or date of issue of the policy, or if the accumulated annual bonuses are particularly high or low, relative to a prudent proportion of the achieved investment return.

When target bonus levels change the PAC board of directors (PAC Board) has regard to the overall strength of the long-term fund when determining the length of time over which it will seek to achieve the amended prudent target bonus level.

In normal investment conditions, PAC expects changes in regular bonus rates to be gradual over time. However, the PAC Directors retain 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.

Final bonus rates

A final bonus which is normally declared yearly, 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.

In general, the same final bonus scale applies to maturity, death and surrender claims except that:

- The total surrender value may be impacted by the application of a Market Value Reduction for accumulating with-profits policies and is the surrender bases for conventional with-profits business; and
- For the SAIF and Scottish Amicable, the final bonus rates applicable on surrender may be adjusted to reflect expected future bonus rates.

Application of significant judgement
The application of the above method for determining bonuses requires the PAC Board to apply significant judgement in many respects, including in particular the following:

- Determining what constitutes fair treatment of customers: Prudential is required by UK law and regulation to consider the fair treatment of its customers in setting bonus levels. The concept of determining what constitutes fair treatment, while established by statute, is not defined;
- Smoothing of investment returns: This is an important feature of with-profits products. Determining when particular circumstances, such as a significant rise or fall in market values, warrant variations in the standard bonus smoothing limits that apply in normal circumstances requires the PAC Board to exercise significant judgement; and
- Determining at what level to set bonuses to ensure that they are competitive: The overall return to policyholders is an important competitive measure for attracting new business.

Key assumptions
As noted above, 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 described above. 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. It is also consistent with the requirements of UK law, which require all UK firms that carry out a with-profits business to define, and make publicly available, the Principles and Practices of Financial Management (PPFM) that are applied in the management of their with-profits funds.

Accordingly, Prudential's PPFM contains an explanation of how it determines regular and final bonus rates within the discretionary framework that applies to all with-profits policies, subject to the general legislative requirements applicable. The purpose of Prudential's PPFM is therefore to:

- Explain the nature and extent of the discretion available;
- Show how competing or conflicting interests or expectations of different groups and generations of policyholders, and policyholders and shareholders are managed so that all policyholders and shareholders are treated fairly; and
- Provide a knowledgeable observer (eg a financial adviser) with an understanding of the material risks and rewards from starting and continuing to invest in a with-profits policy with Prudential.

Furthermore, in accordance with industry-wide regulatory requirements, the PAC Board has appointed:

- An Actuarial Function Holder 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 PPFM 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 smoothing approach differs between accumulating and conventional with-profits policies to reflect the different contract features. In normal circumstances, Prudential does not expect most payout values on policies of the same duration to change by more than 10 per cent up or down from one year to the next, although some larger changes may occur to balance payout values between different policies. Greater flexibility may be required in certain circumstances, for example, following a significant rise or fall in market values, and in such situations the PAC Board may decide to vary the standard bonus smoothing limits in order to protect the overall interests of policyholders.

D: Life assurance business continued

D2: UK insurance operations continued

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.

	2012 £m	2011 £m
Net income of the fund:		
Investment return	8,350	4,094
Claims incurred	(6,857)	(6,411)
Movement in policyholder liabilities	(3,989)	(614)
Add back policyholder bonuses for the year (as shown below)	1,865	1,945
Claims incurred and movement in policyholder liabilities (including charge for provision for asset shares and excluding policyholder bonuses)	(8,981)	(5,080)
Earned premiums, net of reinsurance	4,558	3,404
Other income	39	17
Acquisition costs and other expenditure	(740)	(696)
Tax charge	(292)	(63)
Net income of the fund before movement in unallocated surplus	2,934	1,676
Movement in unallocated surplus	(863)	485
Surplus for distribution	2,071	2,161
Surplus for distribution allocated as follows:		
90% policyholders' bonus (as shown above)	1,865	1,945
10% shareholders' transfers	206	216
	2,071	2,161

ii Annuity business

Prudential's conventional annuities include level, fixed-increase and inflation-linked annuities, the link being to the Retail Prices Index (RPI) in the majority of cases. They are mainly written within the subsidiaries PAL, PRIL, the PAC non-profit sub-fund and the PAC with-profits sub-fund, but there are some annuity liabilities in Prudential Pensions Limited and SAIF.

Prudential's fixed-increase annuities incorporate automatic increases in annuity payments by fixed amounts over the policyholder's life. The RPI annuities that Prudential offers provide for a regular annuity payment to which an additional amount is added periodically based on the increase in the UK RPI.

Prudential's with-profits annuities, which are written in the WPSF, 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. Policyholders select a 'required smoothed return' bonus from the specific range Prudential offers for the particular product. The amount of the annuity payment each year depends upon the relationship between the required smoothed return bonus rate selected by the policyholder when the product is purchased and the smoothed return bonus rates Prudential subsequently declares each year during the term of the product. If the total bonus rates fall below the anticipated rate, then the annuity income falls.

At 31 December 2012, £41.7 billion (2011: £38.3 billion) of investments relate to non-profit annuity business of the PAC WPSF (including PAL) and the annuity business of PRIL. These investments are predominantly in debt securities (including retail price index-linked bonds to match retail price index-linked annuities), loans, deposits and property, and are duration matched with the estimated duration of the liabilities they support.

iii SAIF

SAIF is a ring-fenced sub-fund of the PAC long-term fund formed following the acquisition of the mutually owned Scottish Amicable Life Assurance Society in 1997. No new business may be written in SAIF, although regular premiums are still being paid on policies in force at the time of the acquisition and incremental premiums are permitted on these 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, which constitute the vast majority of obligations of the funds, 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 ie in excess of those based on asset share.

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 £371 million was held in SAIF at 31 December 2012 (2011: £370 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.

iv Unit-linked (non-annuity) and other non-profit business

Prudential UK insurance operations also have an extensive book of unit-linked policies of varying types and provide a range of other non-profit business such as credit life and protection contracts. These contracts do not contain significant financial guarantees.

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.

e Process for setting assumptions and determining contract liabilities

i Overview

The calculation of the contract liabilities involves the setting of assumptions for future experience. This is done following detailed review of the relevant experience including in particular mortality, expenses, tax, economic assumptions and, where applicable, persistency.

For with-profits business written in the WPSF or SAIF, a market consistent valuation is performed (as described in section (ii) below). 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.

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. For non-profit business, a margin for adverse deviation is added. Different assumptions are applied for different product groups. For annuitant mortality, assumptions for current mortality rates are based on recent experience investigations and expected future improvements in mortality. The expected future improvements are based on recent experience and projections of the business and industry experience generally.

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. For non-profit business a margin for adverse deviation is added to this amount. Expense inflation assumptions are set consistent with the economic basis and based on the difference between yields on nominal gilts and index-linked gilts.

The actual renewal expenses incurred on behalf of SAIF by other Group companies are recharged in full to SAIF.

The assumptions for asset management expenses are based on the charges specified in agreements with the Group's asset management operations, plus a margin for adverse deviation for non-profit business.

Tax assumptions are set equal to current rates of taxation.

For non-profit business excluding unit-linked business, the 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 gross redemption yield is used, except for the PAL (including the business recaptured by PAC WPSF in 2011) and PRIL annuity business, where the internal rate of return of the assets backing the liabilities is used. Properties are valued using the rental 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. 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 above.

ii WPSF and SAIF

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 under FRS 27.

The provisions have been determined on a basis consistent with the detailed methodology included in regulations contained in the FSA's rules for the determination of reserves on the FSA's 'realistic' Peak 2 basis. 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 FSA's Peak 2 calculation under the realistic regime requirement is explained further in note A3(2)(a) under the UK regulated with-profits section.

The contract liabilities for with-profits business also require assumptions for persistency. These are set based on the results of recent experience analysis.

D: Life assurance business continued

D2: UK insurance operations continued

iii Annuity business

Credit risk provisions

For IFRS reporting, the results for UK shareholder-backed annuity business are particularly sensitive to the allowances made for credit risk. The allowance is reflected in the deduction from the valuation rate of interest for discounting projected future annuity payments to policyholders that would have otherwise applied. Since mid-2007 there has been a significant increase in the actual and perceived credit risk associated with corporate bonds as reflected in the significant widening that has occurred in corporate bond spreads. Although bond spreads over swap rates have narrowed from their peak in March 2009, they are still high compared with the levels seen in the years immediately preceding the start of the dislocated markets in 2007. The allowance that should therefore be made for credit risk remains a particular area of judgement.

The additional yield received on corporate bonds relative to swaps can be broken into the following constituent parts:

(a) The expected level of future defaults;
(b) The credit risk premium that is required to compensate for the potential volatility in default levels;
(c) The liquidity premium that is required to compensate for the lower liquidity of corporate bonds relative to swaps; and
(d) The mark to market risk premium that is required to compensate for the potential volatility in corporate bond spreads (and hence market values) at the time of sale.

The sum of (c) and (d) is often referred to as 'liquidity premium'.

The allowance for credit risk comprises (i) an amount for long-term best estimate defaults, and (ii) additional provisions for credit risk premium, downgrade resilience and short-term defaults.

The weighted components of the bond spread over swap rates for shareholder-backed fixed and linked annuity business for PRIL at 31 December 2012 and 31 December 2011, based on the asset mix at the relevant balance sheet date are shown below.

31 December 2012	Pillar 1 regulatory basis (bps)	Adjustment from regulatory to IFRS basis (bps)	IFRS (bps)
Bond spread over swap rates[note (i)]	161	–	161
Credit risk allowance			
Long-term expected defaults[note (ii)]	15	–	15
Additional provisions[note (iii)]	50	(23)	27
Total credit risk allowance	65	(23)	42
Liquidity premium	96	23	119

31 December 2011	Pillar 1 regulatory basis (bps)	Adjustment from regulatory to IFRS basis (bps)	IFRS (bps)
Bond spread over swap rates[note (i)]	201	–	201
Credit risk allowance			
Long-term expected defaults[note (ii)]	15	–	15
Additional provisions[note (iii)]	51	(24)	27
Total credit risk allowance	66	(24)	42
Liquidity premium	135	24	159

Notes

(i) Bond spread over swap rates reflect market observed data.
(ii) Long-term expected defaults are derived by applying Moody's data from 1970 to 2009 and the definition of the credit rating used is the second highest credit rating published by Moody's, Standard & Poor's and Fitch.
(iii) Additional provisions comprise credit risk premium, which is derived from Moody's data from 1970 to 2009, an allowance for a one-notch downgrade of the portfolio subject to credit risk and an additional allowance for short-term defaults.

The prudent Pillar 1 regulatory basis reflects the overriding objective of maintaining sufficient provisions and capital to ensure payments to policyholders can be made. The approach for IFRS aims to establish liabilities that are closer to 'best estimate'.

Movement in the credit risk allowance for PRIL for the year ended 31 December 2012
The movement during 2012 of the average basis points allowance for PRIL on Pillar 1 regulatory and IFRS bases are as follows:

	Pillar 1 regulatory basis (bps)	IFRS (bps)
	Total	Total
Total allowance for credit risk at 31 December 2011	66	42
Credit rating changes	3	2
Asset trading	1	1
New business and other	(5)	(3)
Total allowance for credit risk at 31 December 2012	65	42

For periods prior to full year 2011, favourable credit experience was retained in short-term allowances for credit risk on both the Pillar 1 and IFRS bases. From full year 2011 onwards, the methodology applied is to continue to retain such surplus experience in the IFRS credit provisions but not for Pillar 1.

Overall the movement has led to the credit allowance for Pillar 1 purposes to be 40 per cent (2011: 33 per cent) of the bond spread over swap rates. For IFRS purposes it represents 26 per cent (2011: 20 per cent) of the bond spread over swap rates.

The reserves for credit risk allowance at 31 December 2012 for the UK shareholder annuity fund were as follows:

	Pillar 1 regulatory basis £bn	IFRS £bn
	Total	Total
PRIL	1.9	1.2
PAC non-profit sub-fund	0.2	0.1
Total – 31 December 2012	2.1	1.3
Total – 31 December 2011	2.0	1.3

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.

In 2009, Prudential's annuity business liabilities were determined using the Continuous Mortality Investigation (CMI) medium cohort projections with a floor. Since 2009, new mortality projection models have been released annually by the CMI. The CMI 2009 model was used to produce the 2010 and 2011 results, with calibration to reflect an appropriate view of future mortality improvements. The CMI 2011 model was used to produce the 2012 results, again with calibration to reflect an appropriate view of future mortality improvements.

