

# **The Prudential Assurance Company Limited**

**Annual FSA Insurance Returns for the year ended  
31 December 2012**

(Appendix 9.4 valuation report)

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# VALUATION REPORT ON THE PRUDENTIAL ASSURANCE COMPANY LIMITED AS AT 31 DECEMBER 2012

## *Structure of the long term business*

### **1. Overview**

The Prudential Assurance Company Limited (**PAC**) carries on Ordinary Branch and Industrial Branch business within its long-term fund. The Industrial Branch was closed to new business on 1 January 1995.

The long-term business of Scottish Amicable Life Assurance Society (**SALAS**) was transferred into PAC on 1 October 1997, and the long term business of Scottish Amicable Life plc (**SAL**) was transferred into PAC on 31 December 2002. The business transferred from SAL itself included business previously transferred into SAL from M&G Life Assurance Company Limited (M&G Life) and M&G Pensions and Annuity Company Limited (M&G Pensions). The long-term business of Prudential (AN) Limited (**PANL**) and Prudential Holborn Life Limited (**PHL**) was transferred into PAC on 31 October 2010.

The long term business is contained within the following four sub-funds:

- (a) Non-Profit Sub-Fund (**NPSF**)
- (b) Scottish Amicable Insurance Fund (**SAIF**)
- (c) Defined Charge Participating Sub-Fund (**DCPSF**)
- (d) With-Profits Sub-Fund (**WPSF**)

### **2. Non-Profit Sub-Fund**

The business in this sub-fund comprises:

- (1) Long term sickness and accident business, namely the directly written permanent health business in respect of which the directors have determined that profits should accrue 100% to shareholders.
- (2) The protection and linked business written directly by PAC, including linked business issued in France and business issued in Hong Kong, in respect of which the directors have determined that profits should accrue 100% to shareholders.
- (3) The loan protection business transferred into PAC from SAL on 31 December 2002 and such business subsequently written directly by PAC, in respect of which the directors have determined that profits should accrue 100% to shareholders.
- (4) Defined Charge Participating business issued by PAC in France, and Defined Charge Participating business reassured into PAC by Prudential International Assurance plc (PIA) and Canada Life (Europe) Assurance Ltd, excluding the accumulated investment content of premiums paid, which is transferred to the DCPSF (see below).
- (5) Ex-SAL business, namely the with-profits, non-participating and linked business (including internal linked funds) transferred into PAC from SAL on 31 December 2002 and any new premiums arising on those products, excluding Prudential Protection business written between 1 January 2003 and 25 July 2004 and the accumulated with-profits premiums which are held in the WPSF (see 5 below).
- (6) Reassurance of 15% of the liabilities in respect of non-profit annuity business in Prudential Retirement Income Limited.
- (7) Ex-PANL and Ex-PHL business, namely the with-profits bond, non-profit annuity and linked pensions business written by PANL and the linked life business (including internal linked funds) written by PHL which were transferred into PAC on 31 October 2010 and any new premiums arising on those products, excluding the accumulated with-profits premiums which are held in the WPSF (see 5 below).

### ***Structure of the long term business (continued)***

All profits from this business in the NPSF accrue 100% to shareholders.

- (8) PruProtect business which is administered and distributed by Prudential Health Services Limited (PHSL) on behalf of PAC. Profits from this business are passed to PHSL via the PAC shareholder fund under a white-label agreement. PHSL is wholly owned by PruHealth Holdings Ltd (PHHL). PHHL is 25% owned by PAC and 75% by Discovery Offshore Holdings Limited, the subsidiary of a South African insurer.

### **3. Scottish Amicable Insurance Fund**

PAC acquired the business of Scottish Amicable Life Assurance Society (**SALAS**) on 1 October 1997. As a consequence a closed sub-fund SAIF and a memorandum account within the WPSF, the Scottish Amicable Account (**SAA**), were created. SAIF contains the pensions business, annuities and traditional with-profits life business transferred from SALAS and the accumulated investment content of with-profits business in SAA.

All profits in SAIF accrue to holders of with-profits contracts in SAIF and SAA.

The accumulated investment content of linked premiums is invested in the linked funds that were transferred from SAL to the NPSF on 31 December 2002.

The WPSF provides financial support to SAIF through a memorandum account, the Scottish Amicable Capital Fund (**SACF**), some of which may be drawn upon in adverse investment conditions to support the smoothing of bonuses within SAIF. No such drawings have yet been necessary. The WPSF receives an annual charge from SAIF for providing this financial support.

### **4. Defined Charge Participating Sub-Fund**

The business in this sub-fund comprises:

- (1) The accumulated investment content of premiums paid in respect of the Defined Charge Participating with-profits business issued in France, and the Defined Charge Participating with-profits business reassured into PAC from Prudential International Assurance plc and Canada Life (Europe) Assurance Ltd.

A bonus smoothing account is maintained in the WPSF so that whenever a claim payment is made from the DCPSF any excess of the claim amount over the policy's underlying asset share is transferred from the WPSF to the DCPSF and any shortfall is transferred from the DCPSF to the WPSF. It is intended that these smoothing transfers should generate neither profit nor loss to either fund over the long term.

- (2) With-profits annuities transferred from Equitable Life Assurance Society to PAC on 31 December 2007. A separate bonus smoothing account for this business is also maintained in the WPSF. It is intended that transfers to and from this account should generate no net gain or loss to either the WPSF or DCPSF over the long term.

All profits in this fund accrue to policyholders in the DCPSF.

### **5. With-Profits Sub-Fund**

The WPSF contains all other long term business, comprising:

- (1) With-profits, non-participating and linked business (other than the categories defined above) written directly by PAC. This includes the Prudential Protection business written between 1 January 2003 and 25 July 2004.
- (2) With-profits, non-participating and linked life business transferred to SAA from SALAS, excluding the accumulated investment content of with-profits premiums, which is held in SAIF, and also excluding the accumulated investment content of linked premiums, which is invested in the linked funds transferred from SAL to the NPSF on 31 December 2002.
- (3) The accumulated with-profits premiums in respect of business transferred into the NPSF from SAL on 31 December 2002 and any new premiums arising on those products.

*Structure of the long term business (continued)*

- (4) The accumulated with-profits premiums in respect of business transferred into the NPSF from PANL on 31 October 2010 and any new premiums arising on those products.
- (5) Reassurance of the liabilities in respect of non-profit annuity business in Prudential Annuities Limited.

Divisible profits from this business accrue to both shareholders and with-profits policyholders in the WPSF (other than with-profits policyholders in SAA who share in the profits of SAIF).

Transfers not exceeding 5% of divisible profits may be made to a common contingency fund. Not less than 90% of the remainder is allocated to the with-profits policyholders, and the balance to shareholders.

**6. Reinsurance of annuity business**

- (1) Some of the non-profit and index-linked annuities in payment issued by PAC are ceded to Prudential Retirement Income Limited (**PRIL**). Most of the non-profit annuities in payment written in SAIF are ceded to PRIL. The non-profit and index-linked annuities reinsured from the WPSF to Prudential Annuities Limited (**PAL**) were recaptured as at 31 August 2011.
- (2) PAC insures 15% of the liabilities in respect of the non-profit annuity business in PRIL under a quota share arrangement effected on 31 December 2008. The reinsurance arrangement includes deposit back of reserves with PRIL.
- (3) PAC insures the liabilities in respect of the non-profit annuity business in PAL under a quota share arrangement effected on 31 October 2012. The reinsurance arrangement includes deposit back of reserves with PAL.

## VALUATION REPORT

### 1. Introduction

- 1.(1) The investigation relates to 31 December 2012.
- 1.(2) The previous investigation related to 31 December 2011.
- 1.(3) No interim valuations have been carried out for the purposes of IPRU(INS) 9.4 since 31 December 2011.

### 2. Product range

#### (a) New products

The following new products were launched during the year.

#### Prudential International Investment Bond

This is a Euro, US\$ and Sterling denominated non-qualifying whole of life single premium product issued by Prudential International Assurance plc. It replaces the International Prudence Bond (IPB). The main changes from the IPB are that it offers adviser charging facilities rather than commission and applies no establishment charge, surrender penalties or loyalty bonus. The new product has an Annual Growth Reward, which may apply to investments over €62,500, \$75,000 or £50,000.

#### New Annuity Plan

This is a US\$ denominated non-participating whole of life single premium immediate annuity (SPIA). Benefits include a 10 year guaranteed fixed annuity income, a lifetime fixed annuity income after the guaranteed period, a death benefit equal to the sum of the remaining guaranteed fixed annuity income without interest during the guaranteed period, and a surrender benefit equal to the present value of remaining guaranteed fixed annuity income at a non-guaranteed discount rate during the guaranteed period. It is available only to existing policyholders, where their existing policy offers an annuity payment as one of the benefit settlement options.

#### PRUdirect hospital cash plan

This is a HK\$ denominated yearly renewable premium hospital cash product with non-guaranteed renewable premium rate. Benefits include a daily hospital cash benefit, a double indemnity for accident benefit, a triple indemnity for public land transport accident benefit, a surgery reimbursement benefit and a death benefit of HK\$5,000.

#### PRUuniversal life

This is a US\$ denominated non-participating whole of life universal life product with either a single premium or 5 year term payment option. Benefits include a death benefit equal to the higher of the sum assured or the policy account value, a minimum guaranteed crediting rate, a surrender benefit equal to the accumulated account value less the surrender charge and an optional no lapse guarantee benefit.

#### PRUdirect refundable hospital cash plan

This is a HK\$ denominated refundable 10-year hospital cash product with 8 year's level premium (non-guaranteed renewable premium rate). Benefits include a daily hospital cash benefit, a double indemnity for intensive care unit benefit, a death benefit equal to 100% of the total premium paid without interest, a maturity benefit equal to (a) 80% of total premium paid without interest if no claim has been paid or (b) 70% of total premium paid without interest if any claim has been paid and a surrender benefit expressed as a percentage of total premium paid, without interest, available from the 5<sup>th</sup> policy anniversary.

## 2. Product range (continued)

### PRUmyhealth lifelong crisis protector

This is a US\$ or HK\$ denominated non-participating whole of life crisis protection product. Six payment term options are available covering 5, 10, 15 and 20 year terms plus pay-to-age 55 and pay-to-age 65 options. Benefits include a free 10-year crisis cover term benefit with sum assured equal to 35% of the basic sum assured, a major disease benefit equal to the sum of (a) the basic sum assured plus the face value of terminal bonus less the advanced claim payment and (b) the sum assured of the 10-year crisis cover less the advanced claim payment if applicable, an advanced claim disease benefit, a major disease extra benefit, a death benefit equal to the major disease benefit and a surrender benefit equal to the guaranteed cash value plus the cash value of the terminal bonus less the advanced claim payment.

### PRUmylife 5-year wealthbuilder

This is a HK\$ denominated non-participating single premium 5-year term endowment product. Benefits include a death benefit equal to the higher of (a) 101% of the single premium and (b) the guaranteed surrender value, a guaranteed surrender value expressed as a percentage of the single premium and a maturity benefit equal to 112.59% of the single premium.

### RMB Annuity Product

This is a Chinese Yuan (RMB) denominated non-participating single premium annuity product with a 21-year benefit term. Benefits include a guaranteed and non-guaranteed monthly income (starting from the 13 month after the effective date), a surrender benefit equal to the cash value, a death benefit equal to the higher of (a) 101% of the amount equal to total premium paid less total income distributed and (b) 101% of cash value.

### PRUmyhealth prestige medical

This is a US\$ and HK\$ denominated whole of life yearly renewable medical reimbursement-type product. Benefits include confinement benefits, surgical benefits, accidental treatment benefits, pre-and post-hospitalization benefits, extended benefits, a compassionate death benefit of HK\$80,000 and accidental death benefit of HK\$80,000 in addition to the compassionate death benefit if applicable, valued-added service, an optional outpatient benefit, an optional maternity benefit, and an optional dental benefit. An annual deductible limit is applicable to all benefits except death benefit under the basic coverage. An annual reimbursement limit of HK\$20,000,000 and a lifetime reimbursement limit of HK\$50,000,000 are applicable for all benefits payable under this policy.

#### (b) Products withdrawn

The following products were withdrawn during 2012:

- Golden Harvest RMB Savings Plan III
- PRUcrisis cover lifelong protector Plan
- PRUsave Plus Plan
- PRUmylife 5-year wealthbuilder Plan

#### (c) New bonus series

No new bonus series were added during the year.

#### (d) Changes to options or guarantees under existing products

### Income Choice Annuity

The charge for guarantees in relation to new business written during 2012 was updated on a number of occasions to reflect the latest market conditions.

## 2. Product range (continued)

### Flexible Investment Plan, Prudential Investment Plan, Flexible Retirement Plan, Trustee Investment Plan

A number of changes to the range of guarantee terms available and level of guarantee charges were made to both the PruFund Protected Growth and the PruFund Protected Cautious funds during the year, as set out in the tables below:

#### PruFund Protected Cautious

Guarantee Term	1/1/12- 24/6/12	25/6/12- 14/10/12	15/10/12- 31/12/12
5 year	1.75%*	withdrawn	-
6 year	1.05%	1.50%	withdrawn
7 year	0.85%	1.00%	withdrawn
8 year	0.65%	0.65%	0.95%
9 year	0.45%	0.45%	0.65%
10 year	0.30%	0.30%	0.45%

\* withdrawn on 20/2/12

#### PruFund Protected Growth

Guarantee Term	1/1/12- 24/6/12	25/6/12- 14/10/12	15/10/12- 31/12/12
6 year	2.50%	2.50%	withdrawn
7 year	2.00%	1.90%	withdrawn
8 year	1.60%	1.45%	withdrawn
9 year	1.35%	1.15%	withdrawn
10 year	0.45%	0.45%	0.50%

#### International Prudence Bond

The guarantee charges on the PruFund Protected Cautious and PruFund Protected Growth funds were amended for all policies sold during 2012 as follows:

#### PruFund Protected Cautious

Guarantee Term	1/1/12- 15/8/12	16/8/12- 14/10/12	15/10/12- 31/12/12
7 year	1.25%	1.50%	withdrawn
8 year	0.75%	1.00%	withdrawn
9 year	0.50%	0.70%	withdrawn
10 year	0.30%	0.50%	0.65%

#### PruFund Protected Growth

Guarantee Term	1/1/12- 15/8/12	16/8/12- 14/10/12	15/10/12- 31/12/12
10 year	0.50%	0.70%	0.85%



## **2. Product range (continued)**

### **(e) With-profits sub-funds**

The With-Profits Sub-Fund and the Defined Charge Participating Sub-Fund are both open to new with-profits business.

The Scottish Amicable Insurance Fund is closed to new business except by increment.

### **3. Discretionary charges and benefits**

#### **3.(1) Market value reduction**

Market value reductions have been applied throughout 2012. The policy years of entry to which market value reductions were applied during 2012 are summarised below:

<b>Product</b>	<b>Policy years of entry</b>
SAIF	1985 - 1999, 2007
SAL pensions	1998 – 2003, 2006 - 2012
Prudence Bond (including Ex-PANL bonds)	1992 – 2012
PSA/PIB	1994 - 1997, 1999, & 2006 - 2009
Personal Pensions	1987 - 1999, 2002 & 2006 - 2012
Corporate Pensions	1973 - 2012
International Prudence Bond	2002 - 2012
PruWealth (US dollar)	2002 - 2009
PruWealth (Hong Kong dollar)	2007 - 2009

For the Corporate Pensions business noted above not every policy year within the range of products offered will have a market value reduction applied.

#### **3.(2) Reviewable protection policies**

There was a review of premium rates for the PRUmed Series (including PRUmed better care, PRUmed care, PRUmed health care, PRUmed lifelong care plan and PRUhealth secure top-up plan) during 2012. Premiums were increased by around 12% for plans with annual in force premiums of HK\$146m. An increase in premiums was permitted but did not occur for plans with annual in force premiums of HK\$326m.

#### **3.(3) Non-profit deposit administration benefits**

There are no non-profit deposit administration contracts.

#### **3.(4) Service charges on linked policies**

Policy/member fees increased by 5.6% in 2012 for those linked products where the fees increase in line with Retail Price Index (RPI) inflation, based on the increase in RPI from September 2010 to September 2011.

#### **3.(5) Benefit charges on linked policies**

There has been a change to the benefit charges on certain linked policies during the financial year in relation to investments made after November 2012. This change related to charges covering Guaranteed Minimum Death Benefit, following the introduction of gender neutral pricing.

### 3. Discretionary charges and benefits (continued)

#### 3.(6) Unit management charges and notional charges on accumulating with-profits policies

For accumulating with-profits business, changes to notional charges are shown in the table below:

	Reserves £m	New charge %	Old charge %
Prudence Bond – Pre Mk9 and Establishment Charge new business and top ups to this business up to 30/09/02	5,738	0.629	0.785
Prudence Bond – Top ups to pre Mk7 and all Establishment Charge options made between 01/10/02 and 06/11/11, inclusive	422	0.779	0.935
Prudence Bond – Top-ups to pre Mk7 and to all Establishment Charge options paid on or after 07/11/11		0.979	1.135
Prudence Bond – Mk9 and post Mk9 new business written and Mk7 and post Mk7 top ups made between 01/10/02 and 06/11/11, inclusive	411	0.879	1.035
Prudence Bond – Post Mk9 new business and Mk7 and post Mk7 top ups made on or after 07/11/11		1.079	1.235
Prudence Bond – Pre NIC3 new business and top ups to pre NIC3 up to 30/09/02	303	0.929	1.085
Prudence Bond – All NIC new business (NIC3 and post NIC3) and all NIC top ups made between 01/10/02 and 06/11/11, inclusive	1,613	1.179	1.335
Prudence Bond – All NIC new business (post NIC3) and all NIC top ups made on or after 07/11/11		1.379	1.535
Prospects Bond - All business written between 06/10/03 and 06/11/11, inclusive	32	1.579	1.735
Prospects Bond – All business written on or after 07/11/11		1.779	1.935
Ex-PANL Bond	38	1.179	1.335
Prudential Investment Bond (PIB) and Prudence Savings Account (PSA)	2,438	1.010	1.20

The notional charges for all UK pensions business, Hong Kong policies and DCPSF policies were unchanged.

### **3. Discretionary charges and benefits (continued)**

#### **3.(7) Unit pricing of internal linked funds**

##### **(a) Hong Kong PruLink policies – Prudential Money Fund**

The unit issue price and redemption price are always 1.000. Interest is credited to policies in the form of additional units not less frequently than once per month. The rate to be credited is determined from the value of the fund assets, with any surplus being distributed by issuing new units on a pro-rata basis.

##### **Hong Kong PruLink policies – all funds except the Prudential Money Fund**

The funds are wholly invested in similarly named authorised Guernsey unit trusts managed by Prudential Fund Managers Guernsey. Units are allocated or cancelled on the next weekly valuation date at the prices determined by the unit trust manager. There is no bid/offer spread. PruLink policies provide that the fund unit prices may be varied from the corresponding unit trust price if a variation would be justified by, for example, a change in the basis of Hong Kong life office taxation.