D: Life assurance business continued

D2: UK insurance operations continued

The tables and range of percentages used are set out in the following tables:

2012	Non-profit annuities within the WPSF (including PAL)		PRIL	
	Males	Females	Males	Females
In payment	93% – 99% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2011 mortality model, with a long-term improvement rate of 2.25%.	89% – 101% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2011 mortality model, with a long-term improvement rate of 1.50%.	92% – 96% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2011 mortality model, with a long-term improvement rate of 2.25%.	84% – 97% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2011 mortality model, with a long-term improvement rate of 1.50%.
In deferment	AM92 minus 4 years	AF92 minus 4 years	AM92 minus 4 years	AF92 minus 4 years

2011	Non-profit annuities within the WPSF (including PAL)		PRIL	
	Males	Females	Males	Females
In payment	92% – 98% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 2.25%.	88% – 100% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 1.25%.	93% – 94% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 2.25%.	86% – 96% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 1.25%.
In deferment	AM92 minus 4 years	AF92 minus 4 years	AM92 minus 4 years	AF92 minus 4 years

2010	Non-profit annuities within the WPSF (including PAL)		PRIL	
	Males	Females	Males	Females
In payment	92% – 98% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 2.25%.	88% – 100% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 1.25%.	94% – 95% PCMA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 2.25%.	86% – 97% PCFA00 with future improvements in line with Prudential's own calibration of the CMI 2009 mortality model, with a long-term improvement rate of 1.25%.
In deferment	AM92 minus 4 years	AF92 minus 4 years	AM92 minus 4 years	AF92 minus 4 years

iv Unit-linked (non-annuity) and other non-profit business
The majority of other long-term business written in the UK insurance operations is unit-linked business or other business with similar features. For these 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 unit-linked business, the assets covering unit liabilities are exposed to market risk, but the residual risk when considering the unit-linked liabilities and assets together is limited to the effect on fund-based charges.

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.

f Reinsurance
The Group's UK insurance business cedes only minor amounts of business outside the Group. During 2012, reinsurance premiums for externally ceded business were £135 million (2011: £132 million) and reinsurance recoverable assets were £608 million (2011: £589 million) in aggregate. The gains and losses recognised in profit and loss for the 2012 and 2011 contracts were immaterial.

g Effect of changes in assumptions used to measure insurance assets and liabilities
Credit risk
There has been no change of approach in the setting of assumption levels.

However, changes in the portfolio have given rise to altered levels of credit risk allowance as set out in note D2 (e)(iii).

2012
Other operating assumption changes
In 2012, for the shareholder-backed business, the net effect of assumption changes, other than the allowance for credit risk described above was a charge to shareholder results of £17 million. This comprises the aggregate effect of strengthening of mortality assumptions for the annuity business, offsetting releases of margins and altered expenses and other assumptions.

For the with-profits sub-fund, the aggregate effect of assumption changes in 2012 was a net charge to unallocated surplus of £90 million, relating to changes in mortality and offsetting releases of margins, expense, persistency and economic assumptions.

2011
Other operating assumption changes
In 2011, for the shareholder-backed business, the aggregate effect of assumption changes other than the allowance for credit risk described above, was a net charge to the shareholder results of £9 million, comprising a number of individually small assumption changes.

For the with-profits sub-fund, the aggregate effect of assumption changes in 2011 was a net charge to unallocated surplus of £59 million, relating to changes in mortality, expense, persistency and economic assumptions.

h Exposure and sensitivity of IFRS basis profit or loss and shareholders' equity to market and other risks
i With-profits business
SAIF
Shareholders have no interest in the profits of the ring-fenced fund of SAIF but are entitled to the asset management fees paid on the assets of the fund.

With-profits sub-fund business
Shareholder UK results of UK with-profits business (including non-participating annuity business of the WPSF and of Prudential Annuities Limited (PAL), which is owned by the WPSF) 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-profit 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. The effects for 2012 and 2011 are demonstrated in note D5. However, as unallocated surplus is accounted for as a liability under IFRS, movements in its value do not affect shareholders' profit and equity.

D: Life assurance business continued

D2: UK insurance operations continued

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.

Mortality and other insurance risk are relatively minor factors in the determination of the bonus rates. Adverse persistency experience can affect the level of profitability from with-profits but in any given one year, the shareholders' share of cost of bonus may only be marginally affected. However, altered persistency trends may affect future expected shareholder transfers.

ii Shareholder-backed annuity business

The principal items affecting the IFRS results of the UK shareholder-backed annuity business are mortality experience and assumptions, and credit risk. The assets covering the liabilities are principally debt securities and other investments that are held to match the expected duration and payment characteristics of the policyholder liabilities. These liabilities are valued for IFRS reporting purposes by applying discount rates that reflect the market rates of return attaching to the covering assets.

Asset/liability duration matching is reviewed regularly. Except to the extent of any asset/liability duration mismatch and exposure to credit risk, the sensitivity of the Group's results to market risk for movements in the carrying value of the liabilities and covering assets is broadly neutral on a net basis.

The main market risk sensitivity for the UK shareholder-backed annuity business arises from interest rate risk on the debt securities which substantially represent shareholders' equity. This shareholders' equity comprises the net assets held within the long-term fund of the company that cover regulatory basis liabilities that are not recognised for IFRS reporting purposes, for example, contingency reserves and shareholder capital held outside the long-term fund.

In summary, 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.

A decrease in assumed mortality rates of 1 per cent would decrease gross profits by approximately £74 million (2011: £64 million). A decrease in credit default assumptions of five basis points would increase gross profits by £157 million (2011: £137 million). A decrease in renewal expenses (excluding asset management expenses) of 5 per cent would increase gross profits by £25 million (2011: £25 million). The effect on profits would be approximately symmetrical for changes in assumptions that are directionally opposite to those explained above.

iii 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 liabilities of other business and 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 under the Company's stewardship, 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.

iv Shareholder exposure 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 for pension annuity business, not generally exposed to interest rate risk. At 31 December 2012, pension annuity liabilities accounted for 98 per cent (2011: 98 per cent) of UK shareholder-backed business liabilities. For pension annuity business, liabilities are exposed to interest rate risk. However, the net exposure to the PAC WPSF (for PAL) and shareholders (for annuity liabilities of PRIL and the non-profit sub-fund) 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 capital reporting requirements and IFRS is not the same with contingency reserves and some other margins for prudence within the assumptions required under the FSA regulatory solvency basis not included for IFRS reporting purposes. As a result, IFRS equity is higher than regulatory capital and therefore, more sensitive to interest rate and credit risk.

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

	2012 £m				2011 £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	9,006	3,993	(3,265)	(5,983)	7,676	3,426	(2,820)	(5,178)
Policyholder liabilities	(7,878)	(3,513)	2,867	5,235	(6,842)	(3,060)	2,510	4,593
Related deferred tax effects	(259)	(110)	91	172	(208)	(91)	77	146
Net sensitivity of profit after tax and shareholders' equity	869	370	(307)	(576)	626	275	(233)	(439)

In addition the shareholder-backed portfolio of UK non-linked insurance operations covering liabilities and shareholders' equity includes equity securities and investment property. 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.

	2012 £m		2011 £m	
	A decrease of 20%	A decrease of 10%	A decrease of 20%	A decrease of 10%
Pre-tax profit	(316)	(158)	(319)	(160)
Related deferred tax effects	73	36	80	40
Net sensitivity of profit after tax and shareholders' equity	(243)	(122)	(239)	(120)

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.

In the equity risk sensitivity analysis shown above, 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, this would be expected to occur over a period of time during which the Group would be able to put in place mitigating management actions.

D: Life assurance business continued

D2: UK insurance operations continued

i 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. However, in effect, the maturity term of contracts reflects the earlier of death, maturity, or lapsation. In addition, with-profits contract liabilities as noted in note D2(e) 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 tables above show the carrying value of the policyholder liabilities. The tables in the accompanying notes below show the maturity profile of the cash flows for insurance contracts, as defined by IFRS, ie those containing significant insurance risk, and investment contracts, which do not.

	2012 £m									
	With-profits business			Annuity business (insurance contracts)			Other			
	Insurance contracts	Investment contracts	Total	Non-profit annuities within WPSF (including PAL)	PRIL	Total	Insurance contracts	Investment contracts	Total	TOTAL
Policyholders liabilities	37,698	33,486	71,184	13,223	20,114	33,337	13,231	16,160	29,391	133,912
	2012 %									
Expected maturity:										
0 to 5 years	45	39	42	30	26	27	35	28	31	36
5 to 10 years	24	25	24	24	22	22	25	23	24	24
10 to 15 years	13	17	15	18	17	18	17	17	17	16
15 to 20 years	8	11	10	12	13	13	10	12	11	11
20 to 25 years	5	6	5	8	9	9	6	9	8	7
over 25 years	5	2	4	8	13	11	7	11	9	6

	2011 £m									
	With-profits business			Annuity business (insurance contracts)			Other			
	Insurance contracts	Investment contracts	Total	Non-profit annuities within WPSF (including PAL)	PRIL	Total	Insurance contracts	Investment contracts	Total	TOTAL
Policyholder liabilities	38,974	29,365	68,339	12,637	18,236	30,873	12,885	14,927	27,812	127,024
	2011 %									
Expected maturity:										
0 to 5 years	47	32	41	29	25	27	34	28	31	35
5 to 10 years	24	26	25	24	22	22	25	22	24	24
10 to 15 years	13	19	16	18	18	18	18	18	18	17
15 to 20 years	8	14	10	12	13	13	11	12	11	11
20 to 25 years	5	7	6	8	10	9	7	9	7	7
over 25 years	3	2	2	9	12	11	5	11	9	6

Notes

(i) 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.
(ii) Benefit payments do not reflect the pattern of bonuses and shareholder transfers in respect of the with-profits business.
(iii) Investment contracts under 'Other' comprise certain unit-linked and similar contracts accounted for under IAS 39 and IAS 18.
(iv) 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.
(v) The maturity tables shown above have been prepared on a discounted basis. Details of undiscounted cash flow for investment contracts are shown in note G2.

D3: US insurance operations

a Summary results and statement of financial position

i Results and movements in shareholders' equity

	2012 £m	2011* £m
Operating profit based on longer-term investment returns	964	651
Short-term fluctuations in investment returns	(90)	(167)
Amortisation of acquisition accounting adjustments arising on the purchase of REALIC[note]	(19)	–
Profit before shareholder tax	855	484
Tax	(234)	(127)
Profit for the year	621	357

	2012 £m	2011* £m
Profit for the year (as above)	621	357
Items recognised in other comprehensive income:		
Exchange movements	(181)	35
Unrealised valuation movements on securities classified as available-for-sale:		
Unrealised holding gains arising during the year	930	912
Deduct net gains included in the income statement	(68)	(101)
Total unrealised valuation movements	862	811
Related change in amortisation of deferred acquisition costs	(270)	(275)
Related tax	(205)	(187)
Total other comprehensive income	206	384
Total comprehensive income for the year	827	741
Dividends, interest payments to central companies and other movements	(245)	(330)
Net increase in equity	582	411
Shareholders' equity at beginning of year:		
As previously reported	4,271	3,815
Effect of change in accounting policy for deferred acquisition costs*	(510)	(465)
After effect of change	3,761	3,350
Shareholders' equity at end of year	4,343	3,761

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

Included within the movements in shareholders' equity is a net increase in value of Jackson's debt securities classified as 'available-for-sale' under IAS 39 of £862 million (2011: £811 million).

With the exception of debt securities for US insurance operations classified as 'available-for-sale' under IAS 39, unrealised value movements on the Group's investments are booked within the income statement. However, for debt securities classified as 'available-for-sale', unless impaired, fair value movements are recognised in other comprehensive income. Realised gains and losses, including impairments, are recorded in the income statement. This classification is applied for most of the debt securities of the Group's US operations. In 2012, Jackson recorded £37 million (2011: £62 million) of impairment losses arising from:

	2012 £m	2011 £m
Residential mortgage-backed securities	8	21
Public fixed income	2	–
Other	27	41
	37	62

D: Life assurance business continued

D3: US insurance operations continued

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 2012, 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 £2,057 million to a net unrealised gain of £2,807 million. The gross unrealised gain in the statement of financial position increased from £2,303 million at 31 December 2011 to £2,985 million at 31 December 2012, while the gross unrealised loss decreased from £246 million at 31 December 2011 to £178 million at 31 December 2012.

Available for sale securities

	2012 £m			2011 £m
		Changes in unrealised appreciation†	Foreign exchange translation	
		Reflected as part of movement in consolidated statement of comprehensive income		
Assets fair valued at below book value				
Book value*	4,551			2,455
Unrealised (loss) gain	(178)	59	9	(246)
Fair value (as included in statement of financial position)	4,373			2,209
Assets fair valued at or above book value				
Book value*	25,467			22,504
Unrealised gain (loss)	2,985	803	(121)	2,303
Fair value (as included in statement of financial position)	28,452			24,807
Total				
Book value*	30,018			24,959
Net unrealised gain (loss)	2,807	862	(112)	2,057
Fair value (as included in statement of financial position)‡	32,825			27,016

* Book value represents cost/amortised cost of the debt securities.
† Translated at the average rate of US$1.5849: £1.00
‡ Debt securities for US operations included in the statement of financial position at 31 December 2012 comprise:

	2012 £m	2011 £m
Available-for-sale	32,825	27,016
Fair value through profit and loss:		
Securities of consolidated investment funds	–	6
Securities held to back liabilities for funds withheld under reinsurance arrangement	168	–
	32,993	27,022

Included within the movement in gross unrealised losses for the debt securities of Jackson of £59 million (2011: £122 million) as shown above was a net decrease in value of £33 million (2011: £12 million increase) relating to the sub-prime and Alt-A securities as referred to in section B5.

ii Statement of financial position

	31 Dec 2012 £m			31 Dec 2011* £m
	Variable annuity separate account assets and liabilities note (i)	Fixed annuity, GIC and other business note (i)	Total†	Total
Assets				
Intangible assets attributable to shareholders:				
Deferred acquisition costs and other intangibles	–	3,222	3,222	3,115
Total	–	3,222	3,222	3,115
Deferred tax assets	–	1,889	1,889	1,392
Other non-investment and non-cash assets note (vi)	–	6,792	6,792	1,542
Investments of long-term business and other operations:				
Investment properties	–	24	24	35
Financial investments:				
Loans note (ii)	–	6,235	6,235	4,110
Equity securities and portfolio holdings in unit trusts note (v)	49,298	253	49,551	38,036
Debt securities	–	32,993	32,993	27,022
Other investments note (iii)	–	2,296	2,296	2,376
Deposits	–	211	211	167
Total investments	49,298	42,012	91,310	71,746
Properties held for sale	–	–	–	3
Cash and cash equivalents	–	513	513	271
Total assets	49,298	54,428	103,726	78,069
Equity and liabilities				
Equity				
Shareholders' equity note (iii)	–	4,343	4,343	3,761
Total equity	–	4,343	4,343	3,761
Liabilities				
Policyholder:				
Contract liabilities (including amounts in respect of contracts classified as investment contracts under IFRS 4) note (iv)	49,298	42,963	92,261	69,189
Total	49,298	42,963	92,261	69,189
Core structural borrowings of shareholder-financed operations	–	153	153	160
Operational borrowings attributable to shareholder-financed operations	–	26	26	127
Deferred tax liabilities	–	2,168	2,168	1,818
Other non-insurance liabilities note (vi)	–	4,775	4,775	3,014
Total liabilities	49,298	50,085	99,383	74,308
Total equity and liabilities	49,298	54,428	103,726	78,069

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

† The statement of financial position at 31 December 2012 includes the assets and liabilities of the acquired REALIC business. Details of the acquisition are described in note I1.

D: Life assurance business continued

D3: US insurance operations continued

Notes

(i) Assets and liabilities attaching to variable annuity business that are not held in the separate account are shown within other business.

(ii) Loans

The loans of the Group's US insurance operations comprise:

	2012 £m	2011 £m
Mortgage loans*	3,543	3,559
Policy loans†	2,692	551
Total US insurance operations loans	6,235	4,110

* All of the mortgage loans are commercial mortgage loans which are collateralised by properties. The property types are industrial, multi-family residential, suburban office, retail and hotel. The breakdown by property type is as follows:

	2012 %	2011 %
Industrial	29	28
Multi-family residential	25	23
Office	19	19
Retail	17	19
Hotels	10	11
	100	100

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 £6.3 million (2011: £6.6 million). The portfolio has a current estimated average loan to value of 65 per cent (2011: 68 per cent) which provides significant cushion to withstand substantial declines in value.

At 31 December 2012, Jackson had mortgage loans with a carrying value of £78 million where the contractual terms of the agreements had been restructured. In addition to the regular impairment review afforded all loans in the portfolio, restructured loans are also reviewed for impairment. An impairment will be recorded if the expected cash flows under the newly restructured terms discounted at the original yield (the pre-structured interest rate) are below the carrying value of the loan.

† The policy loans are fully secured by individual life insurance policies or annuity policies. The increase in 2012 reflects the purchase of REALIC as explained in note I1. The policy loans from the purchase of REALIC amounted to £1,842 million at 31 December 2012, and are accounted for at fair value through profit and loss as described above. All other policy loans are accounted for at amortised cost, less any impairment.

(iii) Other investments comprise:

	2012 £m	2011 £m
Derivative assets*G3	1,546	1,677
Partnerships in investment pools and other†	750	699
	2,296	2,376

* In the US, Prudential uses derivatives:

- To reduce interest rate risk;
- To facilitate efficient portfolio management to match liabilities under annuity policies; and
- For certain equity-based product management activities.

After taking account of the derivative liabilities of £645 million (2011: £887 million), which are also included in Other non-insurance liabilities, the derivative position for US operations is a net asset of £901 million (2011: £790 million).

† Partnerships in investment pools and other comprise primarily investments in limited partnerships. These include interests in the PPM America Private Equity Fund and diversified investments in 167 (2011: 167) other partnerships by independent money managers that generally invest in various equities and fixed income loans and securities.

(iv) Summary policyholder liabilities (net of reinsurance) and reserves at 31 December 2012

The policyholder liabilities, net of reinsurers' share of £6,076 million (2011: £907 million), reflect balances in respect of the following:

	2012 £m	2011 £m
Policy reserves and liabilities on non-linked business:		
Reserves for future policyholder benefits and claims payable	7,663	518
Deposits on investment contracts (as defined under IFRS 'grandfathered' US GAAP)	27,425	28,314
Guaranteed investment contracts	1,799	1,617
Unit-linked (variable annuity) business	49,298	37,833
	86,185	68,282

In addition to the policyholder liabilities above, Jackson has entered into a programme of funding arrangements under contracts which, in substance, are almost identical to GICs. The liabilities under these funding arrangements totalled £825 million (2011: £1,070 million) and are included in 'Other non-insurance liabilities' in the statement of financial position above.

(v) Equity securities and portfolio holdings in unit trusts includes investments in mutual funds, the majority of which are equity based.

(vi) Reinsurance balances relating to REALIC

Included within Other non-investment and non-cash assets of £6,792 million (2011: £1,542 million) were balances of £6,076 million (2011: £907 million) for reinsurers' share of insurance contract liabilities. Of the £6,076 million as at 31 December 2012, £5,234 million related to the reinsurance ceded by the newly acquired REALIC business. REALIC holds collateral for certain of these reinsurance arrangements with a corresponding funds withheld liability. As of 31 December 2012, the funds withheld liability of £2,021 million was recorded within Other non-insurance liabilities.

b Reconciliation of movement 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 2011	31,203	29,320	60,523
Premiums	9,176	3,738	12,914
Surrenders	(1,898)	(2,372)	(4,270)
Maturities/Deaths	(300)	(520)	(820)
Net flows[note (b)]	6,978	846	7,824
Transfers from general to separate account	957	(957)	–
Investment-related items and other movements	(1,735)	1,871	136
Foreign exchange translation differences[note (a)]	430	276	706
At 31 December 2011/1 January 2012	37,833	31,356	69,189
Premiums	10,361	4,546	14,907
Surrenders	(2,149)	(2,207)	(4,356)
Maturities/Deaths	(404)	(550)	(954)
Net flows[note (b)]	7,808	1,789	9,597
Transfers from general to separate account	1,577	(1,577)	–
Investment-related items and other movements[note (c)]	4,014	227	4,241
Foreign exchange translation differences[note (a)]	(1,998)	(1,680)	(3,678)
Acquisition of REALIC[notes (d), I1]	64	12,848	12,912
At 31 December 2012	49,298	42,963	92,261
Average policyholder liability balances*			
2012	43,549	33,948	77,497
2011	34,518	30,338	64,856

* Averages have been based on opening and closing balances, and adjusted for acquisitions and disposals in the period.

Notes

(a) Movements in the year have been translated at an average rate of US$1.58/£1.00 (2011: US$1.60/£1.00). The closing balances have been translated at closing rate of US$1.63/£1.00 (2011: US$1.55/£1.00). Differences upon retranslation are included in foreign exchange translation differences.

(b) Net flows for the year were £9,597 million compared with £7,824 million in 2011 driven largely by increased new business volumes.

(c) Positive investment-related items and other movements in variable annuity separate account liabilities of £4,014 million for 2012 reflects the increase in the US equity market during the year with the S&P index increasing by 13.4 per cent. Fixed annuity, GIC and other business investment and other movements primarily reflects the interest credited to policyholder account in the year, net of falls in the technical provisions held for the guarantees issued with variable annuity business.

(d) The acquisition of REALIC reflects the liabilities, before reduction for reinsurances ceded, acquired at the date of acquisition.

D: Life assurance business continued

D3: US insurance operations continued

c Information on credit risks of debt securities

Summary	2012 £m	2011 £m
Corporate and government security and commercial loans:		
Government	4,126	2,163
Publicly traded and SEC Rule 144A* securities	19,699	16,281
Non-SEC Rule 144A* securities	3,542	3,198
Total	27,367	21,642
Residential mortgage-backed securities	2,400	2,591
Commercial mortgage-backed securities	2,639	2,169
Other debt securities	587	620
Total US debt securities	32,993	27,022

* A 1990 SEC rule that facilitates the resale of privately placed securities 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.

i Credit quality

The following table summarises by rating the debt securities, as at 31 December 2012 and 2011 using Standard & Poor's (S&P), Moody's, Fitch and implicit ratings of mortgage-backed securities (MBS) based on NAIC* valuations.

	2012 £m	2011 £m
S&P – AAA	187	133
S&P – AA+ to AA-	6,343	4,476
S&P – A+ to A-	7,728	6,382
S&P – BBB+ to BBB-	10,230	8,446
S&P – Other	1,173	999
	25,661	20,436
Moody's – Aaa	55	62
Moody's – Aa1 to Aa3	18	15
Moody's – A1 to A3	21	29
Moody's – Baa1 to Baa3	56	67
Moody's – Other	13	17
	163	190
Implicit ratings of MBS based on NAIC* valuations (see below)		
NAIC 1	2,934	2,577
NAIC 2	207	147
NAIC 3-6	321	368
	3,462	3,092
Fitch	184	184
Other†	3,523	3,120
Total debt securities	32,993	27,022

* The Securities Valuation Office of the National Association of Insurance Commissioners (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.
† The amounts within Other which are not rated by S&P, Moody's nor Fitch, nor are MBS securities using the revised regulatory ratings, have the following NAIC classifications:

	2012 £m	2011 £m
NAIC 1	1,453	1,258
NAIC 2	2,022	1,792
NAIC 3-6	48	70
	3,523	3,120

For some mortgage-backed securities within Jackson, the table above includes these securities using the regulatory ratings detail issued by the NAIC. These regulatory ratings levels were established by external third parties (PIMCO for residential mortgage-backed securities and BlackRock Solutions for commercial mortgage-backed securities) based on Jackson's carrying value.

ii Determining the fair value of debt securities when the markets are not active

Under IAS 39, unless categorised as 'held to maturity' or 'loans and receivables' debt securities are required to be fair valued. Where available, quoted market prices are used. However, where securities do not have an externally quoted price based on regular trades, or where markets for the securities are no longer active as a result of market conditions, IAS 39 requires that valuation techniques be applied. IFRS 7 requires classification of the fair values applied by the Group into a three level hierarchy. Note G1 sets out further details of the Group's approach to determining fair value and classifies these fair values into a three level hierarchy as required by IFRS 7. At 31 December 2012, 0.1 per cent of Jackson's debt securities were classified as level 3 (31 December 2011: 0.1 per cent) comprising of fair values where there are significant inputs which are not based on observable market data.

iii Asset-backed securities funds exposures

Included within the debt securities of Jackson at 31 December 2012, are exposures to asset-backed securities as follows:

	2012 £m	**2011** £m
RMBS:		
Sub-prime (2012: 15% AAA, 6% AA)	261	207
Alt-A (2012: 4% AAA, 1% AA)	323	310
Prime including agency (2012: 0% AAA, 75% AA)	1,816	2,074
CMBS (2012: 40% AAA, 24% AA)	2,639	2,169
CDO funds (2012: 0% AAA, 27% AA)*, including £nil exposure to sub-prime	44	44
Other ABS (2012: 24% AAA, 15% AA), including £nil exposure to sub-prime	543	576
Total	5,626	5,380

* Including Group's economic interest in Piedmont and other consolidated CDO funds.

Jackson defines its exposure to sub-prime mortgages as investments in residential mortgage-backed securities in which the underlying borrowers have a US Fair Isaac Credit Organisation (FICO) credit score of 680 or lower.

iv Debt securities classified as available-for-sale in an unrealised loss position

The following table shows the fair value of those securities that are in a gross unrealised loss position for various percentages of book value at 31 December:

	2012 £m		**2011** £m	
	Fair value	**Unrealised loss**	**Fair value**	**Unrealised loss**
Between 90% and 100%	4,214	(112)	1,829	(60)
Between 80% and 90%	85	(13)	172	(28)
Below 80%*	74	(53)	208	(158)
Total	4,373	(178)	2,209	(246)

* The unrealised losses as at 31 December 2012 include £77 million (2011: £183 million) relating to mortgage-backed and other debt securities. The unrealised losses in the portfolio by reference to the length of time of three years or more as at 31 December 2012 are £36 million (2011: £105 million) in the investment grade and £31 million (2011: £61 million) in non-investment grade.

D: Life assurance business continued

D3: US insurance operations continued

d Products and guarantees

Jackson provides long-term savings and retirement products to retail and institutional customers throughout the US. Jackson offers fixed annuities (interest-sensitive, fixed indexed and immediate annuities), variable annuities (VA), life insurance and institutional products.

i Fixed annuities

Interest-sensitive annuities

At 31 December 2012, interest-sensitive fixed annuities accounted for 13 per cent (2011: 16 per cent) of policy and contract liabilities of Jackson. Interest-sensitive fixed annuities are primarily deferred annuity products that are used for asset accumulation in retirement planning and for providing income in retirement. They permit tax-deferred accumulation of funds and flexible payout options.

The policyholder of an interest-sensitive fixed 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. At 31 December 2012, Jackson had fixed interest rate annuities totalling £11.7 billion (US$19.0 billion) (2011: £11.5 billion (US$17.8 billion)) in account value with minimum guaranteed rates ranging from 1.0 per cent to 5.5 per cent and a 3.09 per cent average guaranteed rate (2011: 1.0 per cent to 5.5 per cent and a 3.08 per cent average guaranteed rate).