##### **Other business written and retained by PAC**

The company operates its internal linked funds on a forward pricing basis. The daily unit prices used for the allocation of units to and deallocation of units from policies are calculated by a valuation of the internal linked funds. The valuation point of each fund is 12 noon. The allocation and deallocation of units is carried out once the unit prices are available. The unit prices for a fund are determined using either a creation price basis or a cancellation price basis, depending on the net cash flow position of the fund. Creation of asset units is carried out at the creation price, which is based on the purchase cost of the underlying assets plus any associated costs. Cancellation of asset units is carried out at the cancellation price, which is based on the sale value of the underlying assets of the fund less any associated costs.

##### **Other**

The unit pricing methods for those pensions contracts where the linked liabilities are wholly reassured to Prudential Pensions Limited (PPL) are described in PPL's regulatory returns.

- (b) Unit pricing bases are determined at fund level, so all policies invested in the same fund have the same basis applied.
- (c) The price used for collective investment schemes and similar assets is the latest valuation at mid-day (except for the Jupiter Merlin funds which use the prior day mid day valuation); deals placed before mid-day receive that price.

#### **3.(8) Capital gains tax deductions from internal linked funds**

Tax deductions are made on net realised gains as they arise, as well as for net unrealised gains on directly held assets. For holdings in collective investment schemes, allowance is made for the spreading over seven years of deemed disposals of net unrealised gains. Withdrawals from the fund for the payment of tax are made quarterly, the same frequency at which the Company makes payments to HM Revenue and Customs.

Each unit fund is treated in principle as though it were a stand-alone taxable entity, so no credit is given for a net loss position, but no carry-back of losses is applied. Instead, credit is given for losses that would fall into the company's actual tax computation in a future year to the extent that they do not exceed the amount of deemed gains carried forward to that particular year. Net unrealised gains of directly held assets are not set off against any realised or deemed losses in the same fund, nor is credit given for net unrealised losses.

Allowance is made in determining the tax charge and provision for the time delay until the assets are assumed to be sold (for unrealised gains and losses) and between the date of calculation of the provision and the tax payment being made.

### 3. Discretionary charges and benefits (continued)

The tax rates applied in 2012 were as shown in 3.(9) below.

#### 3.(9) Capital gains tax provisions for internal linked funds

##### Linked contracts in France and Hong Kong

The funds are not subject to capital gains tax.

##### Other business written by PAC – life business

As described in 3.(8) above, in determining the price of units in the internal linked funds relating to life business, the value of assets is adjusted by a provision to reflect, on a fund by fund basis, the capital gains tax on indexed gains on the assets held within the funds. On certain funds some credit has been given in respect of chargeable losses. The provision for tax is calculated on a daily basis allowing for the movement in unrealised gains, after any indexation, and losses, using a tax rate reflecting the expected tax payable by the Company as these gains and losses are realised. For investments in non-loan relationship unit trusts and OEICs, the tax rate used allows for the deemed disposal of the investments at the end of the year and the spreading of the tax payable over 7 years.

The mathematical reserves make allowance for the losses for which no credit is currently given but are carried forward and offset against future gains or deemed disposals in future years.

The following percentages were deducted or provided for during the year:

	Realised gains/losses	Unrealised gains/losses
Equities and properties	20%	17% to 18.5%
Unit trusts and OEICs	20%	15% to 20%
Gilts and bonds	20%	20%

For policies linked directly to unit trusts, a terminal deduction from benefits payable to policyholders is made in respect of any past or potential liabilities to corporation tax on chargeable gains relating to the units allocated to the policy.

##### Other business written by PAC – pensions business

The funds are not subject to capital gains tax.

#### 3.(10) Discounts and commission on buying and selling units

##### Linked contracts in France

The company receives rebate commission of 0.6% per annum of funds under management from the Réactif and Carmignac external unit-linked funds. Corresponding rebate commission of 0.4% and 0.3% respectively is payable to distributing agents. Policyholders do not benefit from this rebate.

##### Linked contracts in Hong Kong

No special terms apply when units are purchased from the unit trust manager.

##### Business written by PAC

For investment in unit trusts and OEICs the Company receives a discount equal to the managers' initial charge. The internal linked funds also benefit from the rebate of the annual management charge. All of the benefits of annual management charge rebates are passed on to policyholders.

**3. Discretionary charges and benefits (continued)**

Business written by PHL

In some cases where investments are in Prudential Unit Trusts, a fund management charge is included in the price of the fund. In such cases Prudential Unit Trusts rebate the fund management charge deducted from the unit trusts. The full rebate is credited to the respective linked funds with the deduction for investment management expenses being met by non linked funds.

Other

The unit pricing methods for those pensions contracts where the linked liabilities are wholly reassured to PPL are described in PPL's regulatory returns.

#### **4. Valuation methods and bases (other than for special reserves)**

##### **4.(1) Valuation methods**

Unless specified to the contrary in 4.(1).6 on page 17, the following valuation methods apply.

**4.(1).1** The mathematical reserve for assurances and annuities reported in Form 51 is the difference between the present value of the benefits and the present value of the future valuation net premiums (a net premium valuation (NPV) method), both calculated with provision for immediate payment of claims. Policies where negative reserves could arise have been valued individually and the mathematical reserves increased to zero so that no policy is treated as an asset. Otherwise, contracts with a common attained age and number of years to run to maturity or premium cessation are grouped together.

**4.(1).2** The mathematical reserve for accumulating with-profits business, except PruFund, is the lower of:

(a) the accumulated fund, or the value at the bid price of the notional number of units allocated to policyholders, in both cases excluding final bonus, and

(b) the surrender or transfer value which, having regard to the duty to treat customers fairly, would be payable at the valuation date,

or, if greater, the value of the guaranteed liabilities, excluding final bonus, calculated on a gross premium bonus reserve method making no allowance for future annual bonus interest.

The comparison of the accumulated fund or value of units allocated, the surrender or transfer value and the bonus reserve liability is carried out on a policy-by-policy basis.

For contracts where actuarial funding is used, the value of the units is net of the present value of future annual establishment charges, recurrent management charges or additional management charges that are used to recoup initial expenses.

For contracts where initial expenses are recouped by an annual cancellation of units allocated in the first year, the number of units valued is reduced appropriately. In cases where a higher benefit would be payable on early death, due allowance has been made.

The surrender or transfer value is taken as the accumulated fund, including final bonus and less a market value reduction where appropriate, at the valuation date, less any explicit charge that would apply on immediate surrender.

Section 32 Buy Out contracts include a specific provision for the Guaranteed Minimum Pension.

**4.(1).3** The mathematical reserve for PruFund, including PruFund as a Fund Link, business is the higher of:

(a) the unsmoothed fund value after deduction of surrender penalties, plus a reserve for accrued shareholder transfers, and

(b) a prospective valuation of all future cashflows, assuming no future growth in the unsmoothed fund value as this is non-guaranteed,

plus a reserve for the guarantee on PruFund Protected funds, which is determined stochastically.

The comparison of the unsmoothed fund value and the prospective valuation of future cash-flows is carried out on a policy-by-policy basis.

#### **4. Valuation methods and bases (continued)**

- 4.(1).4** The mathematical reserve for property-linked contracts is the unit liability together with a non-unit liability (a “sterling reserve”) to cover expenses, mortality, morbidity, options and guarantees and, where appropriate, capital gains tax.

The unit liability is based on the value at the date of valuation of the units allocated to policyholders. For contracts where actuarial funding is used, the value of the units is net of the present value of future annual establishment charges, recurrent management charges or additional management charges that are used to recoup initial expenses.

A non-unit liability for mortality and expenses is determined for each policy using a discounted cash flow method. For UK property-linked contracts in the NPSF the non-unit liability provides only for attributable expenses and an additional reserve for non-attributable expenses is calculated at a homogeneous risk group level as described in section 6.(6) on page 34. The total non-unit liability is adequate on the valuation basis to ensure that any future negative cash flows which would otherwise arise are eliminated, including ensuring that the reserve for an individual policy both currently and at any future date is at least equal to the surrender value. Provision is also made for tax on capital gains, for outstanding premiums and, where relevant, for premiums received in respect of policies not yet accepted.

- 4.(1).5** The mathematical reserve for inflation-linked annuities is, in general, determined without an explicit allowance for future increases in annuity payments, which is consistent with the treatment of the matching assets. The treatment of inflation-linked annuities which are subject to maximum and/or minimum percentage increases, is as follows:

- (a) Inflation-linked annuities subject to a minimum annual increase of 0% and a maximum annual increase of 5% are, for valuation purposes, treated as being identical to normal inflation-linked annuities.
- (b) Inflation-linked annuities subject to a minimum annual increase of 0% and a maximum annual increase of 12% are, for valuation purposes, treated as being identical to normal inflation-linked annuities.
- (c) Inflation-linked annuities subject to a minimum annual increase of 2.5% and a maximum annual increase of 5% are, for valuation purposes, treated as annuities with fixed 5% annual increases.
- (d) Inflation-linked annuities subject to a minimum annual increase of 4% and a maximum annual increase of 8.5% are, for valuation purposes, treated as annuities with fixed 8.5% annual increases.
- (e) Inflation-linked annuities subject to a minimum annual increase of 3% are, for valuation purposes, treated as annuities with fixed 6% annual increases.
- (f) Inflation-linked annuities subject to a minimum annual increase of 3% and a maximum annual increase of 5% are, for valuation purposes, treated as annuities with fixed 5% annual increases. They are, however included in these returns as linked business.
- (g) Inflation-linked annuities subject to a minimum annual increase of 0% and a maximum annual increase of 3% arising from Guaranteed Minimum Pension liabilities are, for valuation purposes, treated as annuities with fixed 3% annual increases. This business is reported on Form 51 as non-linked business.



#### **4. Valuation methods and bases (continued)**

##### **4.(1).6** Exceptions to the above:

Mathematical reserves for with-profits whole life assurances issued by the Company before 1978 are calculated on the assumption that each policy is converted on its next anniversary to an endowment assurance maturing after ten years, this being the most onerous option.

Specific provision is made for guaranteed early maturity options under Flexidowment and certain other miscellaneous assurances and deferred annuities in SAIF, and for early maturity options and annuity options under Flexipension (Series 1) contracts, by valuing them at the earliest maturity option date and holding additional reserves for maturity options thereafter.

Specific provision is made for guaranteed cash options under pension assurance and pure endowment contracts in SAIF by valuing the greater of the cash option and the present value of the annuity benefit.

Prudential Protection policies sold from 1 August 2000 and PruProtect Plan are valued using a gross premium valuation method. For policies written in the NPSF, prudent lapse assumptions are allowed for in reserve calculations. Policies are valued individually. Negative mathematical reserves for Prudential Protection policies are increased to zero so that no policy is treated as an asset. The negative mathematical reserves held for PruProtect Plan business, and the positive cashflows expected to repay them, are offset against positive reserves required to fund negative cashflows emerging from NPSF annuity policies.

Mortgage Protection (Home Protect/Synergy Protect) policies are valued using a gross premium valuation method with no allowance for lapses. Any negative mathematical reserves are increased to zero.

Individual permanent health insurances are valued using the claims inception and disability annuity (CIDA) gross premium method.

The mathematical reserve for some individual deferred annuities is the accumulation of the premiums paid at the greater of a rate of interest guaranteed at the date of issue and a concessionary rate of interest declared for each year. The concessionary rates are the interest rates used in determining the benefits payable.

For non-profit immediate annuities and some deferred annuities the mathematical reserve is the value of future annuity payments plus the value of future expenses, allowing for expense inflation.

For deferred annuities where benefits include revaluation in deferment in line with RPI, followed by fixed escalation in payment, the revaluation in deferment is generally subject to a minimum annual increase of 0% and a maximum annual increase of 5%. For valuation purposes these are treated as annuities with fixed 5% annual revaluation throughout the remaining deferred period followed by the actual fixed escalation in payment.

For single premium loan protection policies the reserve is the sum of the unearned premium reserve, any accrued profit commission and reserves for claims incurred but not reported and claims in payment. The unearned premium is net of initial commission but gross of all other loadings for expenses and profit. For the life and critical illness elements of loan protection business, a reserve is held to provide for the reduction of future tax relief on commission where premiums would be rebated based on prudent assumptions for future policy lapses. As the schemes are now in run-off, to mitigate the reduction in the pooling effect we have introduced reserves that are a function of the total remaining sum assured.

For linked life annuities transferred from M&G Pensions, the reserve is taken as the number of units payable per annum multiplied by an annuity factor and by the valuation unit price.

Policy reserves equal to the claim value are held for Industrial Branch whole life and endowment assurances where the policy benefit has not been claimed in the 15 years following the maturity date or (for whole life policies) the policy anniversary after age 90. The policy reserves for endowment assurances also include interest between the maturity date and the valuation date.

**4. Valuation methods and bases (continued)**

For the Hong Kong branch, the mathematical reserves for the assurances reported on Form 51 is the difference between the present value of the benefits plus expenses and the value of the future premiums, calculated with a prudent allowance for future lapses (a gross premium valuation method).

**4.(2) Valuation interest rates**

Valuation interest rates are reported in the tables in Appendix 1 on pages 50 to 51.

The FSA, on the application of the firm, made a direction under section 148 of the Financial Services and Markets Act 2000 in September 2011. The effect of the direction is to modify the provisions of INSPRU 3.1.35R and IPRU(INS) Appendix 9.3, so that a more appropriate rate of interest is used for certain assets taken in combination.

In applying the section 148 waiver, the yield on property is taken to be the lower of the current rental yield and the “redemption yield”, which is the interest rate at which the market value equates to the present value of future rental income and the disposal value. No allowance is made for non-contractual increases in rental income. As an allowance for the risk of falls in value, the disposal value of the property at the end of the lease is taken as 75% of the current market value.

**4.(3) Risk-adjustments to yields**

**4.(3).1 Fixed interest securities**

Yields have been adjusted to allow for the risk of default on fixed interest securities (other than approved securities assessed as risk-free by the firm’s investment manager).

The allowance for credit risk is calculated as the long-term expected level of defaults plus the long-term credit risk premium plus the long-term downgrade resilience reserve plus an allowance for the impact of additional short-term credit events reflecting the market conditions at the valuation date.

The long-term expected levels of defaults are determined from data supplied by our investment manager, which itself is based upon research carried out by one of the major rating agencies. This analysis, based on actual default experience over a 40 year period, produces mean default rates according to credit quality and term to redemption.

In the event of default it may be possible to recover some capital, especially if the loan is secured. The allowance for recovery (or partial recovery) of the loan varies according to the level of security and the following recovery rates are assumed:

	%
First Mortgage Debenture/Senior Secured	75
Senior Unsecured	45
Subordinated Debt	20

To calculate the aggregate provision for the long-term expected levels of defaults and the long-term credit risk premium, the corporate bond portfolio is broken down according to credit rating and level of security. The default rate for each category is assumed to vary between 100% and 200% of the appropriate mean default rate, reduced by the expected recovery, plus a further amount for credit risk. This further amount for credit risk (the long-term credit risk premium) is determined as the excess over the best estimate level of default, of the 95<sup>th</sup> percentile of historic cumulative defaults, reduced to allow for the expected recovery of capital and subject to a minimum margin over best estimate of 50%.

#### 4. Valuation methods and bases (continued)

The default rates for each category of credit rating and level of security, in basis points per annum, are set out below:

<b>Term to Redemption</b>	<b>Seniority</b>	<b>AAA</b>	<b>AA</b>	<b>A</b>	<b>BBB</b>	<b>BB</b>	<b>B and lower</b>
0 to 10 years	Senior Secured	7.4	7.4	10.2	23.4	95.5	234.2
	Senior Unsecured	16.2	16.2	22.4	51.4	210.2	515.3
	Subordinated	23.6	23.6	32.5	74.8	305.8	749.5
10 to 20 years	Senior Secured	5.6	5.7	13.3	28.6	97.5	189.8
	Senior Unsecured	12.3	12.6	29.3	62.9	214.5	417.5
	Subordinated	17.9	18.3	42.6	91.5	312.0	607.2
20 to 30 years	Senior Secured	4.0	9.6	18.7	31.4	93.0	158.4
	Senior Unsecured	8.9	21.1	41.1	69.0	204.5	348.4
	Subordinated	12.9	30.7	59.7	100.4	297.5	506.7
Over 30 years	Senior Secured	3.7	11.5	20.6	31.8	93.0	158.4
	Senior Unsecured	8.1	25.4	45.3	69.9	204.5	348.4
	Subordinated	11.7	36.9	66.0	101.6	297.5	506.7

The long-term downgrade resilience reserve is determined as the hypothetical impact on the aggregate provision described above of a one-notch downgrade of the entire credit-risky asset portfolio.

Aggregate yields on the backing assets have been adjusted by the rates shown in the table below to allow for potential credit risk within the bond portfolios. Further implicit margins for prudence are held in the difference between the risk adjusted yields and the relevant valuation interest rates.

<b>Sub-Fund</b>	<b>Credit risk adjustment (in basis points)</b>
With-Profits Sub-Fund - direct written annuities recaptured from PAL	76
With-Profits Sub-Fund - annuities accepted from PAL	84
With-Profits Sub-Fund - other	86
SAIF	88
Defined Charge Participating Sub-Fund	108
Non-Profit Sub-Fund - direct written annuities	60
Non-Profit Sub-Fund - annuities accepted from PRIL	65
Non-Profit Sub-Fund - other	72

#### 4.(3).2 Property

Yields on individual properties were subjected to a cap equal to the risk-adjusted yield on the Merrill Lynch over 10 years corporate bond index. The risk adjustment was calculated by applying the methodology described in 4.(3).1 to the constituents of the index.

#### 4.(3).3 UK equities

Yields on individual equities were subjected to a cap equal to 90% of the yield on the Merrill Lynch over 10 years corporate bond index less a risk adjustment calculated by applying the methodology in 4.(3).1 to the constituents of the index.

#### 4. Valuation methods and bases (continued)

##### 4.(3).4 Overseas equities

Yields on individual equities were subjected to the same cap used for property.

##### 4.(4) Mortality rates

Mortality rates are reported in the tables in Appendix 2 on pages 52 to 54.

Specimen expectations of life for deferred and immediate annuities are shown in the table in Appendix 3 on pages 55 to 56.

##### 4.(5) Morbidity rates

Morbidity rates are shown in Appendix 4 on pages 57 to 63.

##### 4.(6) Valuation expense bases

Expense assumptions except for the DCPSF are shown in Appendix 5 on pages 64 to 66. Expenses for UK life products are assumed to attract tax relief at 20%.

A third party administers the accumulating with-profits business in the DCPSF and the renewal expenses allowed for in the valuation are based on the actual tariff in the service agreement. The expenses for with-profits annuities in the DCPSF are met by the NPSF.

##### 4.(7) Unit growth and inflation rates

###### 4.(7).1 Unit growth rates for linked business before management charges (net of tax for UK life business)

	31 December 2012	31 December 2011
	%	%
UK – Life	4.00	4.20
UK – Pensions	5.00	5.25
Overseas – Hong Kong	4.66	5.05
Overseas – other	5.00	4.50

###### 4.(7).2 Expense inflation assumptions and future increases in policy charges

	31 December 2012	31 December 2011
	% per annum	% per annum
UK	3.50	3.75
Overseas – Hong Kong – US\$ WP, NPSF	2.50	2.50
Overseas – Hong Kong – HK\$ WP	2.75	2.75
Overseas – other	3.50	3.50

##### 4.(8) Future bonus rates

For conventional with-profits business, a gross premium valuation method is only used to value business written in Hong Kong. In valuing this business the future annual bonus rate is assumed to be zero.

For unitised with-profits business the future annual bonus rates are assumed to be the higher of zero and any guaranteed rate.

#### 4. Valuation methods and bases (continued)

##### 4.(9) Lapse, surrender and paid-up assumptions

Prudent discontinuance assumptions are used in the NPSF, for some protection assurances on Form 51 and linked assurances and pensions on Form 53, and in the WPSF, for conventional non-linked business in Hong Kong. We have only considered these products to determine whether one product constitutes more than 50% of the business in force or whether to estimate a weighted average for several products.

Product		Average lapse / surrender / paid-up rate for the policy years			
		1 - 5 %	6 - 10 %	11 - 15 %	16 - 20 %
Level term	lapse	16.30	7.00	4.90	4.90
Decreasing term	lapse	16.30	7.00	4.90	4.90
Accelerated critical illness	lapse	3.27	2.25	2.25	2.25
Income protection	lapse	16.30	7.00	4.90	4.90
CWP savings endowment	surrender	3.27	2.25	2.25	2.25
UWP bond	surrender	1.13	21.75	15.00	15.00
UWP bond	automatic withdrawals	100% of current experience			
UL savings endowment	surrender	4.80	5.07	5.07	5.07
UL target cash endowment	surrender	20.00	9.10	3.60	3.60
UL bond	surrender	4.88	12.00	10.00	8.00
UL bond	automatic withdrawals	100% of current experience			
UL individual pension regular premium	PUP	19.20	4.80	4.80	4.80
UL individual pension regular premium	surrender	5.60	5.60	5.60	5.60
UL group pension regular premium	PUP	6.80	3.84	2.08	2.00
UL group pension regular premium	surrender	1.53	1.53	1.53	1.53
UL individual pension single premium	surrender	5.90	5.60	5.60	5.60

##### 4.(10) Other material assumptions

There are no other material assumptions.

##### 4.(11) Derivatives

In determining the long-term liabilities, allowance has been made for derivative contracts and contracts or assets having the effect of derivative contracts, by adjusting the existing assets attributed to the long-term business to reflect the underlying investment exposure.

SAIF and WPSF hold US dollar/sterling, euro/sterling and yen/sterling currency forwards in connection with fixed interest securities denominated in those currencies. Taken in aggregate these combinations of currency forwards and fixed interest securities could be considered to be sterling assets and, as such, the yields should be comparable with sterling yields. To achieve this, the yields on the US dollar, euro and yen assets are reduced if the corresponding risk-free yield curve exceeds the sterling risk-free yield curve.

##### 4.(12) Effect of change in methodology

There have been no changes to the mathematical reserves at the current valuation date as a result of the changes to the INSPRU rules effective from 31 December 2006.

## 5. Options and guarantees

### 5.(1) Guaranteed annuity rate options

- (a) The mathematical reserves for guaranteed annuity options are calculated assuming a 100% take-up of available options, and are determined as follows:

#### Group cash accumulation contracts

For valuation purposes, it is assumed, in line with current practice, that if the guaranteed rates are higher than current rates on the valuation date, the guarantee will be revised with 6 months' notice from the next scheme renewal date. As a result, it is assumed that retirements for at most a further 18 months will be subject to the guarantee prior to its amendment. Any additional amount of annuity payable as a result of the guarantee is calculated assuming that the recent profile of retirements (age, sex and purchase money) continues. The resulting annuity is valued on the basis used for non-profit group deferred annuities.

#### EPP Mark 1

The fund in respect of the first 5 years' premiums for each scheme is calculated. The additional amount of annuity payable as a result of the guarantee is then calculated by age groups assuming that the recent profile of retirements by age and sex continues (all assumed to be at an age at which a guarantee applies). The distribution of long-term interest rates at retirement was provided by the economic scenario generator used to derive market-consistent returns for use in the Peak 2 valuation and market consistent valuation interest rates appropriate to each scenario were used in deferment.

#### SAIF products

Guaranteed annuity options apply to the following products:

- Flexipension (Series 1 and Series 2)
- Series 1 and Series 2 pension contracts written up to and including 26 July 2000 as increments to Flexipension (Series 1) contracts
- Individual Endowment/Pure Endowment - Series 1 and Series 2
- Individual Pension Account

For accumulating with-profits and linked business, an additional reserve is calculated by projecting the existing unit reserve with future premiums to the selected retirement date, and calculating the present value of the excess of the annuity guarantee over the projected fund value. The value of the annuity guarantee at retirement is calculated assuming a mortality basis in possession of 46% PMA92/51% PFA92 (c=2004) and a valuation interest rate of 3.25% p.a. in possession. For linked business, the projected fund is calculated assuming a fund growth rate of 7.125% (i.e. 8.0% less an annual management charge). The excess of the annuity guarantee over the projected fund value is discounted at 4.5% per annum. For accumulating with-profits business, no future bonus is allowed for. The projected fund is calculated assuming a fund growth rate of 4.0% (representing the 4.0% guarantee on SAIF pension policies). The present value of the excess of the annuity guarantee over the projected fund value is calculated at a discount rate of 1.65%.

For conventional business, the benefit included in the net premium reserve is the greater of the cash benefit and the value of the annuity guarantee. The mortality basis in deferment is AM92/AF92 + 1 for individual endowment/pure endowment and AM92/AF92 - 4 for Flexipension (Series 1), and in possession is 46% PMA92/51% PFA92 (c=2004). The valuation interest rate in deferment is reduced by 0.6% to allow for mortality improvement in deferment. The valuation interest rate (before the 0.6% reduction for mortality improvement) is 3.00% in deferment and 3.25% in possession.

The adequacy of the reserve has been verified using stochastic modelling.

An additional expense reserve of £54.1m is held to meet the cost of administering the future annuities in payment under the guaranteed annuity options in SAIF.

- (b) See the table on the following page.

**5. Options and guarantees (continued)**

**Table 5.1(b) – Guaranteed annuity rate options**

Product name	Basic reserve £m	Spread of outstanding durations	Guarantee reserve £m	Guaranteed annuity rate % for a male aged 65	Are increments permitted?	Form of the annuity	Retirement ages
<u>WPSF</u> Group cash accumulation	374	0 – 18 months	12	6.22	No	Single life, monthly in advance, guaranteed for 5 years	50 – 70
Executive Pension Plan Mark 1	106	0 – 35 yrs	35	10.29	Yes – in first 5 yrs of scheme	Single life, monthly in advance, without guarantee	60 – 70 (M) 55 – 70 (F)
<u>SAIF</u> Flexipension	633	0 – 40 yrs; average 10 yrs	561	10.90	No	Single life, yearly in arrears, without guarantee	60 - 75
Individual Endowment/Pure Endowment	117	0 – 40 yrs; average 10 yrs	75	10.00	No	Single life, monthly in advance, guaranteed for 5 years	60 – 70 (M) 55 – 70 (F)
Individual Pension Account	47	0 – 40 yrs; average 10 yrs	32	10.00	No	Single life, monthly in advance, guaranteed for 5 years	60 – 70 (M) 55 – 70 (F)

If the form of annuity taken is different to that shown in the table, by concession an actuarially equivalent rate is given.

## 5. Options and guarantees (continued)

### 5.(2) Guaranteed surrender values and guaranteed unit-linked maturity values

5.(2).1 There are no guaranteed unit-linked maturity values. The methods and bases used for guaranteed surrender values were as follows.

#### PruFund Investment Plan

This is a single premium whole-life accumulating with-profits contract written in the WPSF.

At the fifth anniversary of a premium payment, the smoothed fund value is increased by the value of additional units credited, if necessary, to give a total value equal to the guaranteed minimum fund value (the initial premium adjusted for withdrawals). Policies sold up to 25 July 2005 received this guarantee for no extra cost. Between that date and 12 October 2008, policyholders choosing the guarantee pay an additional annual management charge for 5 years.

Policyholders who invested between 13 October 2008 and 22 February 2010 have the option, at the fifth anniversary, to rollover their guarantee into a new 5 year guarantee (with the amount guaranteed equal to the fifth anniversary fund value). At this point the amount charged for the guarantee can be changed.

The reserve for the guarantee was set using stochastic simulations and is 0.5% of the current fund value.

#### PruFund as a Fund Link

This is a fund choice for Flexible Investment Plan, Prudential Investment Plan, Flexible Retirement Plan and Trustee Investment Plan written in the WPSF and International Prudence Bond reassured into the DCPSF.

At the selected guarantee date, the smoothed fund value is increased by the value of additional units credited, if necessary, to give a total value equal to the guaranteed minimum fund value (the initial premium adjusted for allocation rates and withdrawals). Policyholders investing in the fund pay an additional annual management charge for the selected guarantee term.

Policyholders who invested between 13 October 2008 and specified dates in 2009 and 2010, which vary by contract, have the option, at the fifth anniversary, to rollover their guarantee into a new 5 year guarantee (with the amount guaranteed equal to the fifth anniversary fund value). At this point the amount charged for the guarantee can be changed.

The reserve for the guarantee was set using stochastic simulations and ranges between 1.0% and 1.5% of the current fund value for life business, between 1.25% and 1.75% for pensions business and is 3.0% for International Prudence Bond business.

#### Prudential Europe Vie

This is a single premium whole-life accumulating with-profits contract denominated in Euros and written as overseas life assurance business in the DCPSF.

The surrender value at any time is guaranteed to be no less than 75% of the initial investment, net of the initial charge, after allowing for any partial surrender and withdrawals made.

As at 31 December 2012, the basic policy reserves exceeded the minimum guaranteed surrender values to the extent that no additional reserve was considered necessary.



**5. Options and guarantees (continued)**

Hong Kong

Conventional with-profits contracts issued in Hong Kong have guaranteed surrender values based on a net premium valuation on specified bases. The valuation reserve is tested against the guaranteed surrender value on a policy-by-policy basis and no additional reserve is required.

Single premium whole life accumulating with-profits contracts (PRUsaver series) issued in Hong Kong have guaranteed surrender values at the fifth policy anniversary. In addition, in 2008, a 10 year guarantee was added to policies which have passed their fifth anniversary at 30 October 2008. The reserve for the 5-year guarantee is taken as the excess of the guaranteed capital over the asset share discounted at a risk-free rate. The reserve for the 10-year guarantee is the estimated market consistent price of the guarantee.

5. Options and guarantees (continued)

5.(2).2 Guaranteed surrender values and unit-linked maturity values

Product name	Basic reserve £m	Spread of outstanding durations	Guarantee reserve £m	Guaranteed amount £m	MVA free conditions	In force premiums £m	Are increments permitted?
<u>WPSF</u>							
PruFund Investment Plan	1,334	0 – 2.25 yrs	4	Fund increased to initial premium (adjusted for withdrawals) after 5 years	N/A	1,157	No
PruFund as a Fund Link – Flexible Investment Plan	4,513	0.75 – 10 yrs	41	Fund increased to initial premium (adjusted for withdrawals) at selected guarantee date	N/A	4,249	No
PruFund as a Fund Link – Prudential Investment Plan	194	0.75 – 10 yrs	1	Fund increased to initial premium (adjusted for withdrawals) at selected guarantee date	N/A	185	No
PruFund as a Fund Link – Flexible Retirement Plan & Trustee Investment Plan	586	0.75 – 10 yrs	5	Fund increased to initial premium (adjusted for withdrawals) at selected guarantee date	N/A	529	No
<u>DCPSF</u>							
Prudential Europe Vie	55	Whole-Life	-	31	Regular withdrawals up to 5% per annum	49	Yes
PruFund as a Fund Link - International Prudence Bond	423	0.75 - 10 years	13	Fund increased to initial premium (adjusted for withdrawals) at selected guarantee date	N/A	397	No
<u>Hong Kong</u>							
Better Life	1,977	Whole-Life	-	1,400	N/A	120	No
Better Life Assurance II	607	Whole-Life	-	358	N/A	107	No
Better Life Plus II	24	Whole-Life	-	17	N/A	2	No

## 5. Options and guarantees (continued)

### 5.(2).2 Guaranteed surrender values and unit-linked maturity values

Product name	Basic reserve £m	Spread of outstanding durations	Guarantee reserve £m	Guaranteed amount £m	MVA free conditions	In force premiums £m	Are increments permitted?
<u>Hong Kong - continued</u>							
With Profit Endowment – 1 <sup>st</sup> & 2 <sup>nd</sup> Series	181	0 - 60 yrs; average 18 yrs	-	159	N/A	4	No
With Profit Whole Life – 1 <sup>st</sup> & 2 <sup>nd</sup> Series	80	Whole-Life	-	79	N/A	2	No
PruFlexLife	169	Whole-Life	-	109	N/A	39	No
PRUsave Plus	516	0 - 20 yrs; average 10 yrs	-	350	N/A	56	No
PruLife	222	Whole-Life	-	77	N/A	71	No
Double Treasure Retirement Income Plan – US\$	66	0 – 24 yrs; average 20 yrs	-	36	N/A	14	No
Double Treasure Retirement Income Plan – HK\$	191	0 – 24 yrs; average 20 yrs	-	79	N/A	41	No
Better Life Assurance II HK\$	702	Whole-Life	-	70	N/A	155	No
Better Life Plus II HK\$	79	Whole-Life	-	40	N/A	16	No
Evergreen Growth Saver – US\$	70	Whole-Life	-	-	N/A	128	No
Evergreen Growth Saver SP – US\$	36	Whole-Life	-	23	N/A	21	No
Evergreen Growth Saver HK\$	81	Whole-Life	-	-	N/A	167	No
Evergreen Growth Saver SP HK\$	28	Whole-Life	-	4	N/A	29	No
Yearly Income Plan	18	Whole-Life	-	-	N/A	15	No
PruSaver – US\$	43	Whole-Life	1	43	Policies effected from October 2008	43	No
PruSaver – HK\$	692	Whole-Life	-	589	Policies effected before 2007 and from October 2008	589	No
PruSaving – HK\$	11	Whole-Life	-	-	N/A	1	No
Group cash accumulation (HKDF and USDF)	44	Whole-Life	-	44	N/A	-	No
Group cash accumulation (GCAPUS and GCAPHK)	36	Whole-Life	-	36	N/A	-	No

## **5. Options and guarantees (continued)**

### **5.(3) Guaranteed insurability options**

**5.(3).1** There are a number of insurability options for which no additional reserve is considered necessary due to margins in the valuation mortality/morbidity bases. These options are:

#### Amicable Savings Plan

Extension Option allows the term of the plan to be extended by a period of at least ten years from the original maturity date.

#### Home Purchaser

Mortgage Alteration Option provides a limited facility, subject to conditions, to increase the life cover at ordinary rates of premium for the amount of any increase to the loan. If the term of the loan is also increasing, the term of the existing plan may also be extended to match the maturity date of the new plan.

#### Maximum Investment Plan and Flexible Investment Plan (Ex M&G Life)

Maximum Investment Plans have an option at maturity to extend the term for a further ten years or to convert to a whole life assurance with a nominal premium. Flexible Investment Plans have an option to extend the premium paying term.

#### Investment Mortgage Plan (Ex M&G Life)

There is an option to increase the sum assured without medical evidence if the policyholder increases his or her mortgage.

#### Personal Security Plan (Ex M&G Life)

Most policies have an option to increase the benefits each year in line with the Retail Prices Index without medical evidence either to age 65 or throughout life. Benefits other than Keyman Disability Benefit may also be increased by up to 20% without medical evidence on marriage, house purchase or birth of children. On some policies the death benefit can be increased without medical evidence following changes in Inheritance Tax legislation. If any of these options are exercised the Company recommends an appropriate increase in premium.

#### Prudential Protection

Policies issued at ordinary rates include an option to increase cover without evidence of health in the event of mortgage increase, marriage, childbirth or adoption. The option can be exercised only before the life assured's 50<sup>th</sup> birthday and within 3 months of the event occurring.

#### Prufund: Protection Plan

If the original policy was issued on normal terms, a new policy may be effected without evidence of health every 5 years before the attainment of age 50 for a sum assured of up to 50% of the sum assured under the original policy at the time each option is exercised. The option lapses if it is not exercised in whole or part. The new policy may be a with-profits whole life or endowment assurance.

#### Prufund: Savings Plan

At the end of the premium payment term, premiums may be continued for a further 10 years. Under Series 1 plans there is also an option after 10 years to continue the policy for a further 10 years without further payment of premiums.

#### Permanent Health Insurance

On payment of an additional premium, individual permanent health insurance policies issued in the United Kingdom between January 1982 and July 1988 carry an option to increase the original benefit by up to 25% (subject to the total benefit being no greater than 75% of earnings) on every fifth policy anniversary without medical evidence. This option cannot be exercised whilst incapacitated or within 10 years of the termination date of the policy.

#### Series A & Premier Pensions plans with Waiver Benefit or Comprehensive Waiver Benefit

Long Term Care Double Cover benefit entitles the plan holder to buy a Long Term Care Bond from Prudential International (or another contract approved by the PAC Actuary as a reasonable equivalent) at ordinary rates at retirement. Personal Pension and Group Personal Pension Plan holders with Waiver Benefit may increase the contributions covered by the benefit with no additional underwriting provided the increased contribution is no more than twice the previous contribution.

## 5. Options and guarantees (continued)

### Mortgage Protection (Home Protect)

Policies issued at ordinary rates may include an option to increase cover without evidence of health in the event of mortgage increase, marriage, childbirth or adoption. The option can be exercised only before the life assured's 50th birthday and within 3 months of the event occurring. The increase can be up to 50% of the benefit for the mortgage option or 25% for the other options both subject to maxima of £150,000 (life and critical illness) or £1,000 a month (premium waiver and mortgage payment benefits).

### Mortgage Protection (Ex M&G Life)

There are options for each life to continue cover for a further 5 years up to a date specified at the outset of the original cover, and, if the life assured increases his mortgage, to increase the benefit by the lower of 50% of the increase or £50,000 on rates in force at the time. Neither option requires medical evidence. Two schemes incorporate options for each life to add Critical Illness, Waiver of Contribution and PHI benefits. These options are offered subject to provision of satisfactory medical evidence.

### PruProtect Plan

The Guaranteed Insurability Benefit gives the planholder the option to increase Life Cover, Serious Illness Cover, Disability Cover or Income Protection Cover under certain circumstances without providing any evidence of health. Any increase in cover is subject to the applicable maximum cover limits.

### Other

Some UK policies issued between September 1975 and April 1984 and some policies issued in Hong Kong contain an option, in return for an additional premium, to effect further assurances without evidence of health.

Some assurance policies contain options to effect further assurances without evidence of health at specific ages, on marriage or on the adoption or birth of a child. Under some assurances in Hong Kong, a guaranteed insurability option of up to five times the basic sum assured is offered at the maturity of the pure endowment part of the assurance.

Some assurance policies issued between October 1973 and July 1979 on the life of a parent or guardian for the benefit of a child contain an option to permit the child, after attaining a specified age, to effect a whole life or endowment assurance without evidence of health for a sum assured not exceeding four times that of the original policy. On the marriage of a female child, the option may be exercised on her husband's life if he is under age 45.

Some individual level temporary assurance policies contain an option, in return for an additional premium, to convert wholly or partially to a whole life or endowment assurance for a sum assured not exceeding the original sum assured.