Approximately 50 per cent (2011: 48 per cent) of the interest-sensitive fixed annuities Jackson wrote in 2012 provide for a market value adjustment that could be positive or negative, on surrenders in the surrender period of the policy. This formula-based adjustment approximates the change in value that assets supporting the product would realise as interest rates move up or down. The minimum guaranteed rate is not affected by this adjustment.

Fixed indexed annuities

Fixed indexed annuities (FIA) accounted for 8 per cent (2011: 9 per cent) of Jackson's policy and contract liabilities at 31 December 2012. Fixed indexed annuities vary in structure, but generally are deferred annuities that enable policyholders to obtain a portion of an equity-linked return (based on participation rates and caps) but provide a guaranteed minimum return. These guaranteed minimum rates are generally set between 1.0 per cent and 3.0 per cent. Jackson had fixed indexed annuities allocated to indexed funds totalling £5.6 billion (US$9.2 billion) (2011: £5.0 billion (US$7.8 billion)) in account value with minimum guaranteed rates on indexed accounts ranging from 1.0 per cent to 3.0 per cent and a 1.82 per cent average guaranteed rate (2011: 1.0 per cent to 3.0 per cent and a 1.76 per cent average guarantee rate). Jackson also offers fixed interest accounts on some fixed indexed annuity products. Fixed interest accounts of fixed indexed annuities totalled £1.5 billion (US$2.3 billion) (2011: £1.4 billion (US$2.1 billion)) in account value with minimum guaranteed rates ranging from 1.0 per cent to 3.0 per cent and a 2.53 per cent average guaranteed rate (2011: 1.0 per cent to 3.0 per cent and a 2.50 per cent average guarantee rate).

Jackson hedges the equity return risk on fixed indexed products using futures and options linked to the relevant index as well as through offsetting equity exposure in the VA product. The cost of these hedges is taken into account in setting the index participation rates or caps. Jackson bears the investment and surrender risk on these products.

Immediate annuities

At 31 December 2012, immediate annuities accounted for 1 per cent (2011: 1 per cent) of Jackson's policy and contract liabilities. Immediate annuities guarantee a series of payments beginning within a year of purchase and continuing over either a fixed period of years and/or the life of the policyholder. If the term is for the life of the policyholder, then Jackson's primary risk is mortality risk. The implicit interest rate on these products is based on the market conditions that exist at the time the policy is issued and is guaranteed for the term of the annuity.

ii Variable annuities

At 31 December 2012, VAs accounted for 60 per cent (2011: 63 per cent) of Jackson's policy and contract liabilities. VAs are deferred annuities that have the same tax advantages and payout options as interest-sensitive and fixed indexed annuities.

The primary differences between VAs and interest-sensitive or fixed indexed annuities are investment risk and return. If a policyholder chooses a VA, the rate of return depends upon the performance of the selected fund portfolio. Policyholders may allocate their investment to either the fixed 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 2012, approximately 8 per cent (2011: approximately 10 per cent) of VA funds were in fixed accounts. Jackson had fixed interest rate accounts in variable annuities totalling £4.3 billion (US$7.0 billion) (2011: £4.3 billion (US$6.7 billion)) in account value with minimum guaranteed rates ranging from 1.0 per cent to 3.0 per cent and a 1.89 per cent average guaranteed rate (2011: 1.0 per cent to 3.0 per cent and a 1.99 per cent average guarantee rate).

Jackson issues VA contracts where it contractually guarantees to the contractholder either a) return of no less than 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 the contract anniversary. These guarantees include benefits that are payable in the event of death (guaranteed minimum death benefit (GMDB)), annuitisation (guaranteed minimum income benefit (GMIB)), or at specified dates during the accumulation period (guaranteed minimum withdrawal benefit (GMWB) and guaranteed minimum accumulation benefit (GMAB)). Jackson hedges these risks using equity options and futures contracts as described in note D3(h). The GMAB was eliminated from Jackson's product offerings in 2011. The GMIB is no longer offered, with existing coverage being reinsured.

In March 2012, Jackson launched a new variable annuity product, Elite Access, which has no guaranteed benefits and provides tax efficient access to alternative investments. Single premium sales in the period since launch were £849 million.

iii Aggregate distribution of account values

The table below shows the distribution of account values for fixed annuities (interest sensitive and fixed indexed) and variable annuities within the range of minimum guaranteed interest rates as described in notes i and ii above as at 31 December 2012 and 2011:

	Account value	
Minimum guaranteed interest rate	**2012** £m	**2011** £m
1.0%	2,534	1,988
> 1.0% – 2.0%	8,374	8,321
> 2.0% – 3.0%	9,174	9,352
> 3.0% – 4.0%	1,236	841
> 4.0% – 5.0%	1,518	1,425
> 5.0%	209	167
Total	23,045	22,094

iv Life insurance

Jackson's life insurance products accounted for 15 per cent (2011: 7 per cent) of Jackson's policy and contract liabilities at 31 December 2012. The increase from 2011 was a result of the acquisition of REALIC. Jackson discontinued new sales of life insurance products effective 1 August 2012. The life products included term life, universal life and variable universal life. 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.

At 31 December 2012, Jackson (including the newly acquired REALIC) had interest sensitive life business in force with total account value of £6.0 billion (US$9.7 billion) (2011: £3.3 billion (US$5.1 billion)), with minimum guaranteed interest rates ranging from 2.5 per cent to 6.0 per cent with a 4.67 per cent average guaranteed rate (2011: 3.0 per cent to 6.0 per cent with a 4.88 per cent average guaranteed rate). The table below shows the distribution of the interest-sensitive life business' account values within this range of minimum guaranteed interest rates as at 31 December 2012 and 2011:

	Account value	
Minimum guaranteed interest rate	**2012** £m	**2011** £m
1.0%	–	–
> 1.0% – 2.0%	–	–
> 2.0% – 3.0%	183	130
> 3.0% – 4.0%	2,141	1,145
> 4.0% – 5.0%	2,097	686
> 5.0%	1,550	1,317
Total	5,971	3,278

D: Life assurance business continued

D3: US insurance operations continued

v Institutional products

Jackson's institutional products consist of 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 2012, institutional products accounted for 3 per cent of policy and contract liabilities (2011: 4 per cent). Under a traditional GIC, the policyholder makes a lump sum deposit. The interest rate paid is fixed and established when the contract is issued. If deposited funds are withdrawn earlier than the specified term of the contract, an adjustment is made that approximates a market value adjustment.

Under a funding agreement, the policyholder either makes a lump sum deposit or makes specified periodic deposits. Jackson agrees to pay a rate of interest, which may be fixed but which is usually a floating short-term interest rate linked to an external index. The average term of the funding arrangements is one to two years. In 2012 and 2011, there were no funding agreements terminable by the policyholder with less than 90 days' notice.

Medium-term note funding agreements are generally issued to support trust instruments issued on non-US exchanges or to qualified investors (as defined by SEC Rule 144A). Through the funding agreements, Jackson agrees to pay a rate of interest, which may be fixed or floating, to the holders of the trust instruments.

e Process for setting assumptions and determining contract liabilities

Under the MSB of reporting applied under IFRS 4 for insurance contracts, providing the requirements of the Companies Act, UK GAAP standards and the ABI SORP are met, it is permissible to reflect the previously applied UK GAAP basis. Accordingly, and consistent with the basis explained in note A3, in the case of Jackson the carrying values of insurance assets and liabilities are consolidated into the Group accounts based on US GAAP.

Under US GAAP, investment contracts (as defined for US GAAP purposes) are accounted for by applying, in the first instance, a retrospective deposit method to determine the liability for policyholder benefits. This is then augmented by potentially three additional amounts. These amounts are for:

- 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).

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 generally 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 elements, each of which will be determined based on the best estimate of amounts of the following individual elements over the life of the book of contracts without provision for adverse deviation for:

- 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.

VA contracts written by Jackson may, as described above, provide for GMDB, GMIB, GMWB and GMAB features. In general terms, liabilities for these benefits are accounted for under US GAAP by using estimates of future benefits and fees under best estimate persistency assumptions.

In accordance with US GAAP, the 'grandfathered' basis for IFRS, which specifies how certain guarantee features should be accounted for, the GMDB and the 'for life' portion of GMWB liabilities are not fair valued but are instead 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 2012, these liabilities were valued using a series of deterministic investment performance scenarios, a mean investment return of 8.4 per cent (2011: 8.4 per cent) and assumptions for lapse, mortality and expense that are the same as those used in amortising the capitalised acquisition costs.

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 benefits are essentially fully reinsured, subject to 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 derivative fluctuations.

The assumptions used for calculating the direct GMIB liability at 31 December 2012 and 2011, are consistent with those used for calculating the GMDB and 'for life' GMWB liabilities. The change in these reserves, along with claim payments and associated fees included in reserves, are included along with the hedge results in short-term fluctuations, resulting in removal of the market impact from the operating profit based on longer-term investment returns.

Jackson regularly evaluates, estimates used and adjusts the additional GMDB, GMIB and GMWB 'for life' liability balances, with a related charge or credit to benefit expense, if actual experience or other evidence suggests that earlier assumptions should be revised.

GMWB 'not for life' features are considered to be embedded derivatives under IAS 39. Therefore, provisions for these benefits are recognised at fair value, with the change in fair value included in short-term fluctuations.

For GMWB and GMIB reinsurance embedded derivatives that are fair valued under IAS 39, Jackson bases its volatility assumptions solely on implied market volatility with no reference to historical volatility levels and explicitly incorporates Jackson's own credit risk in determining discount rates.

Volatility assumptions are based on a weighting of available market data on implied volatility for durations up to ten years, at which point the projected volatility is held constant. Non-performance risk is incorporated into the calculation through the use of discount interest rates sourced from a AA corporate credit curve. Other risk margins, particularly for market illiquidity and policyholder behaviour, are also incorporated into the model through the use of explicitly conservative assumptions. On a periodic basis, Jackson rationalises the resulting fair values based on comparisons to other models and market movements.

With the exception of the GMDB, GMIB, GMWB and GMAB features of VA contracts, the financial guarantee features of Jackson's contracts are in most circumstances not explicitly valued, but the impact of any interest guarantees would be reflected as they are earned in the current account value (ie the US GAAP liability).

For traditional life insurance contracts, provisions for future policy benefits are determined under US GAAP using the net level premium method and assumptions as of the issue date as to mortality, interest, policy lapses and expenses plus provisions for adverse deviation.

Institutional products are accounted for as investment contracts under IFRS with the liability classified as being in respect of financial instruments rather than insurance contracts, as defined by IFRS 4. In practice, there is no material difference between the IFRS and US GAAP basis of recognition and measurement for these contracts.

Certain institutional products representing obligations issued in currencies other than US dollars have been hedged for changes in exchange rates using cross-currency swaps. The fair value of derivatives embedded in funding agreements, as well as foreign currency transaction gains and losses, are included in the carrying value of the trust instruments supported by funding agreements recorded in other non-insurance liabilities.

Deferred acquisition costs

Under IFRS 4, the Group applies 'grandfathered' US GAAP for measuring the insurance assets and liabilities of Jackson. In the case of Jackson 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 a combination of historical and future expected gross profits on the relevant contracts. For fixed and indexed annuity and interest-sensitive life business, the key assumption is the long-term spread between the earned rate on investments and the rate credited to policyholders, which is based on an annual spread analysis. Expected gross profits also 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 mortality, lapse and expense experience is performed using internally developed experience studies.

As with fixed and indexed annuity and interest-sensitive life business, acquisition costs for Jackson's variable annuity products are amortised in line with the emergence of profits. The measurement of the amortisation, in part, reflects current period fees (including those for guaranteed minimum death, income, or withdrawal benefits) earned on assets covering liabilities to policyholders, and the historical and expected level of future gross profits which depends on the assumed level of future fees, as well as components related to mortality, lapse and expense.

Change of accounting policy

As explained in note A5, the Company has adopted the US Financial Accounting Standards Board requirements in the Emerging Issues Task Force (EITF) Update No. 2010-26 on 'Accounting for Costs Associated with Acquiring or Renewing Insurance Contracts' from 1 January 2012 into Prudential's Group IFRS reporting for the results of Jackson and those Asia operations whose IFRS insurance assets and liabilities are measured principally by reference to US GAAP principles. Under the Update, insurers are required to capitalise only those incremental costs directly relating to successfully acquiring a contract from 1 January 2012. For Group IFRS reporting, the Company has chosen to apply this new basis retrospectively for the results of these operations.

On application of the new policy for Jackson, the deferred costs balance for business in force at 31 December 2011, was retrospectively reduced from £3,880 million to £3,095 million.

D: Life assurance business continued

D3: US insurance operations continued

Mean reversion technique

For variable annuity products, under US GAAP (as 'grandfathered' under IFRS 4) the projected gross profits, against which acquisition costs are amortised, reflect an assumed long-term level of equity return which, for Jackson, is 8.4 per cent after deduction of net external fund management fees. This is applied to the period end level of separate account assets after application of a mean reversion technique that removes a portion of the effect of levels of short-term variability in current market returns.

Under the mean reversion technique applied by Jackson, the projected level of return for each of the next five years is adjusted from period to period, so that in combination with the actual rates of return for the preceding two years and the current year, the 8.4 per cent annual return is realised on average over the entire eight year period. Projected returns after the mean reversion period revert back to the 8.4 per cent assumption.