Some individual temporary assurance policies contain an option to renew the assurance every 5 or 10 years without evidence of health subject to a maximum age at renewal of 55 (65 in Hong Kong). The sum assured under this option may be increased by up to one half of the sum assured remaining at the end of the 5 or 10 year period. There is also an alternative option to convert at the end of the term to any other Ordinary Branch single life assurance, for a sum assured of up to 150% of that under the temporary assurance policy.

Under a few group life assurance policies, premium rates are guaranteed for employees in respect of current levels of sum assured. Group life assurance premium rates are generally guaranteed for 2 or 3 years.

Employees leaving group pension schemes, where it has not been possible to remove the option, may replace any temporary life assurance cover with an individual assurance at the relevant rates of premium then in force, based on the original underwriting decision. The continuation option was withdrawn for new schemes during 1988.

## 5. Options and guarantees (continued)

5.(3).2 Conversion and renewal options where the total sum assured exceeds £1bn are as follows:

Product name	In force premiums (£m)	Sum assured (£m)	Description of option	Guarantee Reserve (£m)
Personal Pension Life Cover	4.6	1,466	If a member becomes ineligible to continue premiums under a Pensions Term Assurance, they have an option for one month to maintain life cover with a replacement policy, issued without further medical evidence, which has term and sum assured no greater than those under the Scheme benefit when it was cancelled. Any extra premiums on the original policy will also apply on the replacement policy.	Implicit in the basic reserve

### 5.(4) Other guarantees and options

#### 5.(4).1 FSA personal pensions review

The mathematical reserve for guarantees issued under the FSA personal pensions review is calculated by valuing the pension scheme benefits to which the policyholder would otherwise have been entitled and subtracting the value of the personal pension policy. Where relevant, each policyholder is assumed to be in a scheme providing an RPI-linked pension of two thirds of final earnings after 40 years' service with a 50% continuation to a surviving spouse and equivalent death-in-service benefits.

Stochastic modelling is used to calculate the reserves for these guarantees. The distributions of investment returns over the remaining period to retirement and long-term interest rates at retirement were provided by the economic scenario generator used to derive market-consistent returns for use in the Peak 2 valuation. In deferment, allowance is made where appropriate for salaries to increase by 2% per annum in excess of RPI.

The basic policy reserve held at 31 December 2012 was £291m and the guarantee reserve was £425m.

#### 5.(4).2 Guaranteed Minimum Pensions (GMPs) under Section 32 contracts

Under early versions of Section 32 contracts, some or all of the GMP was secured by a non-profit deferred annuity. Those benefits are valued using the methodology described in paragraph 4.(1).1 (page 15). Any remaining GMP was covered by the excess premium not required to purchase the non-profit deferred annuity and this was invested in a cash accumulation or with-profits fund.

Under later versions of Section 32 contracts, the whole of the GMP was covered by the with-profits fund.

The reserves for that part of the GMP covered by with-profits have been calculated using stochastic modelling. The distributions of investment returns over the remaining period to retirement and long-term interest rates at retirement were provided by the economic scenario generator used to derive market-consistent returns for use in the Peak 2 valuation.

The guarantee reserve for a small number of accumulating with-profits contracts (ex-SAL and SAIF) was calculated by a deterministic method, being the excess value on a policy-by-policy basis of the GMP liability (allowing for revaluation) over the basic policy reserve. The GMP liability is valued at a discount rate of 2.25%, with future increases in National Average Earnings assumed to be at 5% per annum.

The total basic reserve for Section 32 contracts is £196m and the guarantee reserve was £361m.

## **5. Options and guarantees (continued)**

### **5.(4).3 Home Purchaser (Second Series)**

Home Purchaser (Second Series) is a mortgage endowment product written in SAIF, for which the company has undertaken to guarantee that the maturity value will be no less than the original target amount if the experienced investment growth rate is greater than or equal to the growth rate assumption selected by the investor at outset.

The guarantee reserve is calculated based on a sample of policies by projecting policy benefits to maturity and discounting any shortfall against the mortgage amount at a valuation rate of 2.25%. The benefits were projected to maturity using a range of future investment returns and a return of 5.5% p.a. was chosen as a prudent assumption.

The basic reserve for these policies is £464m and the guarantee reserve is £2m.

### **5.(4).4 Cash Fund**

The Cash Fund (ex SA) and the Exempt Cash Fund (ex SA) provide a guarantee that the price of both initial and accumulation units will not decrease.

The guarantee reserve is calculated by projecting cash returns in a range of scenarios (using an economic scenario generator) and estimating the future annual guarantee costs in each scenario as the excess of the annual management charge over the cash return. The estimated guarantee costs are discounted and averaged over the range of scenarios.

The basic reserve for policies invested in these funds is £406m and the guarantee reserve is £13m.

## 6. Expense reserves

- 6.(1) Expense loadings of £486 million, grossed up for tax, are expected to arise during the 12 months from the valuation date. This comprises £304 million of explicit and £182 million of implicit loadings.

The following table shows a breakdown of the expense loadings by homogeneous risk group where some expenses are treated as non-attributable and total expense loadings for products where all expenses are treated as attributable.

Homogeneous risk group	Implicit allowances	Explicit allowance (investment)	Explicit allowance (other)	Non-attributable expenses	Total
	£m	£m	£m	£m	£m
Individual unit-linked life single premium business	-	6.2	1.3	2.7	10.2
Individual unit-linked life regular premium business	-	1.7	0.3	0.6	2.5
Individual unit-linked pensions single premium business	-	4.4	0.7	1.5	6.6
Group unit-linked pensions single premium business	-	0.4	0.2	0.4	1.0
Individual unit-linked pensions regular premium business	-	3.6	1.5	3.1	8.2
Group unit-linked pensions regular premium business	-	0.3	0.1	0.3	0.7
Stakeholder	-	5.9	1.3	9.1	16.3
All expenses attributable	182.3	45.8	212.0	n/a	440.1
Total	182.3	68.3	217.4	17.7	485.6

- 6.(2) Implicit allowances are calculated as follows:

- For contracts valued using the net premium method, 90% of the excess of office over net premiums for Ordinary Branch with-profits contracts and 100% of the excess for Industrial Branch with-profits contracts and all non-profit contracts.
- A margin between the risk-adjusted yields on assets in the WPSF and DCPSF (0.057% for non-profit annuities in payment, 0.176% otherwise) and the NPSF (0.064% for direct written annuities in payment, 0.053% for annuities accepted from PRIL, 0.1% otherwise) and that required to support the valuation interest rates to cover fund management expenses.
- A margin in property yields to cover maintenance costs and leases.

- 6.(3) Maintenance expenses shown at line 14 of Form 43 are £523 million. These include one-off items and exceptional expenses. Excluding these items, the expense loadings in 6.(1) exceed the adjusted Form 43 expenses by an appropriate margin for prudence.

- 6.(4) As the surplus from in-force business is projected to exceed the new business strain in 2013, a new business expense reserve is not required at 31 December 2012.



## 6. Expense reserves (continued)

- 6.(5) In the first instance, expense reserves are calculated on the assumption that Prudential's UK insurance operations will continue to write new business indefinitely and hence that there will be no loss of economies of scale.

For business valued by the net premium method, under which there is no explicit allowance for expenses, the need for a maintenance expense overrun reserve is tested by comparing the present value of the allowances described in sub-paragraph (2) above with the present value of the expenses and commission expected to be incurred over the remaining lifetime of the business. The calculation of the value of future expenses allows for inflation of 3.50% p.a. An additional reserve is held if the present value of expenses and commission exceeds the present value of the expense allowances. At 31 December 2012 a reserve of £182 million is held in the WPSF and £44 million in SAIF.

For all other business, the expense loadings over the remaining lifetime of the contracts in force at the valuation date are included in the reserves reported in Forms 50.

In order to allow for the possibility that the firm will cease to transact new business twelve months after the valuation date, all expense provisions are recalculated on the assumption that, over a two year period, unit costs would be reduced by 17% (except in SAIF, where no reductions are assumed) and that thereafter the loss of economies of scale would result in overall expenses being cut more slowly than the rate at which policies run off. In addition the costs associated with closing to new business, such as redundancy payments and the costs of terminating management agreements, are estimated. If the sum of the closed fund expense reserves and termination costs exceed the open fund expense reserve, then the excess is held as an additional reserve, to the extent that this excess cannot be offset by projected surplus on prudent assumptions from existing business. At 31 December 2012, an additional reserve of £324 million is held in the WPSF, £51million in SAIF, and £85 million in the NPSF.

- 6.(6) An additional reserve of £11.1 million is held in the NPSF to cover non-attributable expenses. The additional reserve for each homogeneous risk group is calculated as the present value of all future expenses less charges, subject to a maximum of the non-attributable expenses, for the policies in that homogeneous risk group. All future charges and expenses are projected allowing for lapses on a prudent basis. Any future valuation strain is removed at the homogeneous risk group level.

The following table shows the reserve for each homogeneous risk group.

<b>Homogeneous risk group</b>	<b>Additional reserve</b>
	<b>£m</b>
Individual unit-linked life single premium business	-
Individual unit-linked life regular premium business	1.6
Individual unit-linked pensions single premium business	-
Group unit-linked pensions single premium business	-
Individual unit-linked pensions regular premium business	-
Group unit-linked pensions regular premium business	-
Stakeholder	9.5
Total	11.1

## 7. Mismatching reserves

7.(1) and (2) No deposits were received from reinsurers in 2012.

An analysis of the mathematical reserves (other than liabilities for property-linked benefits) and backing assets by currency is as follows:

Currency of liability	Mathematical reserves (excl. property-linked) in £m	% of reserves	Value of backing assets in currency:				
			£	US\$	HK\$	Euro	Total
£	81,168	90.8	81,168	-	-	-	81,168
US\$	4,936	5.5	-	4,936	-	-	4,936
HK\$	2,377	2.7	-	-	2,377	-	2,377
Euro	934	1.0	-	-	-	934	934
Total	89,415	100.0					

7.(3) No reserve is held for currency mismatching.

7.(4) to (6) Not applicable for a realistic firm.

7.(7) Reserves totalling £156m (£104m in the WPSF and £52m in the NPSF) were held in respect of the test for cashflow mismatching under INSPRU 1.1.34R(2).

This reserve was set at a level that was sufficient to ensure that it covered the result of projecting (i) the risk-adjusted cashflows of the assets backing the liabilities and (ii) the future liability payments on the valuation assumptions. In carrying out this test, the asset cashflows have been adjusted to allow for a level of defaults equivalent to the short-term element of the company's credit risk assumptions occurring immediately followed by a longer term rate of default equivalent to 37 basis points per annum for both directly written and reinsurance accepted business in the NPSF and 43 basis points per annum for reinsurance accepted business in the WPSF.

In determining the risk adjusted cashflows of the assets, two scenarios are tested:

- Scenario A: in any year where asset income exceeds liability outgo, the excess is invested in a notional cash asset, and this cash asset is assumed to accumulate at 97.5% of the maximum reinvestment rate specified in INSPRU 3.1.45R. In any year when asset income is insufficient to meet liabilities, the cash reserve is used to meet the shortfall. In the event that the cash reserve is reduced to below zero, then the shortfall is assumed to be borrowed at a rate 2% higher than 97.5% of the maximum reinvestment rate.
- Scenario B: in any year where asset income exceeds liability outgo, the excess is invested in a notional cash asset, and this cash asset is assumed to accumulate at the valuation rate of interest. In any year when asset income is insufficient to meet liabilities, the cash reserve is used to meet the shortfall. In the event that the cash reserve is reduced to below zero, then the shortfall is assumed to be borrowed at a rate 1.2% higher than the valuation rate of interest.

The reserve held is that required to satisfy the more onerous of these two scenarios.

## 8. Other special reserves

Other special reserves in excess of £10 million are as follows:

Reserves totalling £50 million (£26 million in the WPSF, £22 million in SAIF and £2 million in the NPSF) are held to cover the potential costs of compensating policyholders, and the associated expenses, in respect of complaints about mortgage endowment policies. The reserves are calculated by making prudent assumptions about the number of future complaints received, the proportion of these where compensation will be paid, and the average amount of compensation.

Reserves totalling £217 million (£203 million in the WPSF, £4 million in SAIF and £10 million in the NPSF) are held to cover potential additional liabilities in respect of systems and administration errors. The methods used to calculate the reserves vary depending on the nature of the error and take into account data sources alternative to policy valuation systems.

Reserves totalling £46 million (£31 million in the WPSF, £4 million in SAIF and £11 million in the NPSF) are held in respect of the UK life insurance operation's share of additional contributions expected to be required to fund future defined benefits in the Prudential Staff Pension Scheme and the Scottish Amicable Pension Scheme, taking into account the expected run-off of the schemes' membership.

Reserves totalling £574 million (£467 million in the WPSF, £36 million in SAIF, £11 million in DCPSF and £60 million in the NPSF) are held to cover general contingencies, taking into account an internal assessment of operational risk.

Reserves totalling £55 million (£34 million in the WPSF and £21 million in the NPSF) are held in respect of extra premiums on individual Hong Kong policies where an extra premium is charged to cover occupational or other extra risks. One half-year's premium is reserved to cover the unexpired extra risk at the valuation date for unit-linked business, while extra premiums accumulated from inception at the valuation interest rate are reserved for other business (with-profit and non-profit non-linked).

A reserve of £50 million is held in the NPSF for the tax credit on losses in the unit-linked funds which will be carried forward and offset against gains in future years.

A reserve of £68 million is held for the Prudential Personal Retirement Plan (PPRP), a conventional with-profits deferred annuity product written in the WPSF, in respect of any additional cost of policyholders retiring later than age 65, taking into account current late retirement enhancement factors and a prudent assessment of the distribution of late retirements by age and sex.

Reserves totalling £17 million (£8 million in the WPSF and £9 million in the NPSF) are held to cover potential deflation losses.

## **9. Reinsurance**

- (1) No premiums were paid in 2012 in respect of reinsurance business ceded on a facultative basis to reinsurers not authorised to carry on business in the United Kingdom.
- (2) The reinsurance treaties shown in the table below meet the FSA criteria for being reported in this section and were in force as at 31 December 2012.

## 9. Reinsurance (continued)

Reinsurance treaties:

UK

(d) Reinsurer	(e) Nature of cover	(f) Premiums £'000	(h) Open / Closed	(j) Reserves Ceded £'000	(k) Retention
BlackRock Life Ltd	Linked benefits under GPP3, GPP4, MPP3, stakeholder pensions and the Company Pension Transfer Plan (Bulk Section 32 Buy-Out) where the member has chosen to invest in BlackRock's funds, on a 100% quota share basis. The assets under this treaty are covered by a pari passu charge.	(528) <sup>1</sup>	Open	19,518	Nil
Aberdeen Asset Management PLC	Linked benefits under unit linked pension contracts where the member has chosen to invest in AAM's funds, on a 100% quota share basis. The assets under this treaty are covered by a pari passu charge.	3,438	Open	32,806	Nil
Legal & General Assurance (Pensions Management) Limited	Linked benefits under GPP4, MPP3, stakeholder pensions and the Company Pension Transfer Plan (Bulk Section 32 Buy-Out), where the member has chosen to invest in L&GA(PM)'s funds, on a 100% quota share basis.	11,048	Open	162,922	Nil
Munich Reinsurance Company UK Life Branch	Individual UK term insurance issued before 1 January 2000 in surplus form on an original terms basis.	3,289	Closed	14,633	Nil

<sup>1</sup> Negative premium due to switches to internally managed funds

## 9. Reinsurance (continued)

(d) Reinsurer	(e) Nature of cover	(f) Premiums £'000	(h) Open / Closed	(j) Reserves Ceded £'000	(k) Retention
Munich Reinsurance Company UK Life Branch	<p>Life, critical illness and disability cover sold through arrangements with NDF Administration Limited and Synergy Financial Products Limited. This treaty also includes a financing arrangement.</p> <p>(i) Payments to the reinsurer are a proportion of the reinsurance premium in benefit years three, four, five and six for all in-force benefits. If a policy exits then payments to the reinsurer cease. The total amount paid to the reinsurer in respect of an individual policy is independent of the amount originally advanced by the reinsurer and depends on how long each policy remains in force. There is therefore no undischarged obligation.</p> <p>(ii) Allowance has been made for the repayment of this financing in calculating the level of the reserves required.</p>	2,656	Closed	3,512	<p>Mortality benefits and critical illness (per life) 33.33% up to £50,000 Nil above £50,000</p> <p>Sickness and accident (per life per month) 33.33% up to £625 Nil above £625</p>
Prudential Annuities Limited*	Reinsurance of policies originally issued by P(AN)L where there is an option to purchase an annuity on death or retirement. This is to a member of the Prudential Group and is covered by a pari passu charge on assets.	Nil	Open	57,557	Nil
Prudential Pensions Limited *	United Kingdom linked benefits under Group AVC, MPP2, GPP1/2/3/4, SHP and PTP contracts on a 100% quota share basis. This is to a member of the Prudential Group and is covered by a pari passu charge on assets.	667,172	Open	4,058,263	Nil
Prudential Retirement Income Limited *	Two related treaties for annuity liabilities for relevant annuities originally issued by P(AN)L. One covers annuities written from 1 July 2004 to 25 November 2004 and the other covers annuities written after 25 November 2004. Under the terms of the agreement Prudential Retirement Income Limited will meet the liability of the Company to pay the benefits due under the reassured policies. This business is covered by a pari passu charge on assets.	846	Open	14,572	Nil

## 9. Reinsurance (continued)

(d) Reinsurer	(e) Nature of cover	(f) Premiums £'000	(h) Open / Closed	(j) Reserves Ceded £'000	(k) Retention
Prudential Retirement Income Limited *	Two related treaties for annuity liabilities for relevant annuities issued by PAC. One covers annuities written from 1 July 2004 to 25 November 2004 and the other covers annuities written after 25 November 2004. Under the terms of the agreement Prudential Retirement Income Limited will meet the liability of the Company to pay the benefits due under the reassured policies. This business is covered by a pari passu charge on assets.	931,369	Open	7,989,238	Nil
Prudential Retirement Income Limited *	Two related treaties for annuity liabilities for relevant annuities issued by the Scottish Amicable Insurance Fund (SAIF). One covers annuities written before 1 January 2006. The other covers annuities written from 1 January 2006 onwards.	15,298	Open	511,990	Nil
Suffolk Life Annuities Limited	Self-Invested Personal Pension (SIPP) option under the Flexible Retirement Plan policy.	12,923	Open	44,083	Nil
Swiss Re Europe S.A., UK branch	Reinsurance of all linked business written before 29 November 1994, originally written by Prudential Holborn Life, excluding benefits linked to real property assets, on a 50% quota share basis.	238	Closed	110,196	50% of first £25,000
Swiss Re Europe S.A., UK branch	Two treaties covering unit-linked bond business on a quota share basis.	Nil	Closed	46,341	<p>For certain Flexible Bonds linked to the Extra Yield fund, 89% of all unit-linked liabilities are reinsured.</p> <p>For Managed Income Bonds linked to Managed Income (Series A) units, 90% of all unit-linked liabilities are reinsured.</p> <p>For Managed Income Bonds linked to Managed Income (Series B) units, 25% of all unit-linked liabilities are reinsured.</p>