However, to ensure that the methodology does not over anticipate a reversion to trend following adverse markets, the mean reversion technique has a cap and floor feature whereby the projected returns in each of the next five years can be no more than 15 per cent per annum and no less than 0 per cent per annum (both gross of asset management fees) in each year. The capping feature was relevant in late 2008, 2009 and 2010 due to the very sharp market falls in 2008. Notwithstanding this capping feature, the mean reversion technique gave rise to a benefit in 2008 of £110 million. This benefit was effectively 'paid back' under the mean reversion technique through charges for accelerated amortisation in 2011, as discussed below.

At 31 December 2012, the projected rate of return for the next five years is materially the same as the long-term assumption of 8.4 per cent, and so the mean reversion technique had little effect at that date.

Sensitivity of amortisation charge

The amortisation charge to the income statement is reflected in 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 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 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.

2011

In 2011, the DAC amortisation charge to operating profit included £190 million of accelerated amortisation. This amount reflected the combined effect of:

(a) The separate account performance in the year of negative 4 per cent, net of all fees as it compared with the assumed level for the year; and
(b) The reduction in the previously assumed future rates of return for the upcoming five years from 15 per cent, to a level nearer the middle of the corridor (of 0 per cent and 15 per cent), so that, in combination with the historical returns, the eight-year average in the mean reversion calculation was the 8.4 per cent assumption.

The reduction in assumed future rates reflected, in large part, the elimination from the calculation in 2011 of the 2008 negative returns. Setting aside other complications and the growth in the book, the 2011 accelerated amortisation can be broadly equated as 'paying back' the benefit experienced in 2008.

2012

In 2012, the DAC amortisation charge to operating profit of £356 million was determined after taking credit for decelerated amortisation of £56 million. This amount primarily reflects the separate account performance of 11 per cent, net of all fees, over the assumed level for the year.

2013

The application of the mean reversion formula has the effect of dampening the impact of equity market movements on DAC amortisation while the mean reversion assumption lies within the corridor. It would take a very significant movement in equity markets in 2013 (outside the range of negative 20 per cent to positive 50 per cent) for the mean reversion assumption to move outside the corridor.

Statement of changes in equity – 'shadow DAC adjustments'

Consequent upon the positive unrealised valuation movement in 2012 of £862 million (2011: positive £811 million), there is a debit of £270 million (2011: £275 million debit) 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 happened if the assets reflected in the statement of financial position had been sold, crystallising the unrealised gains or losses, and the proceeds reinvested at the yields currently available in the market. At 31 December 2012, the cumulative 'shadow DAC balance' was negative £952 million (2011: negative £720 million).

f Reinsurance

The reinsurance asset for business ceded outside the Group was £6,076 million (2011: £907 million). The increase from 2011 is due to the acquisition of REALIC as described in note I1, whereby certain former REALIC business was retained by Swiss Re through 100 per cent reinsurance agreements. Apart from the reinsurance acquired through the purchase of REALIC, 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. In 2012, the premiums for such ceded business amounted to £193 million (2011: £72 million). Net commissions received on ceded business and claims incurred ceded to external reinsurers totalled £24 million and £123 million respectively during 2012 (2011: £9 million and £84 million respectively). There were no deferred gains or losses on reinsurance contracts in either 2012 or 2011.

g Effect of changes in assumptions used to measure insurance assets and liabilities

In 2012 and 2011, there were no changes of assumptions that had a material impact on the results of US insurance operations.

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

Jackson's main exposures are to market risk through its exposure to interest rate risk and equity risk. Approximately 94 per cent (2011: 92 per cent) of its general account investments support interest-sensitive and fixed indexed annuities, life business and surplus and 6 per cent (2011: 8 per cent) support institutional business. 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 in the US arising from fluctuations in interest rates:

- The risk of loss related to meeting guaranteed rates of accumulation following a sharp and sustained fall in interest rates;
- The risk of loss related 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 is also exposed to the following risks in the US arising from equity market movements:

- The risk of loss related to the incidence of benefits related to guarantees issued in connection with its VA contracts; and
- The risk of loss related to meeting contractual accumulation requirements in FIA contracts.

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 indexed annuities, certain GMWB variable annuity features and reinsured GMIB 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.

Value movements on the derivatives are reported within the income statement. In preparing Jackson's segment profit as shown in note B1, value movements on Jackson's derivative contracts, are included within short-term fluctuations in investment returns and excluded from operating results based on longer-term investment returns.

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

- Interest rate swaps 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;
- Put-swaption 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 purchases and writes put-swaptions with maturities up to 10 years. Put-swaptions hedge against significant movements in interest rates;
- Equity index futures contracts and equity index options (including various call, put options and put spreads) are used to hedge Jackson's obligations associated with its issuance of fixed indexed immediate and deferred annuities and certain VA guarantees. These annuities and guarantees contain embedded options which are fair valued for financial reporting purposes;
- Total return swaps in which Jackson receives equity returns or returns based on reference pools of assets in exchange for short-term floating rate payments based on notional amounts, are held for both hedging and investment purposes;
- 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; and
- Credit default 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. Note A5 provides explanation of the new US GAAP DAC basis adopted by the Company from 1 January 2012. Note D3(e) above provides an explanation of the dynamics that affect the amortisation charge.

D: Life assurance business continued

D3: US insurance operations continued

i Sensitivity to equity risk

Variable annuity contract related

At 31 December 2012 and 2011, Jackson had variable annuity contracts with guarantees, for which the net amount at risk (NAR) is generally the amount of guaranteed benefit in excess of current account value, as follows:

31 December 2012	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%	40,964	1,839	64.4 years	
GMWB – Premium only	0%	2,213	91		
GMWB*	0-5%	3,359	88*		
GMAB – Premium only	0%	53	–		
Highest specified anniversary account value minus withdrawals post-anniversary					
GMDB		4,554	324	64.0 years	
GMWB – Highest anniversary only		1,880	245		
GMWB*		697	137*		
Combination net deposits plus minimum return, highest specified anniversary account value minus withdrawals post-anniversary					
GMDB	0-6%	2,705	348	66.4 years	
GMIB‡	0-6%	1,588	469		3.3 years
GMWB*	0-8%†	31,167	1,918*		

31 December 2011	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%	31,571	2,914	64.2 years	
GMWB – Premium only	0%	2,325	195		
GMWB*	0-5%	2,582	582*		
GMAB – Premium only	0%	54	2		
Highest specified anniversary account value minus withdrawals post-anniversary					
GMDB		4,002	678	63.7 years	
GMWB – Highest anniversary only		1,855	423		
GMWB*		735	217*		
Combination net deposits plus minimum return, highest specified anniversary account value minus withdrawals post-anniversary					
GMDB	0-6%	2,098	479	66.1 years	
GMIB‡	0-6%	1,661	575		4.2 years
GMWB*	0-8%†	21,902	2,263*		

* 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 ten year bonus period. For example 1 + 10 x 0.05 is similar to 1.041 growing at a compound rate of 4.01 per cent for a further nine years.

‡ The GMIB reinsurance guarantees are fully reinsured.

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

	2012 £m	2011 £m
Mutual fund type:		
Equity	38,092	28,902
Bond	5,673	4,251
Balanced	4,601	3,846
Money market	766	677
Total	49,132	37,676

As noted above, Jackson is exposed to equity risk through the options embedded in the fixed indexed liabilities and GMDB and GMWB guarantees included in certain VA benefits. 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 separate account fees.

As a result of this hedging programme, if the equity markets were to increase further in the future, the net effect on 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.

At 31 December 2012, the estimated sensitivity of Jackson's profit for VA business, 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.

	2012 £m				2011* £m			
	Decrease of 20%	Decrease of 10%	Increase of 10%	Increase of 20%	Decrease of 20%	Decrease of 10%	Increase of 10%	Increase of 20%
Pre-tax profit, net of related changes in amortisation of DAC (excluding impact on future separate account fees)	326	120	(86)	(215)	373	196	(242)	(539)
Related deferred tax effects	(114)	(42)	30	75	(130)	(69)	85	189
Net sensitivity of profit after tax and shareholders' equity	212	78	(56)	(140)	243	127	(157)	(350)

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

The above table provides sensitivity movements as 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 2012.

Other sensitivity to equity risk

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.

A range of reasonably possible movements in the value of equity securities, partnerships in investment pools and other financial derivatives have been applied to Jackson's holdings at 31 December 2012 and 2011. The table below shows the sensitivity to a 10 per cent and 20 per cent fall in value, and the impact that this would have on pre-tax profit, net of related changes in amortisation of DAC, profit after tax and shareholders' equity.

	2012 £m		2011* £m	
	Decrease of 20%	Decrease of 10%	Decrease of 20%	Decrease of 10%
Pre-tax profit, net of related changes in amortisation of DAC	(143)	(72)	(129)	(64)
Related deferred tax effects	50	25	45	23
Net sensitivity of profit after tax and shareholders' equity	(93)	(47)	(84)	(41)

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

D: Life assurance business continued

D3: US insurance operations continued

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

In the equity risk sensitivity analysis shown above, 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 this would be expected to occur over a period of time during which the Group would be able to put in place mitigating management actions.

ii Sensitivity to interest rate risk

Notwithstanding the market risk exposure previously described, 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 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 attaching to variable annuity business (other than 'for-life') are accounted for as embedded derivatives which are fair valued and so 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 profit and loss. 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 (subject to a floor of zero) and increase in interest rates at 31 December 2012 and 2011 is as follows:

	2012 £m				2011* £m			
	A 2% decrease	A 1% decrease	A 1% increase	A 2% increase	A 2% decrease	A 1% decrease	A 1% increase	A 2% increase
Profit and loss								
Direct effect								
Derivatives value change	1,525	778	(625)	(1,142)	1,549	736	(592)	(1,078)
Policyholder liabilities	(2,021)	(871)	610	970	(925)	(446)	395	753
Related effect on amortisation of DAC	309	93	(39)	(14)	(132)	(61)	33	46
Pre-tax profit effect	(187)	–	(54)	(186)	492	229	(164)	(279)
Related effect on charge for deferred tax	65	–	19	65	(172)	(80)	57	98
Net profit effect	(122)	–	(35)	(121)	320	149	(107)	(181)
Other comprehensive income								
Direct effect on carrying value of debt securities	3,873	2,175	(2,175)	(3,873)	2,679	1,513	(1,513)	(2,679)
Related effect on amortisation of DAC	(1,332)	(748)	748	1,332	(954)	(539)	539	954
Related effect on movement in deferred tax	(889)	(499)	499	889	(604)	(341)	341	604
Net effect	1,652	928	(928)	(1,652)	1,121	633	(633)	(1,121)
Total net effect on shareholders' equity	1,530	928	(963)	(1,773)	1,441	782	(740)	(1,302)

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

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.

iii Currency translation 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 2012, the rates were US$1.58 (2011: US$1.60) and US$1.63 (2011: US$1.55) to £1.00 sterling, respectively. A 10 per cent increase or decrease 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	
	2012 £m	**2011*** £m	**2012** £m	**2011*** £m
Profit before tax attributable to shareholders[note]	**(78)**	(44)	**95**	53
Profit for the year	**(56)**	(32)	**69**	39
Shareholders' equity attributable to US insurance operations	**(395)**	(342)	**483**	418

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

Note
Sensitivity on profit before tax ie aggregate of the operating profit based on longer-term investment returns and short-term fluctuations in investment returns.

In addition, the total profit for Jackson is affected by the level of impairment losses on the debt securities portfolio, net effect of market risk arising from the incidence and valuation of guarantee features, guaranteed benefit payments and equity index participation features, offset by variability of benefit related fees and equity derivative hedging performance, short-term value movements on derivatives held to manage the fixed annuity and other general account business, and other temporary value movements on portfolio investments classified as fair value through profit and loss.

iv Other sensitivities

As noted in section D1, total profit is very sensitive to market risk on the assets covering liabilities other than variable annuity business segregated in the separate accounts.

As with other shareholder-backed business the profit or loss for Jackson is presented by distinguishing the result for the year between an operating result based on longer-term investment returns and short-term fluctuations in investment returns. In this way, the most significant direct effect of market changes that have taken place to the Jackson result are separately identified. The principal determinants of variations in operating profit based on longer-term returns are:

- Growth in the size of assets under management covering the liabilities for the contracts in force;
- Variations in fees and other income, offset by variations in market value adjustment payments and, where necessary, strengthening of liabilities;
- Spread returns for the difference between investment returns and rates credited to policyholders; and
- Amortisation of deferred acquisition costs.

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. However, Jackson uses swaption derivatives to ameliorate the effect of a sharp rise in interest rates, which would be the most likely cause of a sudden change in policyholder behaviour.

For variable annuity business, the key assumption is the expected long-term level of separate account returns, which for 2012 and 2011 was 8.4 per cent. The impact of using this return is reflected in two principal ways, namely:

- Through the projected expected gross profits which 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 D3(e) above; and
- The required level of provision for guaranteed minimum death benefit claims.

D: Life assurance business continued

D3: US insurance operations continued

i Duration of liabilities

The table below shows the carrying value of policyholder liabilities. The table below also shows the maturity profile of the cash flows for 2012 and 2011:

	2012 £m			2011 £m		
	Fixed annuity and other business (including GICs and similar contracts)	Variable annuity	Total	Fixed annuity and other business (including GICs and similar contracts)	Variable annuity	Total
Policyholder liabilities	42,963	49,298	92,261	31,356	37,833	69,189
	2012 %			2011 %		
Expected maturity:						
0 to 5 years	45	46	46	47	47	47
5 to 10 years	27	31	29	27	30	29
10 to 15 years	12	13	13	11	13	12
15 to 20 years	7	6	6	6	6	6
20 to 25 years	5	2	3	5	2	3
Over 25 years	4	2	3	4	2	3

The maturity tables shown above have been prepared on a discounted basis. Details of undiscounted cash flows for investment contracts are shown in note G2.

D4: Asia insurance operations

a Summary statement of financial position

31 December	2012 £m				2011* £m
	With-profits business note (i)	Unit-linked assets and liabilities	Other business	Total	Total
Assets					
Intangible assets attributable to shareholders:					
Goodwill	–	–	239	239	235
Deferred acquisition costs and other intangible assets	–	–	908	908	977
Total	–	–	1,147	1,147	1,212
Intangible assets attributable to with-profits funds:					
Deferred acquisition costs and other intangible assets	72	–	–	72	83
Deferred tax assets	–	–	83	83	115
Other non-investment and non-cash assets	324	123	670	1,117	1,024
Investments of long-term business and other operations:					
Investment properties	–	–	4	4	10
Financial investments:					
Loans note (iii)	600	–	414	1,014	1,233
Equity securities and portfolio holdings in unit trusts	3,160	10,491	659	14,310	11,997
Debt securities	11,495	3,194	6,713	21,402	17,681
Other investments	504	47	406	957	470
Deposits	165	574	488	1,227	1,165
Total investments	15,924	14,306	8,684	38,914	32,556
Cash and cash equivalents	524	421	723	1,668	1,977
Total assets	16,844	14,850	11,307	43,001	36,967
Equity and liabilities					
Equity					
Shareholders' equity	–	–	2,529	2,529	2,306
Non-controlling interests	–	–	4	4	5
Total equity	–	–	2,533	2,533	2,311
Liabilities					
Policyholder liabilities and unallocated surplus of with-profits funds:					
Contract liabilities (including amounts in respect of contracts classified as investment contracts under IFRS 4)	13,388	14,028	7,185	34,601	30,862
Unallocated surplus of with-profits funds note (ii)	63	–	–	63	50
Total	13,451	14,028	7,185	34,664	30,912
Operational borrowings attributable to shareholder-financed operations	–	–	7	7	141
Deferred tax liabilities	384	46	158	588	506
Other non-insurance liabilities	3,009	776	1,424	5,209	3,097
Total liabilities	16,844	14,850	8,774	40,468	34,656
Total equity and liabilities	16,844	14,850	11,307	43,001	36,967

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

Notes

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

(ii) For the purposes of the presentation of unallocated surplus of with-profits within the statement of financial position, the Hong Kong branch balance is reported within the unallocated surplus of the PAC with-profits sub-fund of the UK insurance operations.

D: Life assurance business continued

D4: Asia insurance operations continued

(iii) Asia insurance operations
The loans of the Group's Asia insurance operations comprise:

	2012 £m	2011 £m
Mortgage loans*	43	31
Policy loans*	610	572
Other loans†	361	630
Total Asia insurance operations loans	1,014	1,233

* The mortgage and policy loans are secured by properties and life insurance policies respectively.
† The majority of the other loans are commercial loans held by the Malaysia operation and which are all investment graded by two local rating agencies.

Summary policyholder liabilities (net of reinsurance) and unallocated surplus
At 31 December 2012, the policyholder liabilities net of reinsurance of £175 million (2011: £151 million) and unallocated surplus for Asia operations of £34.5 billion (2011: £30.8 billion) comprised the following:

	2012 £m	2011 £m
Singapore	10,731	9,323
Hong Kong	8,610	8,279
Malaysia	3,336	2,829
Indonesia	2,110	1,809
Korea	2,131	1,852
Taiwan	1,931	1,429
Other countries	5,640	5,240
Total Asia operations	34,489	30,761

b Reconciliation of movement 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 2011	11,024	12,724	4,992	28,740
Comprising:				
Policyholder liabilities	10,958	12,724	4,992	28,674
Unallocated surplus of with-profits funds	66	–	–	66
Premiums:				
New business	162	1,136	723	2,021
In-force	1,110	1,163	785	3,058
	1,272	2,299	1,508	5,079
Surrenders[note (c)]	(502)	(1,490)	(245)	(2,237)
Maturities/Deaths	(431)	(39)	(194)	(664)
Net flows[note (b)]	339	770	1,069	2,178
Shareholders' transfers post tax	(30)	–	–	(30)
Investment-related items and other movements	1,274	(1,154)	245	365
Foreign exchange translation differences[note (a)]	36	(325)	(52)	(341)
At 31 December 2011/1 January 2012	12,643	12,015	6,254	30,912
Comprising:				
Policyholder liabilities	12,593	12,015	6,254	30,862
Unallocated surplus of with-profits funds	50	–	–	50
Premiums:				
New business	216	1,336	636	2,188
In-force	1,263	1,292	877	3,432
	1,479	2,628	1,513	5,620
Surrenders[note (c)]	(608)	(1,675)	(258)	(2,541)
Maturities/Deaths	(432)	(30)	(196)	(658)
Net flows[note (b)]	439	923	1,059	2,421
Shareholders' transfers post tax	(31)	–	–	(31)
Investment-related items and other movements[note (d)]	639	1,451	88	2,178
Foreign exchange translation differences[note (a)]	(239)	(361)	(216)	(816)
At 31 December 2012	13,451	14,028	7,185	34,664
Comprising:				
Policyholder liabilities	13,388	14,028	7,185	34,601
Unallocated surplus of with-profits funds	63	–	–	63
Average policyholder liability balances*				
2012	12,990	13,022	6,720	32,732
2011	11,775	12,370	5,623	29,768

* Averages have been based on opening and closing balances and exclude unallocated surplus of with-profits funds.

Notes

(a) Movements in the year have been translated at the average exchange rates for the year ended 31 December 2012. The closing balance has been translated at the closing spot rates as at 31 December 2012. Differences upon retranslation are included in foreign exchange translation differences.

(b) Net flows have increased by £243 million to £2,421 million in 2012, compared with £2,178 million in 2011, reflecting increased flows from new business and growth in the in-force books.

(c) In 2012 the rate of surrenders for shareholder-backed business (expressed as a percentage of opening liabilities) was 10.6 per cent (2011: 9.8 per cent). Excluding India where the market has been going through a significant period of change following regulatory changes in 2010, the surrender rate in 2012 was at 9.7 per cent (2011: 9.6 per cent). For with-profits business, surrenders have increased from £502 million in 2011 to £608 million in 2012, primarily as a result of certain products in Hong Kong reaching their five year anniversary, the point at which some product features trigger.

(d) Positive investment-related items and other movements of £2,178 million in 2012 primarily reflects improvements in the Asia equity market.

D: Life assurance business continued

D4: Asia insurance operations continued

c Information on credit risks of debt securities

The following table summarises the credit quality of the debt securities of the Asia insurance operations as at 31 December 2012 by rating agency ratings:

	2012 £m				2011 £m
	With-profits business	Unit-linked assets	Other business	Total	Total
S&P – AAA	675	19	91	785	1,423
S&P – AA+ to AA-	2,960	466	2,097	5,523	3,843
S&P – A+ to A-	2,059	279	944	3,282	3,055
S&P – BBB+ to BBB-	1,377	112	417	1,906	1,451
S&P – Other	1,443	815	874	3,132	2,137
	8,514	1,691	4,423	14,628	11,909
Moody's – Aaa	700	215	474	1,389	1,489
Moody's – Aa1 to Aa3	139	34	98	271	128
Moody's – A1 to A3	93	14	62	169	304
Moody's – Baa1 to Baa3	196	122	57	375	131
Moody's – Other	98	12	2	112	59
	1,226	397	693	2,316	2,111
Fitch	322	93	118	533	351
Other	1,433	1,013	1,479	3,925	3,310
Total Asia debt securities	11,495	3,194	6,713	21,402	17,681

The following table analyses debt securities of 'Other business' which are not externally rated:

	2012 £m	2011 £m
Government bonds	287	244
Corporate bonds rated as investment grade by local external ratings agencies	1,069	776
Other	123	45
	1,479	1,065

d Products and guarantees

The life insurance products offered by the Group's Asia operations include a range of with-profits and non-participating term, whole life, endowment and unit-linked policies. The Asia operations also offer health, disability, critical illness and accident coverage to supplement its core life products.

The terms and conditions of the contracts written by the Asia operations and, in particular, the products' options and guarantees, vary from territory to territory depending upon local market circumstances.

In general terms, the Asia participating products provide savings and 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 insurers. The Asia operations' non-participating term, whole life and endowment products offer savings and/or protection where the benefits are guaranteed or determined by a set of defined market-related parameters. Unit-linked products combine savings with protection, the cash value of the policy depends on the value of the underlying unitised funds. Health and Protection (H&P) policies provide mortality or morbidity benefits and include health, disability, critical illness and accident coverage. H&P products are commonly offered as supplements to main life policies but can be sold separately.

Subject to local market circumstances and regulatory requirements, the guarantee features described in note D2(d) in respect of UK business broadly apply to similar types of participating contracts written in the Hong Kong branch, Singapore and Malaysia. Participating products have both guaranteed and non-guaranteed elements.

Non-participating long-term products are the only ones where the Group is contractually obliged to provide guarantees on all benefits. Unit-linked products have the lowest level of guarantee.

Product guarantees in Asia can be broadly classified into four main categories, namely premium rate, cash value and interest rate guarantees, policy renewability and convertibility options.

The risks on death coverage through premium rate guarantees are low due to appropriate product pricing.

Cash value and interest rate guarantees are of three types:

- Maturity values
  Maturity values are guaranteed for non-participating products and on the guaranteed portion of participating products. Declared annual bonuses are also guaranteed once vested. Future bonus rates and cash dividends are not guaranteed on participating products;

- Surrender values
  Surrender values are guaranteed for non-participating products and on the guaranteed portion of participating products. The surrender value of declared reversionary bonuses are also guaranteed once vested. Market value adjustments and surrender penalties are used where the law permits such adjustments in cash values; and

- Interest rate guarantees
  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 would be reflected within the guaranteed maturity and surrender values.
  The guarantees are borne by shareholders for non-participating and investment-linked (non-investment guarantees only) products. Participating product guarantees are predominantly supported by the segregated life funds and their estates.

Whole of life contracts with floor levels of policyholder benefits that accrue at rates set at inception, and do not vary subsequently with market conditions, are written in the Korean life operations, though this is not of a significant extent as Korea has a much higher proportion of linked and health business. The Korean business has non-linked liabilities and linked liabilities at 31 December 2012 of £505 million and £1,628 million respectively (2011: £447 million and £1,407 million respectively).

The other area of note in respect of guarantees is the Japanese business, where pricing rates are higher than current bond yields. Lapse risk is a feature in that policyholders could potentially surrender their policies on guaranteed terms if interest rates significantly increased leaving the potential for losses if bond values had depreciated significantly. However, the business is matched to a relatively short realistic liability duration.

The method for determining liabilities of insurance contracts for UK GAAP, and IFRS, purposes for some Asia operations is based on US GAAP principles and this method applies to contracts with cash value and interest rate guarantees. Following standard US GAAP procedure, premium deficiency reserve calculations are performed each year to establish whether the carrying values of the liabilities are sufficient.

On the US GAAP basis the calculations are deterministic, that is to say based on a single set of projections, and expected long-term rates of return are applied.

e Process for setting assumptions and determining liabilities

The future policyholder benefit provisions for Asia businesses in the Group's IFRS accounts and previously under the MSB, are determined in accordance with methods prescribed by local GAAP adjusted to comply, where necessary, with UK GAAP.

For some countries in Asia where local GAAP is not well established, and in which the business written is primarily non-participating and linked business, US GAAP is used as the most appropriate reporting basis. This basis is applied in India, Japan, Taiwan and until 2012, Vietnam. Under this basis, 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. In Vietnam, the Company improved its estimation basis for liabilities in 2012 from one determined substantially by reference to US GAAP requirements. After making this change, the estimation basis for Vietnam is aligned substantially with that used in Singapore, Malaysia and some other Asia operations.

f Reinsurance

The Asia businesses cede only minor amounts of business outside the Group with immaterial effects on reported profit. During 2012, reinsurance premiums for externally ceded business were £178 million (2011: £226 million) and the reinsurance assets were £175 million (2011: £151 million) in aggregate.

g Effect of changes in bases, estimates and assumptions used to measure insurance assets and liabilities

In 2012, the IFRS operating profit based on longer-term investment returns for Asia insurance operations included a net £48 million credit (2011: £38 million) representing a small number of non-recurring items that are not anticipated to re-occur in subsequent periods.

Separately, the IFRS policyholder liabilities of the shareholder-backed non-linked business of the Group's Hong Kong operation are measured on a prospective net premium valuation approach with zero allowance for lapses. In 2012, the basis of determining the valuation rate of interest has been altered to align with a permitted practice of the Hong Kong authorities for regulatory reporting. The main change is to apply a valuation rate of interest that incorporates a reinvestment yield that is weighted by reference to current and the historical three year average, rather than the year end rate. The change reduced the carrying value of policyholder liabilities at 31 December 2012 by £95 million. This benefit is included within the short-term fluctuations in investment returns in the Group's supplementary analysis of profit.