**9. Reinsurance (continued)**

<b>(d) Reinsurer</b>	<b>(e) Nature of cover</b>	<b>(f) Premiums £'000</b>	<b>(h) Open / Closed</b>	<b>(j) Reserves Ceded £'000</b>	<b>(k) Retention</b>
Swiss Re Europe S.A., UK branch	Four treaties covering Prudential Protection business over different periods on a quota share basis. The financing agreements with Swiss Re detailed below are connected to this business.	7,619	Closed	37,973	<p>Mortality Benefits only (per life) 10% up to £50,000 Nil above £50,000</p> <p>Mortality plus CI and stand alone CI Benefits (per life) 10% up to £50,000 Nil above £50,000</p> <p>Mortgage Payment Benefits (per life per annum) 25% up to £5,000 Nil above £5,000</p> <p>Waiver of Premium Benefits (per life per annum) 25% up to £5,000 Nil above £5,000</p>



**9. Reinsurance (continued)**

<b>(d) Reinsurer</b>	<b>(e) Nature of cover</b>	<b>(f) Premiums £'000</b>	<b>(h) Open / Closed</b>	<b>(j) Reserves Ceded £'000</b>	<b>(k) Retention</b>
Swiss Re Europe S.A., UK branch	<p>Two financing arrangements in respect of acquisition costs incurred in writing Prudential Protection contracts with a policy proposal date:</p> <ul style="list-style-type: none"> <li>• prior to 31 December 2002, an acceptance date in 2002 and a policy issue date prior to 31 March 2003</li> <li>• in the range 6 May 2002 to 30 June 2003, a policy issue date in the range 1 January 2003 to 31 December 2003</li> </ul> <p>(i) Payments to the reinsurer are a proportion of the difference between the office premium and the reinsurance premium net of an allowance for renewal expenses for the time that the policy remains in force. If a policy lapses within the initial commission period the Company pays the reinsurer the amount of the indemnity commission that can be clawed back at that time. If a policy lapses outside of the initial commission period or becomes a mortality or morbidity claim at any time then payments to the reinsurer cease. The total amount paid to the reinsurer in respect of an individual policy is independent of the amount originally advanced by the reinsurer and depends on how long each policy remains in force. There is therefore no undischarged obligation.</p> <p>(ii) Allowance has been made for the repayment of this financing in calculating the level of the reserves required for these contracts.</p>	1,575	Closed	-	N/A

## 9. Reinsurance (continued)

(d) Reinsurer	(e) Nature of cover	(f) Premiums £'000	(h) Open / Closed	(j) Reserves Ceded £'000	(k) Retention
Hannover Rückversicherung AG	<p>Financing and quota share risk reinsurance arrangement in respect of Flexible Protection and PruProtect Plans.</p> <p>(i) Payments to the reinsurer are a proportion of the office premium for the time that the policy remains in force. If a policy lapses within the initial commission period the Company pays the reinsurer a proportion of the amount of the indemnity commission that can be clawed back at that time. If a policy lapses outside of the initial commission period or exits due to a mortality claim at any time then payments to the reinsurer cease. The total amount paid to the reinsurer in respect of an individual policy is independent of the amount originally advanced by the reinsurer and depends on how long each policy remains in force. There is therefore no undischarged obligation.</p> <p>(ii) Allowance has been made for the repayment of this financing in calculating the level of the reserves required for these contracts.</p>	41	Closed	-	<p>Mortality Benefits (per life) 50% up to £150,000 Nil above £150,000</p> <p>Serious Illness Cover and Disability Cover 50% up to £150,000 Nil above £150,000</p> <p>Waiver of Premium 50% up to £15,000 p.a. Nil above £15,000 p.a</p>

Note: where appropriate, negative reserves have been set to zero.

## 9. Reinsurance (continued)

### Hong Kong

(d) Reinsurer	(e) Nature of cover	(f) Premiums £'000	(h) Open / Closed	(j) Reserves Ceded £'000	(k) Retention
China Life Reinsurance Company Ltd	Quota share risk reinsurance arrangement in respect of Golden Harvest II and III plans.	357	Open	58,864	1%
RGA Global Reinsurance Company Ltd Bermuda (90%) & RGA Reinsurance Company, Hong Kong (10%)	Quota share mortality and morbidity risk reinsurance arrangement in respect of PRUCrisis Cover Lifelong Protector plan and PRUmyhealth Lifelong Crisis Protector Plan	6,456	Open	76,138	PRUCrisis cover lifelong protector: 50% PRUmyhealth lifelong crisis protector: 50%
Prudential Atlantic Reassurance Company	Quota share mortality and morbidity risk reinsurance arrangement in respect of Refundable Crisis Cover and Crisis Cover rider on unit-linked policies.	2,505	Closed	36,544	5%

- (a) There were no deposit back arrangements under the above treaties.
- (b) There are no “undischarged obligations of the insurer”. Premiums are payable only if the gross business remains in force.
- (c) All of the above companies to which UK business is ceded are authorised to carry on insurance business in the United Kingdom.
- (d) An asterisk (\*) denotes companies connected to the cedant.
- (e) In general the treaties are exposed to the credit risk of the reinsurers, against which a reserve is held.
- (f) The net liability includes no allowance for the refund of any reinsurance commission.

## 10. Reversionary (or annual) bonus

**Table 1 SAIF**

Bonus series	Mathematical reserves	Annual bonus rate for		UWP unit price increase during the year	Guaranteed bonus rate during the year
		2012	2011		
	£m	%	%	%	%
Principal	1,118	0.80/1.50	0.80/1.50		
Flexidowment (Second Series)	176	0.70/1.70	0.70/1.70		
Net With Profits Fund 1	764	2.00/2.00	2.00/2.00		
Flexipension (First Series)	514	0.25/0.50	0.40/0.90		
Superannuation (Second Series)	114	0.25/0.50	0.40/0.90		
Group	114	0.50	0.90		
Exempt With Profits Funds 1	67	4.00	4.00	4.00	4.00
Exempt With Profits Funds 2	1,067	4.00	4.00	4.00	4.00
Exempt With Profits Funds 3A*	1,054	4.00	4.00	4.00*	4.00*
Exempt With Profits Funds 3B*	407	4.00	4.00	4.00*	4.00*
Exempt With Profits Funds 4*	10	4.00	4.00	4.00*	4.00*

\* Bonus rate for investments made after 1 January 2006 is 2.25%. Guaranteed bonus applies to pre 2006 investments only.

**10. Reversionary (or annual) bonus (continued)**

**Table 2 WPSF - UK and, where appropriate, Guernsey, Jersey, and Isle of Man**

Bonus series	Mathematical reserves	Annual bonus rate for		UWP unit price increase during the year	Guaranteed bonus rate during the year
		2012	2011		
	£m	%	%	%	%
With-profits Industrial Branch assurances issued before 1 July 1988	1,045	1.10/2.30	1.10/2.30		
Other conventional with-profits assurances	1,815	1.20/2.50	1.20/2.50		
Individual with-profits deferred annuities	4,339	0.10/0.25	0.25/0.50		
UWP life assurance bonds					
Prudence Bond – optimum return	7,793	2.50	3.00	2.50	
Prospects Bond – optimum return	19	2.10	2.60	2.10	
Prudence Bond – optimum bonus	798	3.25	3.75	3.25	
Prospects Bond – optimum bonus	13	2.85	3.35	2.85	
Prudential Investment Bond (accounts £6,000 and over)	2,438	2.50	3.00	2.50	
Prudential Investment Bond (accounts under £6,000)		1.50	2.00	1.50	
Group cash accumulation (defined benefit) with a 4.75% guarantee	88	-	-	4.75	4.75
Group cash accumulation (defined benefit) with a 2.5% guarantee	88	-	-	2.50	2.50
Group cash accumulation (defined benefit) with a 0.01% guarantee	199	1.24	1.74	1.25	0.01
Other group cash accumulation with a 4.75% guarantee	476	-	-	4.75	4.75
Other group cash accumulation with a 2.5% guarantee	1,275	-	-	2.50	2.50
Other group cash accumulation with a 0.01% guarantee	1,451	1.74	2.24	1.75	0.01

10. Reversionary (or annual) bonus (continued)

Table 2 WPSF - UK and, where appropriate, Guernsey, Jersey, and Isle of Man (continued)

Bonus series	Mathematical reserves	Annual bonus rate for		UWP unit price increase during the year	Guaranteed bonus rate during the year
		2012	2011		
	£m	%	%	%	%
Flexible Retirement Income Account	41	0.50	1.00	0.50	
Individual UWP pensions other than FRIA	12,357	2.50	3.00	2.50	
Pension Savings Plan	93	1.75	2.25	1.75	
Group UWP pensions	1,194	2.75	3.25	2.75	
Group UWP pensions with GMP guarantee	47	1.75	2.25	1.75	
With-profits pensions annuities in payment	2,033	0.50	1.00		
PCRS/PCPS annuities in payment	73	0.50	1.00		
Former SAL products					
Net With Profits Fund 2	223	1.75/1.75	2.25/2.25		
Exempt With Profits Funds 5 and 6	146	2.625	3.125	2.625	
Exempt With Profits Funds 7 and 8	239	2.50	3.00	2.50	
Exempt With Profits Funds 9 and 10 (or C and C2)	196	2.50	3.00	2.50	
Exempt With Profits Fund 13 (F)	121	2.25	2.75	2.25	
Exempt With Profits Fund 14 (G)	96	2.05	2.55	2.05	

10. Reversionary (or annual) bonus (continued)

Table 3 WPSF - Policies issued in Hong Kong

Bonus series	Mathematical reserves	Annual bonus rate for		UWP unit price increase during the year	Guaranteed bonus rate during the year
		2012	2011		
	£m	%	%	%	%
Conventional with-profits assurances - First series	263	2.00/2.00	2.00/2.00		
Conventional with-profits assurances - Better Life	2,076	0.80/1.10	1.30/2.10		
Conventional with-profits assurances - Better Life Assurance II	644	1.00/1.40	1.50/2.40		
Conventional with-profits assurances - Better Life Plus II	25	1.50/1.50	2.00/2.00		
Conventional with-profits assurances - PRUsave Plus	535	0.50/0.50	0.50/0.50		
Conventional with-profits assurances - Better Life Assurance II – HK\$	744	1.20/1.70	1.70/2.60		
Conventional with-profits assurances - Better Life Plus II – HK\$	80	1.30/1.30	1.80/1.80		
Double Treasure Retirement Income Plan – US\$	66	1.20/1.20	1.70/1.70		
Double Treasure Retirement Income Plan – HK\$	192	0.60/0.60	1.10/1.10		
Evergreen Growth Saver RP – US\$	75	1.00/1.00	1.50/1.50		
Evergreen Growth Saver SP – US\$	36	0.80/0.80	1.30/1.30		
Evergreen Growth Saver SP – HK\$	29	1.00/1.00	1.50/1.50		
Group cash accumulation (HKDF and USDF)	49	1.50	1.50	1.50	
Group cash accumulation (GCAPUS and GCAPHK)	37	2.00	2.00	2.00	
PRUsavings Plan	11	2.40	2.40	2.40	
Other UWP - US\$	44	0.50	0.50	0.50	
Other UWP - HK\$	692	0.50 to 2.50 (Vary by cohort)	0.50 to 2.50 (Vary by cohort)	0.50 to 2.50 (Vary by cohort)	

**10. Reversionary (or annual) bonus (continued)**

**Table 4 DCPSF**

Bonus series	Mathematical reserves	Annual bonus rate for		UWP unit price increase during the year	Guaranteed bonus rate during the year
		2012	2011		
	£m	%	%	%	%
Contracts expressed in euro					
Issued in France	51	2.75	3.25	2.75	
External reinsurance accepted	284	3.60	4.10	3.60	
International Prudence Bond	523	2.50	3.00	2.50	
Contracts expressed in sterling	414	3.00	3.50	3.00	
Contracts expressed in US dollars	126	2.50	3.00	2.50	
With-profits annuity business transferred from Equitable Life Assurance Society	1,106	0.00	0.00		



**10. Reversionary (or annual) bonus (continued)**

- 10.(4)** Cash bonus contracts issued in Hong Kong for which mathematical reserves were £401.5 million on the valuation date vary by product, by age at entry and by duration in force. Rates for the PRUflexilife product vary from \$0.60 per \$1,000 sum assured at duration 3 years to \$8.00 per \$1,000 sum assured at duration 15 years. Rates for the Galaxy product vary from \$3.00 per \$1,000 sum assured at duration 1 year to \$13.80 per \$1,000 sum assured at duration 11 years.

## Valuation interest rates

Product group	2012	2011
	%	%
UK Life - UWP issued by SALAS	1.50	1.50
UK Life - UWP (excluding endowment assurances issued by SALAS)	1.60	1.60
UK Life - CWP in SAIF	1.75	2.00
UK Life - Prudential Protection and Home/Synergy Protect	2.50	3.00
UK Life – CWP in WPSF	2.50	3.50
UK Life - CNP in WPSF	3.00	3.00
UK Life - PruProtect	2.70/4.11	3.10/4.90
UK Life – PLA in WPSF	3.20	3.20
UK Life, UK Pensions & Overseas – With-profits PLA and CPA in	2.25	3.00
UK Pensions - Index-linked CPA accepted from PAL	(0.02)	N/A
UK Pensions - With-profits CPA in WPSF (excluding Income Choice	0.00	0.00
UK Pensions - Index-linked CPA recaptured from PAL	0.34	0.44
UK Pensions - Index-linked CPA reinsured to PRIL	0.62	0.68
UK Pensions – Index-linked CPA and group deferred annuities (excluding	0.62	0.68
UK Pensions - With-profits CPA in WPSF (Income Choice Annuity)	1.00	1.00
UK Pensions - UWP in WPSF	2.00	2.00
UK Pensions & Overseas - Deposit Administration with 0% guarantee	2.00	2.00
UK Pensions – UWP in SAIF	2.25	2.75
UK Pensions – Group non-profit deferred annuities and term assurance in	2.75	3.50
SAIF		
UK Pensions - CPA and deferred annuities recaptured from PAL	2.99	3.84
UK Pensions – CWP group deferred annuities in WPSF	3.00	3.00
UK Pensions - Group with-profits deferred annuities in SAIF	3.00/2.75	3.75/3.50
UK Pensions - With-profits endowments in SAIF	3.00	3.75
UK Pensions - Linked in SAIF	3.25	3.75
UK Pensions & Overseas - Deposit Administration with 2.5% guarantee	3.25	4.00
UK Pensions – CPA reinsured to PAL	3.34	3.95
UK Pensions – CPA and group deferred annuities (excluding annuities	3.34	N/A
UK Pensions - CPA in NPSF	3.40	3.90
UK Pensions - CPA reinsured to PRIL	3.42	4.03
UK Pensions – CPA and group deferred annuities (including annuities	3.42	4.03
valued as fixed) accepted from PRIL		
UK Pension – Linked in NPSF	3.50	4.00
UK Pensions – With-profit deferred annuities in WPSF	3.50	4.50
UK Pensions & Overseas - Deposit Administration with 4.75% guarantee	3.75	4.25
UK Pensions - Term assurance in WPSF	4.00	4.00
UK Pensions - Non-profit deferred annuities in WPSF	4.00	4.00
UK Pensions - Linked in WPSF	4.00	4.00

<b>Product group</b>	<b>2012</b>	<b>2011</b>
	%	%
UK Pensions & Overseas – Other PLA and CPA in WPSF	4.00	4.00
Overseas - Hong Kong - Other linked and protection riders in NPSF	0.00	0.20
Overseas - Hong Kong Golden Harvest - US\$ currency	0.00	2.15
Overseas - Hong Kong - CWP - HK\$ currency	0.57	1.90
Overseas - Hong Kong UWP - HK\$ currency	0.60	2.00
Overseas - Hong Kong UWP - US\$ currency	0.65	2.20
Overseas - Hong Kong–100% Refundable Crisis Cover – HK\$ currency	1.00	2.00
Overseas - Hong Kong - PRUcrisis cover smartchoice series – HK\$	1.17	1.90
Overseas - Hong Kong – DM refundable products in NPSF	1.20	1.60
Overseas – Hong Kong – PRUcrisis cover lifelong protector and PRUmyhealth lifelong crisis protector – HK\$ currency	1.52	2.40
Overseas - Hong Kong– PRUcrisis cover smartchoice series – US\$ currency	1.87	2.50
Overseas - Hong Kong – Critical illness policies and riders in NPSF	1.89	2.65
Overseas - Hong Kong –100% Refundable Crisis Cover – US\$ currency	1.89	2.65
Overseas – Hong Kong – PRUcrisis cover lifelong protector and PRUmyhealth lifelong crisis protector – US\$ currency	2.02	2.70
Overseas - Hong Kong - CWP – US\$ currency	2.19	3.20
Overseas - DCPSF offshore bond - sterling currency	2.00	2.00
Overseas - DCPSF offshore bond – euro currency	2.15	2.75
Overseas - DCPSF offshore bond - US\$ currency	2.00	3.00
Overseas - DCPSF UWP pensions accepted from Canada Life	1.90	2.75

If deferred annuities are valued at the same rate of interest in possession as in deferment, only one rate of interest is shown. Otherwise, two rates are shown, the first being that in deferment. For PruProtect, the first rate of interest is used when total reserves are positive and the second rate when total reserves are negative. Valuation interest rates shown for UK Life are net of tax.