D: Life assurance business continued

D4: Asia insurance operations continued

h 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, although the with-profits business generally has a lower terminal bonus element than in the UK, the investment portfolio still contains a proportion of equities. Non-participating business is largely backed by debt securities or deposits. The exposure to market risk of the Group arising from its Asia operations is therefore at modest levels. This arises from 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 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.

(i) Sensitivity of profit and shareholders' equity to risks other than currency translation risk

With-profits business

Similar principles to those explained for UK with-profits business apply to profit emergence for the Asia with-profits business.

Correspondingly, the profit emergence reflects bonus declaration and is relatively insensitive to period by period fluctuations in insurance risk or interest rate movements.

Unit-linked business

As for the UK insurance operations, for unit-linked business, the main factor affecting the profit and shareholders' equity of the Asia operations is investment performance through asset management fees. The sensitivity of profits and shareholders' equity to changes in insurance risk, interest rate risk and credit risk are not material.

Other business

Interest rate risk

Asia operations offer a range of insurance and investment products, predominantly with-profits and non-participating term, whole life endowment and unit-linked. Excluding with-profit and unit-linked business, 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 2012, 10-year government bond rates vary from territory to territory and range from 0.60 per cent to 9.50 per cent (2011: 0.99 per cent to 12.88 per cent).

For the sensitivity analysis as at 31 December 2011, as shown in the table below, for the majority of the territories, a movement of 1 per cent in the 10-year government bond rate has been used. Exceptions to this approach are for Japan and Taiwan, where a movement of 0.5 per cent has been used. Following falls in interest rates in many of the territories during 2012, the approach was altered such that the reasonably possible interest rate movement used is 1 per cent for all territories but subject to a floor of zero where the bond rates are currently below 1 per cent. This revised approach was applied in estimating the sensitivity at 31 December 2012.

The estimated sensitivity to the decrease and increase in interest rates at 31 December 2012 and 2011 is as follows:

	2012 £m		2011 £m	
	Decrease of 1%	Increase of 1%	Decrease of 1%*	Increase of 1%*
Pre-tax profit	216	(269)	73	(159)
Related deferred tax (where applicable)	(56)	53	(22)	34
Net effect on profit and shareholders' equity	160	(216)	51	(125)

* Except for Japan and Taiwan using 0.5 per cent sensitivity.

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.

Equity price risk

The non-linked shareholder business has limited exposure to equity and property investment (£663 million at 31 December 2012). Generally, changes in equity and property investment values are not directly offset by movements in 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, which would be reflected in the short-term fluctuation component of the Group's segmental analysis of profit before tax, at 31 December 2012 and 2011 would be as follows:

	2012 £m		2011 £m	
	Decrease of 20%	Decrease of 10%	Decrease of 20%	Decrease of 10%
Pre-tax profit	(134)	(67)	(120)	(60)
Related deferred tax (where applicable)	31	15	24	12
Net effect on profit and shareholders' equity	(103)	(52)	(96)	(48)

A 10 per cent 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.

In the equity risk sensitivity analysis shown above, 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 this would be expected to occur over a period of time during which the Group would be able to put in place mitigating management actions.

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 would be decreased by approximately £30 million (2011: £27 million). Mortality and morbidity has a symmetrical effect on the portfolio and any weakening of these assumptions would have a similar equal and opposite impact.

(ii) Sensitivity of IFRS basis profit and shareholders' equity to currency translation 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 2012, the rates for the most significant operations are given in note B4.

A 10 per cent increase or decrease 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	
	2012 £m	2011 £m	2012 £m	2011 £m
Profit before tax attributable to shareholders[note]	(90)	(57)	110	70
Profit for the year	(75)	(46)	92	56
Shareholders' equity, excluding goodwill, attributable to Asia operations	(243)	(228)	297	278

Note
Sensitivity on profit (loss) before tax ie aggregate of the operating profit based on longer-term investment returns and short-term fluctuations in investment returns.

i Duration of liabilities

The table below shows the carrying value of policyholder liabilities. The table below also shows the maturity profile of the cash flows, taking account of expected future premiums and investment returns for 2012 and 2011:

	2012 £m	2011 £m
Policyholder liabilities	34,601	30,862
	%	%
Expected maturity:		
0 to 5 years	23	22
5 to 10 years	19	19
10 to 15 years	17	15
15 to 20 years	13	13
20 to 25 years	9	10
Over 25 years	19	21

D: Life assurance business continued

D5: Capital position statement for life assurance businesses

The primary purpose of this section is to meet the disclosure requirements of FRS 27, the UK GAAP Standard on Life Assurance. Prudential, together with other major UK life assurers, undertook to the UK Accounting Standards Board in 2004 to adopt this standard for Group IFRS reporting. Under the disclosure requirements of FRS 27 the capital position statement and related footnotes are prepared by reference to local regulation.

a Summary statement

The Group's estimated capital position for life assurance businesses with reconciliations to shareholders' equity is shown below. As noted above, available capital for each fund or group of companies has been determined by reference to local regulation at 31 December 2012 and 2011.

	2012 £m									
	SAIF	WPSF note (i)	Total PAC with-profits fund	Other UK life assurance subsidiaries and funds note (ii)	Jackson	Asia life assurance subsidiaries	Total life assurance operations	M&G (including Prudential Capital)	Parent company and shareholders' equity of other subsidiaries and funds	Group total
Group shareholders' equity										
Held outside long-term funds:										
Net assets	–	–	–	920	4,343	2,290	7,553	393	(1,143)	6,803
Goodwill	–	–	–	–	–	239	239	1,153	77	1,469
Total	–	–	–	920	4,343	2,529	7,792	1,546	(1,066)	8,272
Held in long-term funds note (iii)	–	–	–	2,087	–	–	2,087	–	–	2,087
Total Group shareholders' equity	–	–	–	3,007	4,343	2,529	9,879	1,546	(1,066)	10,359
Adjustments to regulatory basis										
Unallocated surplus of with-profits funds note (v)	–	10,526	10,526	–	–	63	10,589			
Shareholders' share of realistic liabilities	–	(2,469)	(2,469)	–	–	–	(2,469)			
Deferred acquisition costs of non-participating business not recognised for regulatory reporting purposes and goodwill	–	(6)	(6)	(103)	(3,199)	(893)	(4,201)			
Jackson surplus notes note (iv)	–	–	–	–	153	–	153			
Investment and policyholder liabilities valuation differences between IFRS and regulatory basis for Jackson note (vii)	–	–	–	–	696	–	696			
Adjustment from IAS 19 basis pension deficit attributable to WPSF to pension liability for regulatory purposes	–	(107)	(107)	–	–	–	(107)			
Valuation difference on PAL between IFRS basis and regulatory basis	–	(215)	(215)	–	–	–	(215)			
Other adjustments to restate these amounts to a regulatory basis (with SAIF and the WPSF on a Peak 2 realistic basis) note (v)	–	(729)	(729)	(534)	906	(78)	(435)			
Total adjustments	–	7,000	7,000	(637)	(1,444)	(908)	4,011			
Total available capital resources of life assurance businesses on local regulatory bases	–	7,000	7,000	2,370	2,899	1,621	13,890			

	2012 £m						
	SAIF	WPSF note (i)	Total PAC with-profits fund	Other UK life assurance subsidiaries and funds note (ii)	Jackson	Asia life assurance subsidiaries	Total life assurance operations
Policyholder liabilities							
With-profits liabilities of UK regulated with-profits funds:							
Insurance contracts	7,217	29,353	36,570	–	–	6,696	43,266
Investment contracts (with discretionary participation features)	352	33,112	33,464	–	–	95	33,559
Total	7,569	62,465	70,034	–	–	6,791	76,825
Other liabilities:							
Insurance contracts:							
With-profits liabilities of non-UK regulated funds	–	–	–	–	–	6,597	6,597
Unit-linked, including variable annuity	–	29	29	6,086	49,298	14,028	69,441
Other life assurance business	309	14,013	14,322	27,259	40,894	7,058	89,533
Investment contracts without discretionary participation features (principally unit-linked and similar contracts in the UK and GIC liabilities of Jackson)[note (vi)]	–	22	22	16,160	2,069	127	18,378
Total	309	14,064	14,373	49,505	92,261	27,810	183,949
Total policyholder liabilities shown in the consolidated statement of financial position	7,878	76,529	84,407	49,505	92,261	34,601	260,774

D: Life assurance business continued

D5: Capital position statement for life assurance businesses continued

	2011* £m									
	SAIF	WPSF note (i)	Total PAC with-profits fund	Other UK life assurance subsidiaries and funds note (ii)	Jackson	Asia life assurance subsidiaries	Total life assurance operations	M&G (including Prudential Capital)	Parent company and shareholders' equity of other subsidiaries and funds	Group total
Group shareholders' equity										
Held outside long-term funds:										
Net assets	–	–	–	930	3,761	2,071	6,762	229	(1,514)	5,477
Goodwill	–	–	–	–	–	235	235	1,153	77	1,465
Total	–	–	–	930	3,761	2,306	6,997	1,382	(1,437)	6,942
Held in long-term funds note (iii)	–	–	–	1,622	–	–	1,622	–	–	1,622
Total Group shareholders' equity	–	–	–	2,552	3,761	2,306	8,619	1,382	(1,437)	8,564
Adjustments to regulatory basis										
Unallocated surplus of with-profits funds note (v)	–	9,165	9,165	–	–	50	9,215			
Shareholders' share of realistic liabilities	–	(2,394)	(2,394)	–	–	–	(2,394)			
Deferred acquisition costs of non-participating business not recognised for regulatory reporting purposes and goodwill	–	(6)	(6)	(111)	(3,095)	(929)	(4,141)			
Jackson surplus notes note (iv)	–	–	–	–	160	–	160			
Investment and policyholder liabilities valuation differences between IFRS and regulatory basis for Jackson note (vii)	–	–	–	–	1,002	–	1,002			
Adjustment from IAS 19 basis pension deficit attributable to WPSF to pension liability for regulatory purposes	–	16	16	–	–	–	16			
Valuation difference on PAL between IFRS basis and regulatory basis	–	(640)	(640)	–	–	–	(640)			
Other adjustments to restate these amounts to a regulatory basis (with SAIF and the WPSF on a Peak 2 realistic basis) note (v)	–	(2)	(2)	(504)	699	66	259			
Total adjustments	–	6,139	6,139	(615)	(1,234)	(813)	3,477			
Total available capital resources of life assurance businesses on local regulatory bases	–	6,139	6,139	1,937	2,527	1,493	12,096			

* The 2011 comparative results have been adjusted from those previously published for the retrospective application of the change in accounting policy described in note A5.

	2011 £m						
	SAIF	**WPSF** note (i)	**Total PAC with-profits fund**	**Other UK life assurance subsidiaries and funds** note (ii)	**Jackson**	**Asia life assurance subsidiaries**	**Total life assurance operations**
Policyholder liabilities							
With-profits liabilities of UK regulated with-profits funds:							
Insurance contracts[note (viii)]	7,934	30,077	38,011	–	–	6,777	44,788
Investment contracts (with discretionary participation features)	412	28,936	29,348	–	–	397	29,745
Total	8,346	59,013	67,359	–	–	7,174	74,533
Other liabilities:							
Insurance contracts:							
With-profits liabilities of non-UK regulated funds	–	–	–	–	–	5,419	5,419
Unit-linked, including variable annuity[note (viii)]		26	26	6,387	37,833	12,015	56,261
Other life assurance business	209	13,365	13,574	24,734	29,445	6,142	73,895
Investment contracts without discretionary participation features (principally unit-linked and similar contracts in the UK and GIC liabilities of Jackson)[note (vi)]	–	17	17	14,927	1,911	112	16,967
Total	209	13,408	13,617	46,048	69,189	23,688	152,542
Total policyholder liabilities shown in the consolidated statement of financial position	8,555	72,421	80,976	46,048	69,189	30,862	227,075

Notes

(i) WPSF unallocated surplus includes amounts related to the Hong Kong branch. Policyholder liabilities of the Hong Kong branch are included in the amounts of Asia life assurance subsidiaries.

(ii) Excluding PAC shareholders' equity that is included in 'parent company and shareholders' equity of other subsidiaries and funds'.

(iii) The term shareholders' equity held in long-term funds refers to the excess of assets over liabilities attributable to shareholders of funds which are required by law to be maintained, ring-fenced with segregated assets and liabilities.

(iv) For regulatory purposes the Jackson surplus notes are accounted for as capital.

(v) Other adjustments to shareholders' equity and unallocated surplus include amounts for the value of non-participating business for UK regulated with-profits funds, deferred tax, admissibility and other items measured differently on the regulatory basis. For Jackson, the principal reconciling item is deferred tax related to the differences between IFRS and regulatory basis, as shown in the table above, and other methodology differences.

(vi) Insurance business accounted for as financial instruments under IAS 39.

(vii) The investment and policyholder liabilities valuation difference between IFRS and regulatory bases for Jackson is mainly due to not all investments being carried at fair value under the regulatory basis and also due to the valuation difference on annuity reserves.

(viii) The allocation between the with-profits liabilities and unit-linked liabilities within the WPSF column have been adjusted for those previously published to align with the basis of presentation applied in 2012.