## Valuation mortality bases

	2012	2011
UK Life - UWP and linked regular premium endowment assurances (Home Purchaser)	85% AM80 / 85% AF80	85% AM80 / 85% AF80
Industrial Branch assurances	A1967/70 rated up 1 year	A1967/70 rated up 1 year
UK Pensions WPSF - linked NPSF - linked individual and group money purchase pensions, except those issued by SAL	AM92 / AF92 both rated down 3 years	AM92 / AF92 both rated down 3 years
UK Life WPSF - conventional assurances except Prudential Protection, UWP assurances except those issued by SAL or SALAS UK Pensions WPSF - term assurance, group deposit administration	AM92 / AF92 both rated up 1 year	AM92 / AF92 both rated up 1 year
UK Life - assurances issued by SAL or SALAS, Prudential Protection in WPSF UK Pensions issued by SAL or SALAS	AM92 / AF92 both rated up 1 year plus 1/3 AIDS 'R6A' for both males and females	AM92 / AF92 both rated up 1 year plus 1/3 AIDS 'R6A' for both males and females
UK Life NPSF - Prudential Protection	110% of AM/AF92 both rated up 1 year plus 1/3 AIDS 'R6A' for both males and females	110% of AM/AF92 both rated up 1 year plus 1/3 AIDS 'R6A' for both males and females
UK Life NPSF - PruProtect	115% of reinsurer's mortality rates	115% of reinsurer's mortality rates
UK Pensions WPSF – individual UWP pensions sold by DSF	AM92 rated up 1 year for men and 3 years for women	AM92 rated up 1 year for men and 3 years for women
UK Pensions WPSF - WP individual deferred annuities in deferment	AM92 rated down 3 years for men and 7 years for women	AM92 rated down 3 years for men and 7 years for women
UK Pensions SAIF - Flexipension in deferment WPSF - group deferred annuities in deferment, direct written and accepted from PAL NPSF - group deferred annuities in deferment, accepted from PRIL	AM92 / AF92 both rated down 4 years	AM92 / AF92 both rated down 4 years
UK Pensions WPSF - WP deferred annuities in payment; individual annuities in payment, direct written and accepted from PAL NPSF - individual annuities in payment, reassured to PAL	Modified 99% PCMA00 Modified 89% PCFA00	Modified 98% PCMA00 Modified 88% PCFA00

## Valuation mortality bases

	2012	2011
UK Pensions WPSF –group deferred annuities in payment (DAPA), direct written and accepted from PAL	Modified 93% PCMA00 Modified 101% PCFA00	Modified 92% PCMA00 Modified 100% PCFA00
UK Pensions SAIF & WPSF – individual annuities in payment, reassured to PRIL NPSF – individual annuities in payment, accepted from PRIL	Modified 92.5% PCMA00 Modified 84.5% PCFA00	Modified 93.5% PCMA00 Modified 84.5% PCFA00
UK Pensions SAIF – group immediate annuities in payment, reassured to PRIL NPSF –group immediate and deferred annuities in payment, accepted from PRIL	Modified 96% PCMA00 Modified 97% PCFA00	Modified 93.5% PCMA00 Modified 95.5% PCFA00
UK Pensions SAIF - deferred annuities in payment NPSF – individual annuities in payment	Modified 92% PCMA00 Modified 84% PCFA00	Modified 95% PCMA00 Modified 86% PCFA00
UK Pensions - Flexible Lifetime Annuity	Modified 64% PCMA00 Modified 61% PCFA00	Modified 65% PNMA00 Modified 64% PNFA00
UK Pensions WPSF - group deferred annuities in payment (GPDA), direct written and accepted from PAL	Modified 126% PNMA00 Modified 117% PNFA00	Modified 126% PNMA00 Modified 117% PNFA00
UK Pensions WPSF - WP annuities in payment	Modified 69% PCMA00 Modified 66% PCFA00	Modified 70% PCMA00 Modified 69% PCFA00
UK Pensions, UK Life & OS DCPSF - WP annuities in payment	Modified 75% PCMA00 Modified 68% PCFA00	Modified 75% PCMA00 Modified 68% PCFA00
Hong Kong - UWP assurances, Golden Harvest	100% HKA93M / 100% HKA93F	110% HKA93M / 110% HKA93F
Hong Kong - Refundable products	105% HKA93M / 105% HKA93F	130% HKA93M / 130% HKA93F
Hong Kong - PRUcrisis cover multiple	65% HKA93M / 65% HKA93F	70% HKA93M / 70% HKA93F
Hong Kong - other assurances	85% HKA93M / 90% HKA93F	90% HKA93M / 90% HKA93F
DCPSF - Prudential Vie	102.5% TV8890 / TD8890 both rated down 3 years	102.5% TV8890 / TD8890 both rated down 3 years
DCPSF – other UWP business	AM92 / AF92	AM92 / AF92

## Valuation mortality bases

### Annuity mortality bases used at 31 December 2012 and 31 December 2011

Annuities are generally valued using a percentage of the PCxA00 series tables although some annuities use the PNxA00 tables. In order to allow for mortality improvement, future improvement factors are applied from 2000. For males these future improvement factors are in line with Prudential's own calibration of the CMI 2011 mortality model (CMI 2009 at 31 December 2011), with a long term improvement rate of 2.25% p.a. For females, future improvement factors are generally in line with Prudential's own calibration of the CMI 2011 mortality model (CMI 2009 at 31 December 2011), with a long term improvement rate of 1.75% p.a. (1.25% at 31 December 2011). Compared with the core CMI mortality model, Prudential's calibration:

- (a) blends period improvements between ages 60 to 80 to the long term improvement rate over a 15 year period (compared with a 20 year period in the core CMI model), and
- (b) assumes that cohort improvements dissipate over a 30 year period, or by age 90 if earlier (compared with a 40 year period, or by age 100 if earlier, in the core CMI model).

In practice, some deferred annuities in possession have been valued using percentages of single entry tables based on the 92 series tables for annuitants and pensioners, with calendar year 2004 (improvements in line with CMIR17 until 2004). The percentages have been chosen so that the rates used are equivalent to the double entry tables with future improvement factors as described above. For these deferred annuities, a further deduction from the valuation rate of interest has been made during the deferred period, to allow for expected mortality improvements prior to vesting. The deduction from the valuation interest rate was 0.65% for deferred annuities administered on the GPDA system and 0.60% for all other deferred annuities.

**Immediate and deferred annuities: expectations of life at different ages**

The table below shows the expectations of life at different ages for the mortality tables reported in Appendix 2 used to value annuities in possession.

Basis description	Valuation Date	Life expectancy for annuities in payment		Life expectancy for deferred annuities	
		At 65	At 75	At 65 for current age 45	At 65 for current age 55
Modified 99% PCMA00 Modified 89% PCFA00	31/12/2012	men: 24.7 women: 26.8	men: 15.1 women: 17.0	men: 28.5 women: 29.5	men: 26.6 women: 28.2
Modified 98% PCMA00 Modified 88% PCFA00	31/12/2011	men: 24.5 women: 25.7	men: 14.9 women: 16.3	men: 28.3 women: 27.7	men: 26.4 women: 26.7
Modified 93% PCMA00 Modified 101% PCFA00	31/12/2012	men: 29.1 women: 28.5	men: 27.2 women: 27.1	men: 29.1 women: 28.5	men: 27.2 women: 27.1
Modified 92% PCMA00 Modified 100% PCFA00	31/12/2011			men: 28.9 women: 26.6	men: 27.0 women: 25.7
Modified 92.5% PCMA00 Modified 84.5% PCFA00	31/12/2012	men: 25.4 women: 27.2	men: 15.6 women: 17.4		
Modified 93.5% PCMA00 Modified 84.5% PCFA00	31/12/2011	men: 24.9 women: 26.1	men: 15.3 women: 16.6		
Modified 96% PCMA00 Modified 97% PCFA00	31/12/2012	men: 25.0 women: 26.0	men: 15.3 women: 16.3	men: 28.8 women: 28.8	men: 26.8 women: 27.4
Modified 93.5% PCMA00 Modified 95.5% PCFA00	31/12/2011	men: 24.9 women: 25.1	men: 15.3 women: 15.7	men: 28.7 women: 27.0	men: 26.8 women: 26.0
Modified 92% PCMA00 Modified 84% PCFA00	31/12/2012	men: 25.4 women: 27.3	men: 15.7 women: 17.4	men: 29.2 women: 30.0	men: 27.3 women: 28.7
Modified 95% PCMA00 Modified 86% PCFA00	31/12/2011	men: 24.8 women: 25.9	men: 15.1 women: 16.5	men: 28.6 women: 27.9	men: 26.7 women: 26.9
Modified 64% PCMA00 Modified 61% PCFA00	31/12/2012	men: 28.9 women: 30.6	men: 18.7 women: 20.2		
Modified 65% PNMA00 Modified 64% PNFA00	31/12/2011	men: 28.9 women: 28.7	men: 18.7 women: 19.0		
Modified 126% PNMA00 Modified 117% PNFA00	31/12/2012			men: 26.4 women: 25.3	men: 24.4 women: 24.3
	31/12/2011			men: 26.2 women: 25.2	men: 24.2 women: 24.2
Modified 69% PCMA00 Modified 66% PCFA00	31/12/2012	men: 28.2 women: 29.4	men: 18.1 women: 19.3		
Modified 70% PCMA00 Modified 69% PCFA00	31/12/2011	men: 27.7 women: 27.8	men: 17.6 women: 18.2		

**Immediate and deferred annuities: expectations of life at different ages (continued)**

The table below shows the expectations of life at different ages for the mortality tables reported in Appendix 2 used to value annuities in possession.

Basis description	Valuation Date	Life expectancy for annuities in payment		Life expectancy for deferred annuities	
		At 65	At 75	At 65 for current age 45	At 65 for current age 55
Modified 75%PCMA00 Modified 68% PCFA00	31/12/2012	men: 27.4 women: 29.2	men: 17.3 women: 19.1		
	31/12/2011	men: 27.0 women: 27.9	men: 17.0 women: 18.3		



## Morbidity bases

### A4.1 Critical illness and total and permanent disability (TPD) business issued in Hong Kong

Annual rates per 10,000 sum assured. The rates were used at both 31 December 2012 and 31 December 2011.

#### A4.1.1 Contracts that cover 12 critical illnesses. These are closed to new business.

Age next Birthday	Critical illness rates				TPD rates
	Male Non Smoker	Male Smoker	Female Non Smoker	Female Smoker	
25	7.31	6.55	4.08	5.87	0.68
35	7.48	8.93	9.52	10.97	1.02
45	19.81	26.86	21.51	28.65	2.55
55	52.70	71.06	46.84	57.89	6.63

#### A4.1.2 Contracts that cover 30 critical illnesses.

Age next Birthday	Critical illness rates				TPD rates
	Male Non Smoker	Male Smoker	Female Non Smoker	Female Smoker	
25	7.31	7.23	8.25	9.86	0.68
35	8.67	9.86	10.37	10.71	1.02
45	20.32	27.12	19.30	28.56	2.55
55	52.53	71.23	58.40	76.16	6.63

### A4.2 Prudential Protection

The rates were used at both 31 December 2012 and 31 December 2011.

#### A4.2.1 Life and basic critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	8.95	8.95	6.90	6.90
35	14.07	22.08	12.59	12.59
45	29.28	58.03	27.26	27.26
55	80.51	148.44	63.77	80.79

#### A4.2.2 Top-up critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.82	4.82	5.68	5.68
35	9.63	14.92	11.64	11.64
45	23.64	46.30	26.42	26.42
55	68.82	125.65	61.57	77.89

For business written after 13 March 2005 the rates are increased by 14% to cover possible future changes in morbidity.

In the NPSF where prudent lapse assumptions are allowed for in the reserve calculations, the rates are increased by 10% to allow for the possibility of selective withdrawals.

**Morbidity bases (continued)****A4.3 Benefits attached to Home Purchaser (Series 3) and Amicable Savings Plan**

The rates were used at both 31 December 2012 and 31 December 2011.

**A4.3.1 Home Purchaser (Series 3) version 2 issued on or after 29 July 1996**

Level top-up critical illness annual rates per £10,000 sum assured

Age next birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	3.84	6.29	4.39	7.12
35	8.45	14.01	11.87	19.71
45	35.57	59.50	27.27	45.44
55	83.87	140.44	61.77	103.36

**A4.3.2 Home Purchaser (Series 3) other than those above and Amicable Savings Plan**

Level critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	2.73	4.42	3.38	5.45
35	6.49	10.64	8.43	14.01
45	27.87	46.41	17.77	29.69
55	47.70	79.71	37.34	62.48

**A4.3.3 Home Purchaser (Series 3)**

Decreasing top-up annual critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.14	6.79	4.74	7.68
35	9.11	15.11	12.80	21.26
45	38.36	64.17	29.41	49.00
55	90.45	151.46	66.61	111.47

**A4.3.4 Home Purchaser (Series 3) and Amicable Savings Plan**

Total and permanent disability annual rates per £10,000 sum assured

Age next Birthday	Basic	Version 2 Level top-up	Version 2 Decreasing top-up
25	0.78	0.98	1.06
35	0.91	0.86	0.92
45	2.33	2.20	2.38
55	7.91	8.69	9.37

**Morbidity bases (continued)****A4.3 Benefits attached to Home Purchaser (Series 3) and Amicable Savings Plan (continued)****A4.3.5 Home Purchaser (Series 3)**

Annual mortgage interest benefit rates per £1,200 annual benefit without critical illness, occupation classes 1, 2 and 3, deferred period 6 months

Men

Age Next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	2.88	3.84	4.44	4.68	4.68
35	4.44	6.24	7.20	7.44	7.56
45	11.52	16.32	18.72		
55	36.36				

Women

Age Next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	4.32	5.88	6.72	6.96	6.96
35	6.72	9.36	10.80	11.04	11.40
45	17.16	24.48	27.96		
55	54.48				

No recovery rates are shown as claim inception and recovery are not modelled. Instead an inception annuity approach based on rates from the reinsurer is used. The rates therefore allow implicitly for both the probability of a claim and the expected length of the claim.

**A4.4 Synergy Protect**

Synergy Protect 2 was written up to 30 June 2009. Synergy Protect 3 was written from 1 July 2009.

The rates were used at both 31 December 2012 and 31 December 2011.

**A4.4.1 Synergy Protect 2**

Level critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	10.92	15.30	7.28	10.63
35	15.70	23.76	15.53	23.37
45	44.46	76.98	38.20	64.87
55	130.84	243.04	88.98	163.85

**Morbidity bases (continued)****A4.4 Synergy Protect (continued)****A4.4.2 Synergy Protect 3**

Level critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	8.19	11.75	6.56	7.76
35	14.10	21.08	18.35	21.46
45	33.79	66.28	36.17	48.89
55	94.72	209.17	78.53	124.27

**A4.4.3 Synergy Protect 2**

Top-up critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	6.95	9.74	6.85	9.71
35	12.41	18.78	15.54	23.38
45	41.51	71.87	39.82	67.63
55	129.26	240.09	93.42	172.02

**A4.4.4 Synergy Protect 3**

Top-up critical illness annual rates per £10,000 sum assured

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	5.27	7.53	6.21	7.33
35	11.58	17.30	19.98	23.37
45	33.78	66.29	41.50	56.13
55	102.22	226.10	93.09	147.58

**A4.4.5 Synergy Protect 2 and Synergy Protect 3**

Mortgage payment benefit annual rates per £1,200 annual benefit without critical illness

The rates were used at both 31 December 2012 and 31 December 2011.

Male aggregate lives, non smokers, occupation class 1, deferred period 26 weeks

Age next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	1.82	2.55	3.03	3.36	3.57
35	2.16	3.32	4.07	4.57	4.90
45	6.95	11.24	14.08	16.07	
55	23.52	39.49			

**Morbidity bases (continued)****A4.4.5 Synergy Protect 2 and Synergy Protect 3**

Female aggregate lives, non smokers, occupation class 1, deferred period 26 weeks

Age next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	3.19	4.46	5.30	5.88	6.25
35	3.78	5.81	7.12	8.00	8.58
45	12.16	19.67	24.64	28.12	
55	41.16	69.11			

Male aggregate lives, smokers, occupation class 1, deferred period 26 weeks

Age next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	2.42	3.39	4.03	4.47	4.75
35	2.87	4.42	5.41	6.08	6.52
45	9.24	14.95	18.73	21.37	
55	31.28	52.52			

Female aggregate lives, smokers, occupation class 1, deferred period 26 weeks

Age next Birthday	Policy Term Remaining				
	5	10	15	20	25
25	4.24	5.94	7.05	7.82	8.31
35	5.03	7.73	9.47	10.64	11.40
45	16.18	26.16	32.77	37.40	
55	54.74	91.91			

No recovery rates are shown as claim inception and recovery are not modelled. Instead an inception annuity approach based on rates from the reinsurer is used. The rates therefore allow implicitly for both the probability of a claim and the expected length of the claim.

**Morbidity bases (continued)****A4.5 PruProtect****A4.5.1 PruProtect Primary Serious Illness Cover**

Life and basic critical illness rates per £10,000 sum assured

Rates vary by duration - the rates shown are as at duration 0. Rates are also different for reviewable policies, whole of life policies, policies where life cover is not accelerated by serious illness cover and where child serious illness cover is excluded.

31 December 2012

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.24	6.87	3.81	5.38
35	6.32	12.06	8.13	11.16
45	12.87	27.61	16.39	24.70
55	33.86	74.68	31.20	55.55

31 December 2011

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.80	7.80	4.44	6.24
35	7.20	13.79	9.48	12.95
45	14.75	31.65	19.07	28.53
55	38.95	85.11	36.07	63.36

Top up critical illness rates per £10,000 sum assured

Rates vary by duration - the rates shown are as at duration 0. Rates are also different for reviewable policies, whole of life policies and where child serious illness cover is excluded.

31 December 2012

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.18	6.93	3.26	4.69
35	6.63	12.54	9.28	12.84
45	14.17	29.94	18.04	27.19
55	31.36	67.58	34.21	60.29

31 December 2011

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.92	8.16	3.84	5.52
35	7.80	14.75	10.91	15.11
45	16.67	35.22	21.22	31.99
55	36.90	79.51	40.25	70.93

**Morbidity bases (continued)****A4.5.2 PruProtect Comprehensive Serious Illness Cover**

Life and basic critical illness rates per £10,000 sum assured

Rates vary by duration - the rates shown are as at duration 0. Rates are also different for reviewable policies, whole of life policies, policies where life cover is not accelerated by serious illness cover and where child serious illness cover is excluded.

31 December 2012

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.95	8.40	4.32	6.40
35	7.23	14.30	8.95	12.68
45	14.30	31.07	17.61	26.84
55	36.30	81.06	32.22	58.19

31 December 2011

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	5.64	9.60	5.04	7.44
35	8.28	16.43	10.44	14.75
45	16.43	35.72	20.50	31.05
55	41.82	92.62	37.27	66.47

Top up critical illness rates per £10,000 sum assured

Rates vary by duration - the rates shown are as at duration 0. Rates are also different for reviewable policies, whole of life policies and where child serious illness cover is excluded.

31 December 2012

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	3.98	7.04	3.77	5.61
35	5.81	11.52	10.30	14.78
45	11.21	24.14	19.56	29.84
55	28.52	62.72	35.63	63.73

31 December 2011

Age next Birthday	Men		Women	
	Non Smoker	Smoker	Non Smoker	Smoker
25	4.68	8.28	4.44	6.60
35	6.84	13.55	12.11	17.39
45	13.19	28.40	23.02	35.10
55	33.55	73.79	41.92	74.98

## Valuation expense bases

## A5.1 SAIF

Product code(s)		31 December 2012		31 December 2011	
		Maintenance expenses	Investment expenses	Maintenance expenses	Investment expenses
		£ per annum	basis points pa	£ per annum	basis points pa
400	Annuity	38.79	5.3	29.04	5.3
525	UWP regular premium pension	44.47	17.6	40.87	17.6
525	UWP single premium pension	40.17	17.6	39.83	17.6
535	UWP group regular premium pension	107.61	17.6	103.34	17.6
535	UWP group single premium pension	70.90	17.6	68.43	17.6
725	UL regular premium pension	44.47	25.0	40.87	25.0
725	UL single premium pension	40.17	25.0	39.83	25.0
735	UL group regular premium pension	107.61	25.0	103.34	25.0
735	UL group single premium pension	70.90	25.0	68.43	25.0

Conventional contracts are valued using a net premium method, zillmerised for with-profits contracts and unmodified for term assurances. The zillmer adjustment is 3% of sums assured for with-profits life business and 2% for with-profits pensions.

Maintenance expenses are split between charges paid under a third party outsourcing agreement and expenses incurred directly by Prudential. Outsourced charges are as set out in the outsourcing agreement plus a 10% MAD.



## A5.2 WPSF

Product code(s)		31 December 2012		31 December 2011	
		Maintenance expenses	Investment expenses	Maintenance expenses	Investment expenses
		£ per annum	basis points pa	£ per annum	basis points pa
325, 330, 340 to 355, 360 and 385	Term assurance, critical illness and income protection	36.62	10.0	46.20	10.0
400	Annuity	18.09	5.7	18.76	5.4
500	UWP bond	46.84	17.6	46.21	17.6
510	UWP savings endowment	48.75	17.6	44.21	17.6
515	UWP target cash endowment	41.61	17.6	41.90	17.6
525	UWP regular premium pension	43.44	17.6	42.61	17.6
525	UWP single premium pension	37.28	17.6	36.41	17.6
535	UWP group regular premium pension	92.58	17.6	114.96	17.6
535	UWP group single premium pension	59.73	17.6	38.63	17.6
700	UL bond	28.52	25.0	28.12	25.0
715	UL savings endowment	41.61	25.0	41.90	25.0
720	UL target cash endowment	41.61	25.0	41.90	25.0
735	UL group regular premium pension	146.77	25.0	191.61	20.0
735	UL group single premium pension	94.96	25.0	53.96	20.0

UK Conventional contracts are valued using a net premium method, zillmerised for with-profits contracts and unmodified for term assurances. The zillmer adjustment is 3% of sums assured for with-profits life business and 2% of the value of the annuity at retirement for with-profits pensions deferred annuities.

Maintenance expenses are split between charges paid under a third party outsourcing agreement and expenses incurred directly by Prudential. Outsourced charges are as set out in the outsourcing agreement plus a 10% MAD.

## A5.3 NPSF

Product code(s)		31 December 2012		31 December 2011	
		Maintenance expenses	Investment expenses	Maintenance expenses	Investment expenses
		£ per annum	basis points pa	£ per annum	basis points pa
325, 330, 345, 355, 360 and 365	Term assurance, critical illness and income protection	32.50-50.12	10.0	37.57 - 49.62	10.0
400	Annuity	32.26	6.4	30.70	6.4
700	UL bond	11.51	20.5	12.40	20.5
715	UL savings endowment	31.86	15.0	28.76	15.0
720	UL target cash endowment	16.75	25.0	16.21	25.0
725	UL regular premium pension	15.50	25.0	15.09	25.0
725	UL single premium pension	14.88	25.0	15.62	25.0
735	UL group regular premium pension	38.55	25.0	38.49	20.0
735	UL group single premium pension	23.83	25.0	20.63	20.0

For linked business, the figures are for per-policy attributable expenses only.

Maintenance expenses have now been split between charges paid under a third party outsourcing agreement and expenses incurred directly by Prudential. Outsourced charges paid to the third party are 100% attributable and are as set out in the outsourcing agreement plus a 10% MAD.

## APPENDIX 9.4A

### VALUATION REPORT FOR REALISTIC VALUATION OF THE PRUDENTIAL ASSURANCE COMPANY LIMITED AS AT 31 DECEMBER 2012

Throughout this document the abbreviations “CWP” and “AWP” are used for Conventional With-Profits business and Accumulating With-Profits business respectively.

#### 1. Introduction

- (1) The investigation relates to 31 December 2012.
- (2) The date of the previous valuation related to 31 December 2011
- (3) A valuation was carried out at 30 June 2012 in accordance with IPRU(INS) rule 9.3A.

#### 2. Assets

- (1) The economic assumptions used to determine the value of future profits on non-profit business other than annuities written in the WPSF and SAIF are as shown below. The investment return assumption reflects the risk-free rate of an appropriate duration.

Description	31 December 2012		31 December 2011	
	Gross %	Net %	Gross %	Net %
Investment return	1.740	1.392	2.130	1.704
Less: Investment expenses	0.160	0.128	0.160	0.128
Discount rate	1.580	1.264	1.970	1.576
Inflation	2.9	2.9	3.0	3.0

The economic assumptions used to determine the value of future profits on non-profit annuities in the WPSF are shown below. The investment return assumption reflects the yield on the backing assets minus an allowance for credit risk. Separate assumptions are used for fixed annuities and inflation-linked annuities, and for directly written business and reinsurance accepted from Prudential Annuities Limited (PAL), reflecting the separate asset pools backing them. The rates shown for linked business are real rates.

#### Directly written business

Description	31 December 2012		31 December 2011	
	Fixed %	Linked %	Fixed %	Linked %
Investment return	3.128	0.405	3.993	0.506
Less: Investment expenses	0.067	0.067	0.063	0.063
Discount rate	3.061	0.338	3.929	0.442
Inflation	3.50	3.50	3.75	3.75

Reinsurance accepted from PAL

Description	31 December 2012		31 December 2011	
	Fixed %	Linked %	Fixed %	Linked %
Investment return	3.486	0.040	N/A	N/A
Less: Investment expenses	0.067	0.067	N/A	N/A
Discount rate	3.418	(0.026)	N/A	N/A
Inflation	3.50	3.50	N/A	N/A

Non-profit deferred annuity business in SAIF was valued using the gilt yield curve at 31 December 2012. The assumption in relation to investment expenses and inflation were the same as for non-annuity business above.

The DCPSF has no non-profit business.

- (2) For the WPSF, the economic assumptions used to determine any additional amount arising from the present value of future profits (or losses) from PAL in accordance with INSPRU 1.3.33R(3)(b)(iii) are shown in the table below. The investment return assumption reflects the yield on the backing assets minus an allowance for credit risk. Separate assumptions are used for fixed annuities and inflation-linked annuities, reflecting the separate asset pools backing them. The rates shown for linked business are real rates.

Description	31 December 2012		31 December 2011	
	Fixed %	Linked %	Fixed %	Linked %
Investment return	3.486	0.040	4.107	0.268
Less: Investment expenses	0.067	0.067	0.063	0.063
Discount rate	3.418	(0.026)	4.044	0.205
Inflation	3.50	3.50	3.75	3.75
Rate of tax on profits	23	23	25	25

SAIF and the DCPSF have no assets valued under INSPRU 1.3.33R(3)(b)(iii).

- (3) Not applicable  
(4) Not applicable

### 3. With-profits benefits reserve liabilities

(1) The methods used to calculate the with-profits benefits reserves are as follows:

Business class	Method		With-profits benefits reserves	Future policy related liabilities
<b>WPSF</b>			£m	£m
Ex-Direct Sales Force (DSF) Industrial Branch (IB)	Retrospective*	Individual	1,747	198
DSF CWP Ordinary Branch (OB) assurances	Retrospective*	Individual	2,564	150
DSF PPRP	Retrospective*	Individual	3,416	1,334
DSF AWP Life	Retrospective	Individual	2,933	(21)
DSF AWP Pensions	Retrospective*	Individual	17,394	377
Ex-ISC Pensions	Retrospective*	Individual	1,001	309
Group Pensions	Retrospective*	Individual	6,347	216
With profit immediate annuities	Retrospective	Individual	4,054	377
Prudence Bond	Retrospective	Individual	10,974	52
PruFund	Retrospective*	Individual	6,700	(23)
Ex-SAL AWP	Retrospective*	Individual	1,192	20
Hong Kong	Retrospective	Individual	6,618	81
Malta	Retrospective	n/a	10	0
Additional reserve	Other	n/a	-	756
Sub-total			64,952	3,825
<b>SAIF</b>				
CWP	Retrospective	Individual	2,731	73
AWP – Pensions	Retrospective*	Individual	2,886	131
AWP – Life	Retrospective*	Individual	1,074	11
Additional reserve	Other	n/a	10	602
Sub-total			6,701	817
<b>DCPSF</b>				
PAC France	Retrospective	Individual	52	-
Canada Life (Germany)	Retrospective	Individual	258	-
International Prudential Bond	Retrospective	Individual	1,719	-
With profit immediate annuities	Retrospective	Individual	1,106	-
Other	Other	n/a	-	(25)
Sub-total			3,136	(25)
<b>Total PAC</b>			<b>74,788</b>	<b>4,618</b>

\* Adjusted as described in section 5

(2) The with-profits benefits reserves and future policy related benefits correspond to the amounts shown in Form 19.

#### 4. With-profits benefits reserves – Retrospective method

- (1)(a)&(b) The with-profits benefit reserve for all business is calculated on an individual policy basis.
- (1)(c) Not applicable
- (2)(a) Not applicable
- (2)(b) Not applicable
- (3) Directly attributable expenses are allocated to the products or product groups to which they relate. Other expenses are mostly apportioned by reference to such measures as considered appropriate, for example business volumes, time spent, or mean fund (for investment expenses).
- (3)(a) The most recent full expense investigation related to 2012.
- (3)(b) A full review of the company's cost allocation basis is carried out annually to ensure maintenance of an appropriate allocation of expenses to the with-profits and other parts of the long-term fund. Additional reviews are conducted quarterly.
- (3)(c)(i)&(ii) Expense allocation for 2012

Description	WPSF	SAIF	DCPSF
	£m	£m	£m
Initial expenses including commission <sup>†</sup>	437	0	0
Maintenance expenses	127	19	30
Investment management expenses	172	4	0
<b>Total expenses charged to with profits benefit reserve</b>	<b>736</b>	<b>23</b>	<b>30</b>
Total expenses <b>not</b> charged to with profits benefit reserve	145	8	0
<b>Total</b>	<b>882</b>	<b>31</b>	<b>30</b>

<sup>†</sup> Net of any expenses written off to the inherited estate rather than being allocated to asset shares, as described in (3)(c)(iv) below.

The investment expenses shown above exclude those incurred in respect of the assets backing the inherited estate.

For the DCPSF business, explicit charges are specified in the policy and passed to the Non-Profit Sub-Fund, which bears the actual costs incurred.

- (3)(c)(iii) Expenses charged to the with-profits benefits reserve are expressed as some or all of an amount per policy, a percentage of premium or sum assured, or a reduction in the investment return, with an allowance for tax relief where appropriate.

- (3)(c)(iv) Certain expenses are not charged to the with-profits benefits reserve. In particular:
- Expenses relating to non-profit and unit-linked business.
  - Deductions for initial expenses are restricted to the policy-specific charges used when illustrating benefits at the point of sale.
  - For the WPSF, expenses associated with the personal pensions mis-selling review are met by the inherited estate rather than asset shares.
  - For a number of pension contracts the net impact of deductions has been limited to 1% p.a. since April 2001, though this level of charge is not guaranteed to apply in future.
  - Expenses in respect of certain one-off projects are met by the inherited estate rather than asset shares.

- (4) The charge for guarantees for With-Profits Immediate Annuities is expressed as a 0.4% p.a. reduction in the investment return credited to the with-profits benefits reserve for business sold since April 2009 and 0.16% for business sold prior to that date.

For the Income Choice Annuity, since April 2010, the guarantee charge applying for new business has been actively reviewed each quarter in response to changing market conditions.

For PruFund policies, the charge for guarantees is also expressed as a reduction in the credited investment return. The charge is set at policy inception and is actively reviewed each quarter for new policies in response to changing market conditions.

For business written through PAC's Hong Kong branch, guarantee charges are expressed as a percentage of the guaranteed basic surrender value. The guarantee charges for CWP business are varied dynamically in line with movements in interest rates.

For all other WPSF policies, the current charge for guarantees is 2% of asset shares.

For DCPSF policies, excluding the PruFund and the with-profits annuity business transferred from Equitable Life Assurance Society on 31 December 2007, the charge for guarantees is again expressed as 2% of asset shares.

For PruFund business in the DCPSF, the charge for guarantees is the same as for WPSF PruFund business.

For the with-profits annuity business in the DCPSF that was transferred from the Equitable Life Assurance Society (ELAS), the charge for guarantees is expressed as a 0.50% p.a. reduction in the investment return credited to the with-profits benefit reserve.

For SAIF, two charges were made to asset shares in 2012:

- An annual charge for the cost of guaranteed annuity options of 0.25% of asset shares. This is the maximum amount that the Scottish Amicable Board has currently determined should be charged directly to asset shares for this cost. Any excess of the guaranteed annuity option costs over the charge made reduces the potential surplus available to enhance claim values under the Scheme of Transfer.
- An annual charge for the capital support provided by the Scottish Amicable Capital Fund (SACF) of 0.15% of asset shares.

For the WPSF, SAIF and the DCPSF the level of charges deducted during 2011 and 2012 is shown below:

<b>Fund</b>	<b>2012 charges £m</b>	<b>2011 charges £m</b>
WPSF	215	156
DCPSF	13	10
SAIF	25	23

The with-profits benefits reserves are shown before these charges.

- (5) For the WPSF, shareholder transfers are charged to the with-profits benefits reserve. In 2012 the shareholder transfers amounted to £220m.
- (6) The table below shows the ratio of claims (excluding deaths) paid over each of the last three years to the asset shares for those policies. The claim values used exclude the cost of guaranteed annuity options and, for SAIF, they exclude enhancements to claim values arising from the distribution of the SAIF inherited estate.

<b>Fund</b>	<b>2012 %</b>	<b>2011 %</b>	<b>2010 %</b>
WPSF	105	108	104
DCPSF	103	103	98
SAIF	98	100	96

- (7) The 2012 rates of investment return, before tax and investment management expenses, allocated to the with-profits benefits reserves were as follows:

<b>Fund</b>	<b>Business</b>	<b>Investment return %</b>
WPSF	Prudence Bond Optimum Bonus	12.61
	PruFund Cautious	9.85
	Other UK	10.43
	Hong Kong – CWP Hong Kong dollar funds	10.94
	Hong Kong – CWP US dollar funds	9.03
	Hong Kong – AWP Hong Kong dollar funds	12.88
	Hong Kong – AWP US dollar funds	9.35
SAIF	All	9.73
DCPSF	Sterling funds	10.50
	US dollar funds	11.48
	Euro funds	11.70



## 5. With-profits benefits reserves – Prospective method

With-profits benefits reserves are primarily based on the retrospective asset shares. However a number of adjustments are made on a prospective basis as follows:

- WPSF DSF CWP whole life policies include significant death benefits that are more appropriately valued using expected future bonus rates rather than aggregate asset shares.
- WPSF IB bonus rates are derived from the corresponding OB rates, as opposed to the IB asset shares, in line with the undertaking given in 1988 when the IB and OB assets were merged. At that time, Prudential undertook to declare IB bonuses that were equal to 100% of OB rates for new business issued from July 1988 and at least 90% of OB rates for business issued prior to July 1988. The WPBR for IB business is therefore based on a bonus reserve valuation approach using the OB bonus rates, rather than the IB asset shares.
- The Company has restricted the future implicit fund charge on many pension contracts to reflect its intention to restrict charges on personal pensions to stakeholder consistent levels, so restricting its ability to target claim values on the underlying asset shares.
- For some product lines the only asset shares available are charges asset shares (where asset shares have been built up using the charges associated with that product line) rather than expenses asset share (where the actual expenses have been charged). For these product lines, the charges asset shares are adjusted by the present value of future expenses and shareholder transfers less future charges, in order to ensure that the with-profits benefit reserve reflects the actual liabilities in respect of claims, expenses and shareholder transfers.
- The SAIF asset share liability is increased by the value of the Scottish Amicable Account (SAA) AWP life business, calculated on a charges less expenses basis, that is passed to the WPSF.

A prospective valuation is not performed for any business in the DCPSF..

The non-economic assumptions largely reflect the realistic component of the regulatory basis excluding the margins for adverse deviation (MADs).

(1)(a)(b)&(c) The economic assumptions for the WPSF, SAIF AWP pensions and SAA AWP business are:

	31 December 2012		31 December 2011	
	Gross	Net	Gross	Net
	%	%	%	%
Investment return	5.03	4.35	5.11	4.44
Less: Investment expenses	0.16	0.13	0.16	0.13
Discount rate	4.87	4.22	4.95	4.31
Expense inflation	2.90	2.90	3.00	3.00

The economic assumptions used to value the prospective benefits are the same as those used for European Embedded Value reporting, which represent our best estimate assumptions allowing for prevailing market conditions at the valuation date, thereby complying with INSPRU 1.3.130 R. The discount rates therefore differ from the risk free rates required by 6.(4)(a)(iii).

(1)(d) Future reversionary and terminal bonus rates for WPSF significant product lines are shown in Appendix 8.

(1)(e) Future expense assumptions for significant product lines are shown below

<b>Per policy expenses (year 1)</b>		
<b>Product</b>	<b>Premium Paying (£)</b>	<b>Single Premium / Paid Up (£)</b>
Prudence Bond	N/A	42.55
CWP Life	40.36	34.38
PPRP	38.17	33.40
Personal Pensions	38.17	33.40
AVCs	94.43	60.65

The expense assumptions are the realistic component of the Peak 1 basis i.e. before the application of the margin for adverse deviation (MAD).

(1)(f) Future persistency assumptions for significant product lines are as follows (using the same format as for paragraph 6.(6)):

<b>Product</b>	<b>Decrement</b>	<b>Average surrender/paid-up rate for the policy years</b>			
		<b>1-5</b>	<b>6-10</b>	<b>11-15</b>	<b>16-20</b>
CWP savings endowment	surrender	3.50%	5.50%	3.00%	3.00%
CWP target cash endowment	surrender	3.50%	5.50%	3.00%	3.00%
UWP savings endowment	surrender	n/a	n/a	n/a	n/a
UWP target cash endowment	surrender	n/a	n/a	n/a	n/a
UWP bond	surrender	3.10%	9.10%	5.40%	4.50%
UWP bond	automatic withdrawals	0.00%	0.00%	0.00%	0.00%
CWP pension regular premium	PUP	3.50%	4.00%	3.00%	3.00%
CWP pension regular premium	surrender	1.50%	1.50%	1.50%	1.50%
CWP pension single premium	surrender	1.50%	1.50%	1.50%	1.50%
UWP individual pension regular premium	PUP	7.60%	6.00%	4.50%	4.50%
UWP individual pension regular premium	surrender	2.50%	2.50%	2.50%	2.50%
UWP individual pension single premium	surrender	1.50%	1.50%	1.50%	1.50%

## 6. Cost of guarantees, options and smoothing

(1) Not applicable

(2)(a) For the WPSF and SAIF, the value of guarantees, options and smoothing costs, net of the value of charges for guarantees is determined using market-consistent stochastic models as follows:

- For WPSF business issued in Hong Kong, the HK stochastic asset liability model (HKSALM) is used.
- The reserve in the WPSF for guarantees resulting from the personal pension mis-selling review is calculated using the Pension Mis-selling Reserve model.
- The reserve in the WPSF for the guaranteed minimum pensions (GMPs) on Section 32 type products is calculated using the Guaranteed Minimum Pension model.
- For all other WPSF business issued in the UK, the Prudential Stochastic Asset Liability Model (PSALM), our in-house model, is used to value product-related guarantees, except for the small volume of guaranteed annuity options (GAOs), for which the realistic reserve is set equal to the regulatory reserve.
- For SAIF business, including SAIF GAOs, PSALM is used.

For the DCPSF, a bonus smoothing account is maintained in the WPSF and credited or debited as appropriate with any difference between claim payments made from the

DCPSF and the relevant policies' underlying asset shares. It is intended that these smoothing transfers should generate no net profit or loss over the long term. Claim payouts can be adjusted to cover the cost of guarantees and smoothing. If, however, in extreme circumstances, a shortfall arises in the bonus smoothing account, additional capital support is provided by the WPSF. The WPSF receives an annual charge from the NPSF for this support. Within the WPSF a further reserve is therefore held in line with the cost on similar contracts.

(2)(b)(i)(ii) The reserves in respect of the personal pension mis-selling review and GMPs are  
&(iii) valued on an individual basis.

All other product-related guarantees are valued using grouped model points. The number of model points and the number of contracts they represent are shown in the table below.

<b>Business</b>	<b>Valuation model</b>	<b>Contracts</b>	<b>Model points</b>
WPSF-UK	PSALM	2,949,265	24,362
WPSF-HK	HKSALM	704,099	24,910
SAIF	PSALM	373,640	1,951

The model points used to determine the cost of guarantees and smoothing for the 31 December 2012 valuation were generated from in-force data extracted as at 31 December 2011, 30 June 2012 and 30 September 2012 for different product lines. These model points were then rolled forward to 31 December 2012.