D: Life assurance business continued

D5: Capital position statement for life assurance businesses continued

b Basis of preparation, capital requirements and management

Each of the Group's long-term business operations is capitalised to a sufficiently strong level for its individual circumstances. Details by the Group's major operations are shown below.

i UK insurance operations

The FSA rules which govern the Prudential regulation of insurance form part of the Prudential Sourcebook for Insurers, the General Prudential Sourcebook and Interim Prudential Sourcebook for Insurers. Overall, the net requirements of the General Prudential Sourcebook are intended to align the capital adequacy requirements for insurance business more closely with those of banking and investment firms and building societies, for example, by addressing tiers of capital, rather than looking at net admissible assets. An insurer must hold capital resources equal at least to the Minimum Capital Requirement (MCR).

The Prudential Sourcebook for Insurers also contains rules on Individual Capital Assessments. Under these rules, and the rules of the General Prudential Sourcebook, all insurers must assess for themselves the amount of capital needed to back their business. If the FSA views the results of this assessment as insufficient, it may draw up its own Individual Capital Guidance for a firm, which can be superimposed as a requirement.

PAC WPSF and SAIF

Under FSA rules, insurers with with-profits liabilities of more than £500 million must hold capital equal to the higher of the MCR and the Enhanced Capital Requirement (ECR). The ECR is intended to provide a more risk responsive and 'realistic' measure of a with-profit insurer's capital requirements, whereas the MCR is, broadly speaking, equivalent to the previous required minimum margin under the Interim Prudential Sourcebook and satisfies the minimum EU Standards.

Determination of the ECR involves the comparison of two separate measurements of the firm's resources requirement, which the FSA refers to as the 'twin peaks' approach.

The two separate peaks are:

i The requirement comprised by the mathematical reserves plus the 'Long-Term Insurance Capital Requirement' (LTICR), together known as the 'regulatory peak'; and

ii A calculation of the 'realistic' present value of the insurer's expected future contractual liabilities together with projected 'fair' discretionary bonuses to policyholders, plus a risk capital margin, together known as the 'realistic peak'.

Available capital of the WPSF and SAIF of £7.0 billion (2011: £6.1 billion) represents the excess of assets over liabilities on the FSA realistic basis. Unlike the previously discussed FRS 27 basis, realistic liabilities on the regulatory basis include the shareholders' share of future bonuses. These amounts are shown before deduction of the risk capital margin (RCM), which is estimated to be £1.5 billion at 31 December 2012 (2011: £2.0 billion).

The FSA's basis of setting the RCM is to target a level broadly equivalent to a Standard & Poor's credit rating of BBB and to judge this by ensuring there are sufficient assets to absorb a one in 200 year event. The RCM calculation achieves this by setting rules for the determination of margins to cover defined stress changes in asset values and yields for market risk, credit risk and termination risk for with-profits policies.

PAC has discretion in its management actions in the case of adverse investment conditions. Management actions encompass, but are not confined to, investment allocation decisions, levels of reversionary bonuses, crediting rates and total claim values.

Other UK life assurance subsidiaries and funds

The available capital of £2,370 million (2011: £1,937 million) reflects the excess of regulatory basis assets over liabilities of the subsidiaries and funds, before deduction of the capital resources requirement of £1,376 million (2011: £1,194 million).

The capital resources requirement for these companies broadly reflects a formula which, for active funds, equates to a percentage of regulatory reserves plus a percentage of death strains. Death strains represent the payments made to policyholders upon death in excess of amounts explicitly allocated to fund the provisions for policyholder's claims and maturities.

ii Jackson

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 that they calculate by applying factors to various asset, premium and reserve items and separate model based calculations of risk associated primarily with variable annuity products. The risk-based capital formula takes into account the risk characteristics of a company, including asset risk, insurance risk, interest rate risk, market risk and business risk.

The available capital of Jackson shown above of £2,899 million (2011: £2,527 million) reflects US regulatory basis assets less liabilities, including asset valuation reserves. The asset valuation reserve is designed to provide for future credit-related losses on debt securities and losses on equity investments. Available capital includes a reduction for the effect of the interest maintenance reserve, which is designed by state regulators to defer recognition of non-credit related realised capital gains and losses and to recognise them rateably in the future.

Jackson's risk-based capital ratio is significantly in excess of regulatory requirements. At 31 December 2012, 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 was also 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 £357 million at 31 December 2012.

Michigan insurance law specifically allows value of business acquired (VOBA) as an admitted asset as long as certain criteria are met. US NAIC standards limit the admitted amount of goodwill/VOBA generally to 10 per cent of capital and surplus. At 31 December 2012, Jackson reported £289 million of statutory basis VOBA as a result of the REALIC acquisition, which is fully admissible under Michigan insurance law.

iii Asia operations

The available capital shown above of £1,621 million (2011: £1,493 million) represents the excess of local regulatory basis assets over liabilities before deduction of required capital of £661 million (2011: £608 million). These amounts have been determined applying the local regulations in each of the operations.

The businesses in Asia are subject to local capital requirements in the jurisdictions in which they operate. The Hong Kong business branch of PAC and its capital requirements are subsumed within those of the PAC long-term fund. For the other material Asian operations, the details of the basis of determining regulatory capital and regulatory capital requirements are as follows:

Singapore

A risk-based regulatory framework applies in Singapore.

For participating business, a gross premium reserve, determined using prudent best estimate assumptions and which makes allowance for future bonus, is held. The amount held is subject to a minimum of the higher of the assets attributed to participating business and a gross premium reserve calculated on specified assumptions, but without allowance for future bonus, that include prescribed provisions for adverse deviations (PADs).

For non-participating business, gross premium reserves are held. For linked business the value of units is held together with a non-unit reserve calculated in accordance with standard actuarial methodology;

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. Due to the 2008 financial crisis, the local regulator provided relief in solvency capital and the measure continued until 1 January 2012, when it was withdrawn. The withdrawal of this temporary relief did not have a significant impact on the Group's Indonesia business;

Japan

Mathematical reserves for traditional business are determined on a net premium basis using prescribed mortality and interest rates. Interest rates reflect the original pricing assumptions.

For linked business the value of units is held together with a non-unit reserve calculated in accordance with standard actuarial methodology.

Solvency capital is determined using a risk-based capital approach. The adjusted solvency capital assets of the Company must exceed 200 per cent of the risk related capital requirement value at risk. A number of changes to the risk-based capital rules in Japan were effective in April 2012, but the changes did not have a significant impact on the Group's Japan business;

D: Life assurance business continued

D5: Capital position statement for life assurance businesses continued

Malaysia

A risk-based capital framework applies in Malaysia.

For participating business, a gross premium reserve on the guaranteed and non-guaranteed benefits determined using best estimate assumptions is held. The amount held is subject to a minimum of a gross premium reserve on the guaranteed benefits, determined using best estimate assumptions along with provisions of risk margin for adverse deviations discounted at the risk-free rate.

For non-participating business, gross premium reserves determined using best estimate assumptions along with provisions of risk margin for adverse deviations discounted at the risk-free rate are held. For linked business, the value of units is held together with a non-unit reserve calculated in accordance with standard actuarial methodology.

Participating fund surplus is not allowed to be used to support deficit (if any) and capital requirement of the non-participating business. The capital requirement is calculated based on a prescribed series of risk charges. 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;

Vietnam

Mathematical reserves are calculated using a modified net premium approach, set using assumptions agreed with the regulator.

The capital requirement is determined as 4 per cent of reserves plus a specified percentage of 0.1 per cent of sums at risk for policies with original term less than or equal to five years or 0.3 per cent of sums at risk for policies with original term of more than five years. An additional capital requirement of Vietnamese Dong 200 billion is also required for companies transacting unit-linked business; and

Korea

Policy reserves for traditional business are determined on net premium reserve basis using pricing mortality and prescribed standard interest rates.

For linked business, the value of units is held together with the non-unit reserves calculated in accordance with regulatory standard actuarial methodology.

A risk-based capital framework applies in Korea. Under this risk-based framework, insurance companies in Korea are expected to maintain a level of free surplus in excess of the capital requirements, with the general target level of solvency margin being in excess of 150 per cent of the risk-based capital.

iv Group capital requirements

In addition to the requirements at individual company level, FSA requirements under the IGD apply additional prudential requirements for the Group as a whole. Discussion of the Group's estimated IGD position at 31 December 2012, together with market risk sensitivity disclosure provided to key management, is provided in the business review section of the Group's 2012 Annual Report.

c Movements in total available capital

Total available capital for the Group's life assurance operations has changed as follows:

	2012 £m				
	WPSF note (i)	Other UK life assurance subsidiaries and funds note (iii)	Jackson note (ii)	Asia life assurance subsidiaries note (iv)	Group Total
Available capital at 31 December 2011	6,139	1,937	2,527	1,493	12,096
Changes in assumptions	(136)	(145)	–	30	(251)
Changes in management policy	500	–	–	(24)	476
Changes in regulatory requirements	–	–	–	27	27
New business and other factors[note (v)]	497	578	372	95	1,542
Available capital at 31 December 2012	7,000	2,370	2,899	1,621	13,890

	2011 £m				
	WPSF note (i)	Other UK life assurance subsidiaries and funds note (iii)	Jackson note (ii)	Asia life assurance subsidiaries note (iv)	Group Total
Available capital at 31 December 2010	6,800	1,707	2,907	1,378	12,792
Changes in assumptions	(60)	38	–	(32)	(54)
Changes in management policy	(15)	–	–	–	(15)
Changes in regulatory requirements	–	–	–	17	17
New business and other factors[note (v)]	(586)	192	(380)	130	(644)
Available capital at 31 December 2011	6,139	1,937	2,527	1,493	12,096

Notes

(i) WPSF
The increase in 2012 of £861 million reflects primarily the positive impact of investment returns earned on the opening available capital.
The decrease in 2011 of £661 million reflects primarily the negative effect of the lower interest rate used to value projected policyholder benefit payments, partially offset by the positive impact of investment returns earned on the opening available capital.

(ii) Jackson
The increase of £372 million in 2012 reflects an underlying increase of £483 million (applying the 2012 year end exchange rate of US$1.63:£1.00) and £111 million of exchange translation loss.
The decrease of £380 million in 2011 reflects an underlying decrease of £402 million (applying the 2011 year end exchange rate of US$1.55:£1.00) and £22 million of exchange translation gains.

(iii) Other UK life assurance subsidiaries and funds
The effect from the changes in assumptions of valuation interest rates on insurance liabilities is broadly matched by the corresponding effect on assets leaving no significant impact on the available capital.

(iv) Asia life assurance subsidiaries
The increase of £128 million in 2012 reflects an underlying increase of £177 million (applying the relevant 2012 year end exchange rates) and £49 million of exchange translation loss.
The increase of £115 million in 2011 reflected an underlying increase of £134 million (applying the relevant 2011 year end exchange rates) and £19 million of exchange translation loss.

(v) New business and other factors comprise the effect of changes in new business, valuation interest rate, investment return, foreign exchange and other factors.

d Transferability of available capital

For PAC and all other UK long-term insurers, long-term business assets and liabilities must, by law, be maintained in funds separate from those for the assets and liabilities attributable to non-life insurance business or to shareholders. Only the 'established surplus', the excess of assets over liabilities in the long-term fund determined through a formal valuation, may be transferred so as to be available for other purposes. Distributions from the with-profits sub-fund to shareholders reflect the shareholders' one-ninth share of the cost of declared policyholders' bonuses.

Accordingly, the excess of assets over liabilities of the PAC long-term fund is retained within that company. The retention of the capital enables it to support with-profits and other business of the fund by, for example, providing the benefits associated with smoothing and guarantees. It also provides investment flexibility for the fund's assets by meeting the regulatory capital requirements that demonstrate solvency and by absorbing the costs of significant events or fundamental changes in its long-term business without affecting the bonus and investment policies.

For other UK long-term business subsidiaries, the amounts retained within the companies are at levels which provide an appropriate level of capital strength in excess of the regulatory minimum.

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 for the prior year, or 10 per cent of Jackson's statutory surplus, require prior regulatory approval.

For Asian 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 Singapore and Malaysian businesses may, in general, remit dividends to the UK, provided the statutory insurance fund meets the capital adequacy standard required under local statutory regulations.

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.

D: Life assurance business continued

D5: Capital position statement for life assurance businesses continued

e Sensitivity of liabilities and total capital to changed market conditions and capital management policies

Prudential manages its assets, liabilities and capital locally, in accordance with local regulatory requirements and reflecting the different types of liabilities Prudential has in each business. As a result of the diversity of products offered by Prudential, and the different regulatory requirements in which it operates, Prudential 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, Jackson 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.

For example, for businesses that are most sensitive to interest rate changes, such as immediate annuity business, Prudential uses cash flow analysis to create a portfolio of debt securities whose value changes in line with the value of liabilities when interest rates change. This type of analysis helps protect profits from changing interest rates. This type of analysis is used in the UK for annuity business and by Jackson for its interest-sensitive and fixed indexed annuities and stable value products.

For businesses that are most sensitive to equity price changes, Prudential uses stochastic modelling and scenario testing to look at the future returns on its investments under different scenarios which best reflect the large diversity in returns that equities can produce. This allows Prudential to devise an investment and with-profits policyholder bonus strategy that, on the model assumptions, allows it to optimise returns to its policyholders and shareholders over time, while maintaining appropriate financial strength. Prudential uses this methodology extensively in connection with its UK with-profits business.

f Intragroup arrangements in respect of SAIF

Should the assets of SAIF be inadequate to meet the guaranteed benefit obligations of the policyholders of SAIF, the PAC long-term fund would be liable to cover any such deficiency in the first instance. The directors believe that the probability of either the PAC long-term fund or the Group's shareholders' funds having to contribute to SAIF is remote.