The Prudential Sourcebook guidance requires that the grouping of policies for valuing the cost of guarantees, options and smoothing should not materially misrepresent the underlying exposure. In particular policies with guarantees “in the money” should not be grouped with policies with guarantees well “out of the money”. (The “moneyness” of guarantees describes the extent to which guarantees are biting for a policy.)

To meet this requirement, policies have been grouped together where they are subject to the same rate of bonus. This has been done by grouping policies separately for:

- major product categories;
- single premium policies, regular premium policies, and paid-up policies;
- separate bonus series, where applicable;
- year of inception; and
- year of maturity, where applicable.

To more accurately group specific product lines, a number of additional fields are also used:

- For Prudence Bond: withdrawal option, age and fund value;
- For PruFund: age, guarantee type and guarantee period;
- For SAIF, ex-SAL personal pensions and PSA: age and asset share;
- For Group Pensions: initial allocation, commission type and front-end commission;
- For CWP IB and OB assurances and PPRP deferred annuities: asset share;
- For Hong Kong CWP business: outstanding premium term, age and premium frequency; and
- For Hong Kong AWP business: age and sex.

For With-Profits Immediate Annuities, the product type, joint life status, age, sex, anticipated bonus rate, guaranteed term guarantee type and asset share have all been used as grouping variables.

For Income Choice Annuities, the joint life status, age, sex, required smoothed return, guaranteed term and asset share have all been used as grouping variables.

For ex-ELAS business, the product type, joint life status, age, sex, anticipated bonus rate, guaranteed term, interest rate, and type, have all been used as grouping variables.

Checks were performed to ensure that the model points suitably reflected the underlying data.

The ungrouped policy data and grouped model points were separately projected through the stochastic models. Key revenue and balance sheet items over the projection period were compared to demonstrate that the model points represent the policy data adequately. For the UK business, the key items tested were asset share and cost of guarantee (guaranteed amount less asset share). Other measures included asset share claims, premiums and policy count. For the Hong Kong business the key items tested were the present value of the cost of guarantees, the charges for guarantees and the shareholder transfers.

(2)(c) Approximations are necessary in respect of the CWP products where adjustments are made to asset shares, as described in section 5. Although the adjustments are included in the with-profits benefit reserve, the cost of guarantees and smoothing is assessed relative to the unadjusted asset shares. This leads to a small element of double-counting in the liabilities and it is therefore a slightly conservative approach.

(3) The following changes have been made to the methods for valuing the costs of guarantees, options and smoothing for UK business:

- Management actions are now triggered based on a realistic solvency ratio, rather than the previous statutory Form 9 solvency ratio.
- The expected growth rate used in the modelled reversionary bonus algorithm has been refined to be based on the gilt yield, rather than the cash rate, in order to better reflect actual practice.

The following changes have been made to the methods for valuing the costs of guarantees, options and smoothing for Hong Kong business:

- The modelling has been enhanced to allow for the implementation of a dynamic guarantee charge algorithm for Hong Kong CWP business, which allows the guarantee charge rates for each product group to vary with the prevailing interest rate. This reflects the revised approach to charging for guarantees that was implemented in practice during 2012.
- The modelling has been enhanced to allow for the implementation of a dynamic investment strategy for Hong Kong CWP business, which reduces the equity backing ratio in stressed interest rate conditions.
- The management action to remove the guaranteed cash value of reversionary bonus in the event of local insolvency no longer applies.

(4)(a) The following paragraphs describe the approach taken in respect of the options and guarantees valued using the PSALM and HKSALM models. The same asset model is used to generate the investment returns assumed in the Pension Mis-selling Reserve and Guaranteed Minimum Pension models.

(4)(a)(i) For the WPSF and SAIF, the guarantees valued using the full stochastic models include sums assured and projected reversionary bonuses (including any minimum guaranteed rates of reversionary bonus) payable on death, maturity or vesting. For SAIF, guaranteed annuity options are also valued.

The extent to which guarantees are in or out of the money varies greatly across product lines, and by duration in force within each product line. The ratio of

reversionary bonus funds to asset shares at 31 December 2012 for separate AWP product lines ranged from 64% to 82%, averaging 74% overall for the UK WPSF and 74% overall for SAIF business. Projected ratios using the risk-neutral economic basis for most UK product lines were in the region of 80%, with the exception of PPRP deferred annuity business, for which the ratio of guaranteed benefits to asset shares was in the region of 160%. The majority of the in-force business was sold in the 1980s, and the guarantees are now heavily in the money, due to reduction in interest rates and improvements in mortality since the business was priced.

(4)(a)(ii) The economic scenario generator

Risk neutral economic scenarios are generated by GeneSIS, which is Prudential's in-house economic scenario generator. The models used for each asset class are as follows:

- Nominal interest rate model

The interest rate model is a Gaussian two-factor model. In this model, the instantaneous short-rate process is given by the sum of two correlated Gaussian factors plus a deterministic function that has been chosen so as to exactly reproduce the initial yield curve.

- Equity model

The equity return is generated using a simple lognormal model. It consists of a drift term and a random process. The drift term is the short rate taken from the nominal interest rate model described above. Equity returns fluctuate about this rate by means of a random process based on an annual volatility and a random number. The volatility assumption is time dependent. The process for dividends is designed to be consistent with the current dividend yield and tends to a defined long-term yield level, whilst being constrained by a total return on equities that is consistent with the risk-neutral framework.

- Corporate bond model

Corporate bond returns are modelled by simulating a risk-free bond, and explicitly allowing for spreads, defaults and a stochastic element representing any residual volatility explained by secondary factors.

- Property model

Property returns are modelled as a corporate bond (the lease) and an equity component (the residual price). Property effectively behaves like a lognormal process with annual volatility of 15%.

- Real interest rate and inflation model

Real interest rates are modelled using a one-factor Hull and White model. This model takes current forward rates to define an initial yield curve. The modelled interest rate is assumed to fluctuate around this initial curve. This fluctuation is correlated to the random variables used to derive nominal interest rates. The inflation rate is defined as the difference between the nominal and the real interest rate.

## Calibration of asset models

The GeneSIS model has been calibrated to the market prices of traded derivative instruments as at 31 December 2012. Separate calibrations are produced for the three currencies for which there are material volumes of business (sterling for business written in the UK and Hong Kong dollars and US dollars for business written through PAC's Hong Kong branch).

The assumptions used in the calibration are as follows:

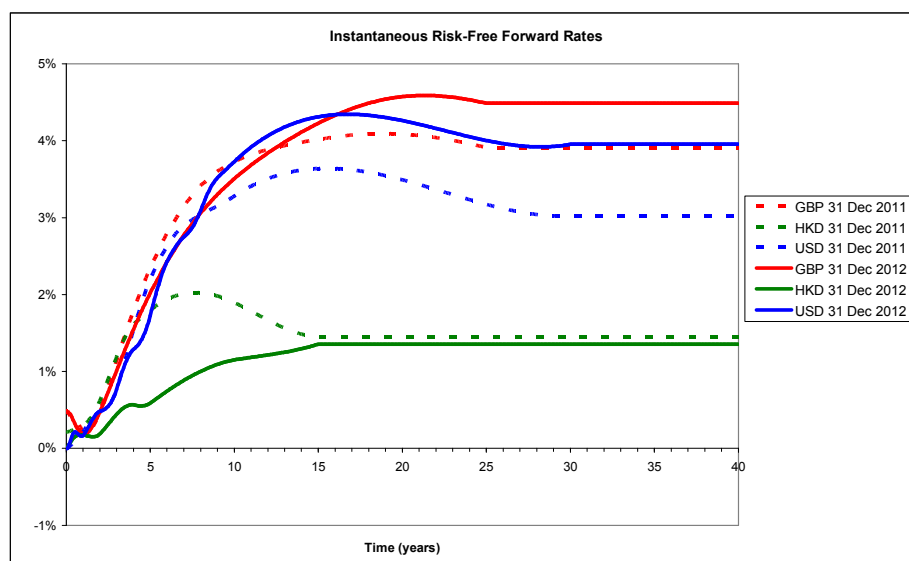
- Risk free interest rate

The yield curves used to calibrate the nominal interest rate model are produced as follows:

- for UK with-profits business, the risk free yield curve is set equal to UK government bond yields.
- for Hong Kong with-profits business, the risk free yield curves are set equal to the US Treasury and Hong Kong government bond yields for liabilities denominated in US dollars and Hong Kong dollars respectively.

A constant forward rate is assumed for durations beyond the point at which the last observable market price exists. This is 25 years for UK gilts, 30 years for US Treasury bonds and 15 years for Hong Kong government bonds.

The yield curves are shown below:



A table of the above interest rates is given in Appendix 9.

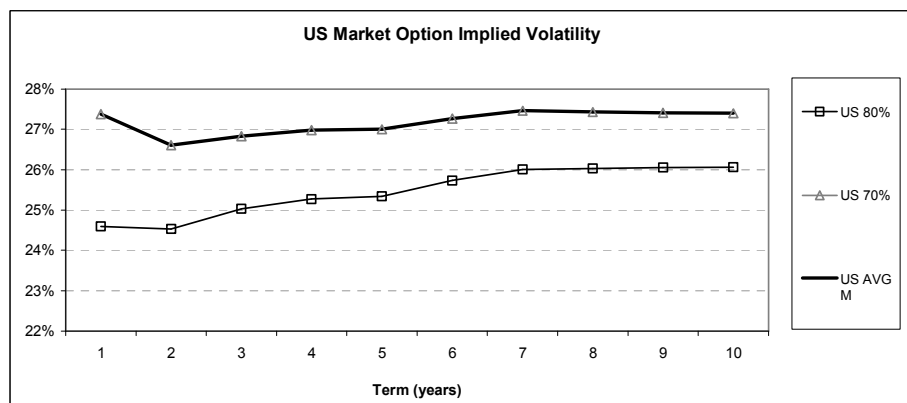
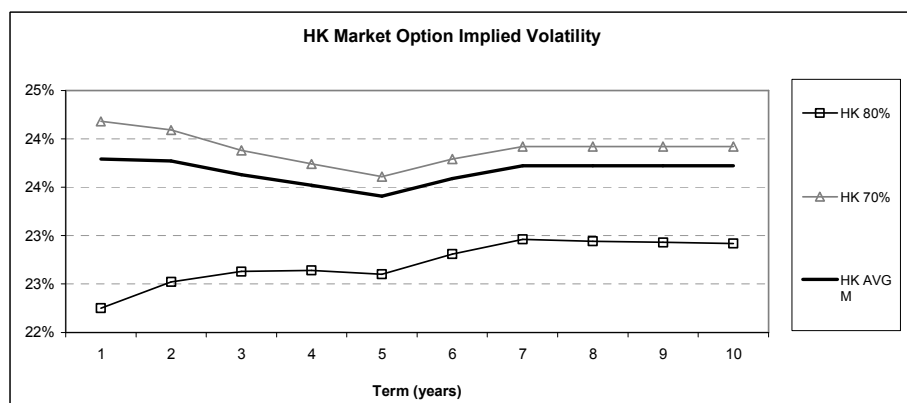
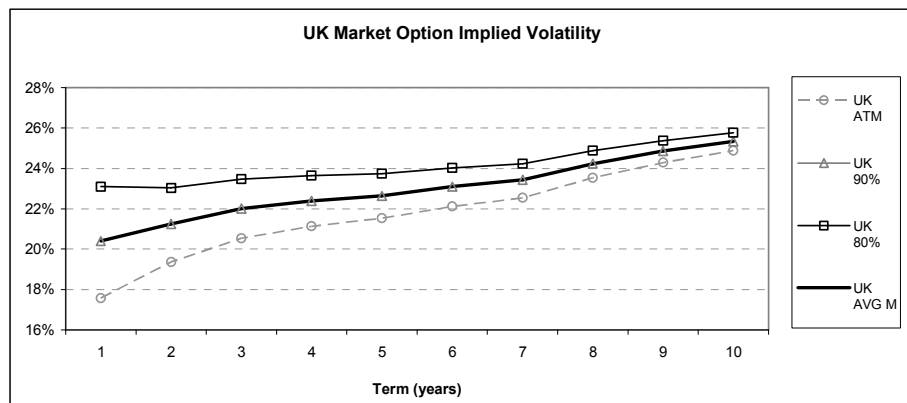
The parameters defining the fluctuation in modelled interest rates around this yield curve are obtained by calibrating the model to replicate observed swaption rates.

- Equity volatility

For UK equities, total return option prices were obtained with exercise dates from 1 to 10 years, and for (forward) strikes  $K = \{0.8, 0.9, 1.0\}$ . For Hong Kong and US equities, option prices were obtained with exercise dates from 1 to 10 years, and for (forward) strikes  $K = \{0.7, 0.8, 1.0\}$ .

The resulting volatility surfaces (based on moneyness and term) were converted into structures dependent only on term through determining the average moneyness of the policy guarantees. For UK business, the average strike was 0.90 for the first ten years. For US dollar and Hong Kong dollar business, the average strike was 0.70 and 0.72 respectively for the first ten years.

The resulting volatilities are shown in the graphs below:

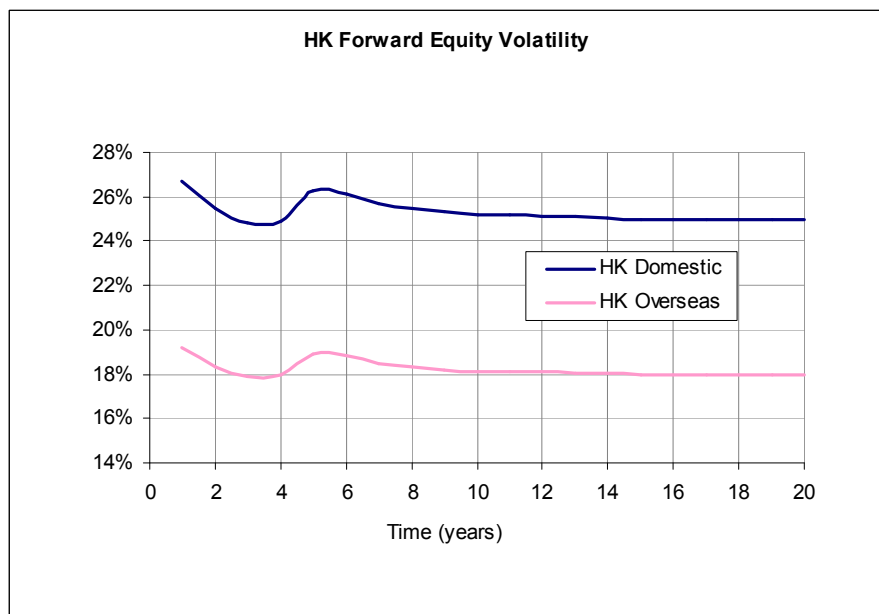
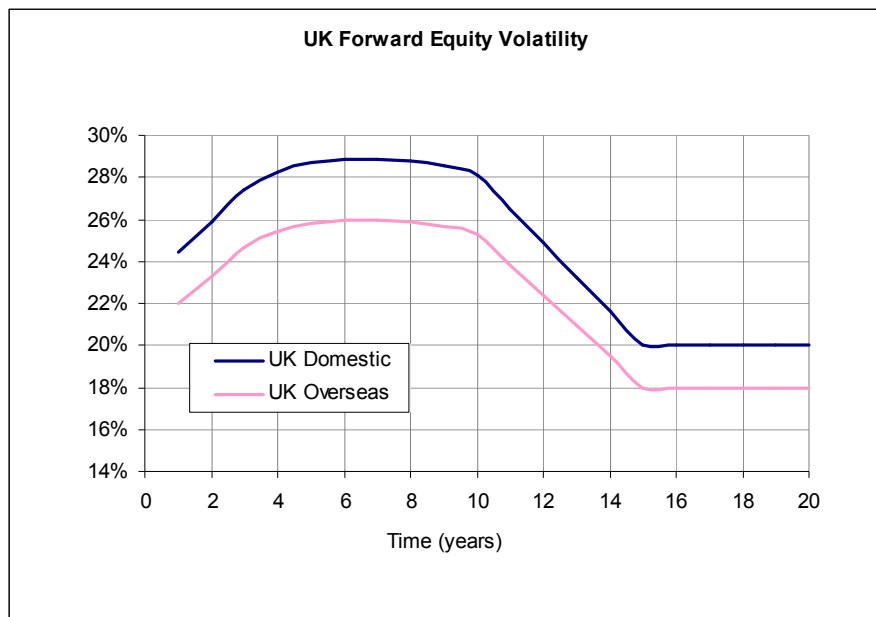


A table of the above volatilities is given in Appendix 10.

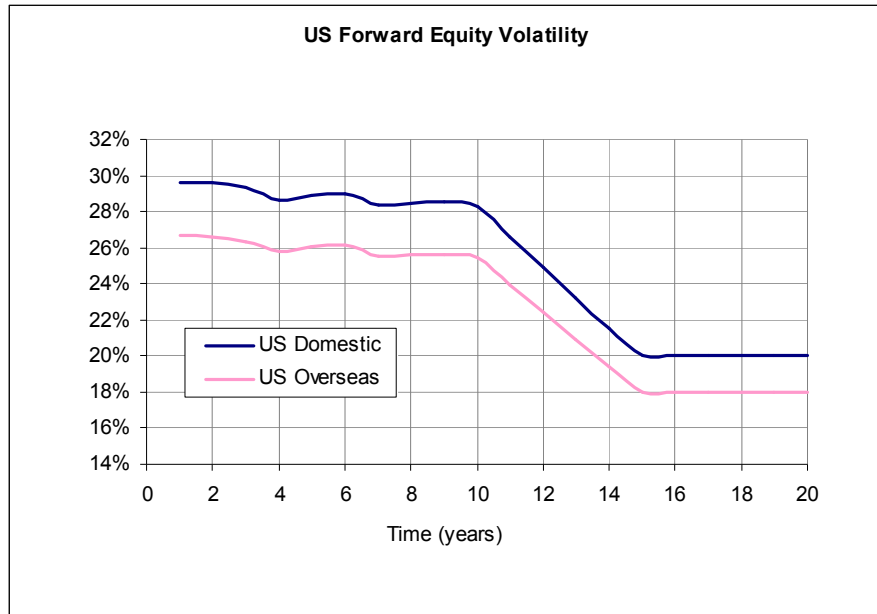
For periods over 10 years, no market data is available, so the volatility assumptions are based on internal expert opinion. We have assumed that the volatility in year 10 moves linearly towards a long-term volatility level of 20% for UK and US equities and 25% for Hong Kong equities over a period of five years.

Volatility assumptions are also required for the overseas equity asset class within each calibration. There is no deep and liquid market for put options on a basket of overseas equities. Thus, in the UK calibration, overseas equity volatility was pegged to that of UK equity to reflect the market data. The peg was set at 90%, reflecting the diversification benefit of overseas equities. The same approach was taken to the Hong Kong dollar and US dollar calibrations, with the peg set at 72% and 90% respectively.

The final volatility term structures for the asset calibration are shown in the graphs below:







A table of the above volatilities is given in Appendix 11.

- Corporate bonds

Two different portfolios of corporate bonds were modelled, denoted ‘Corporate Bonds 1’ and ‘Corporate Bonds 2’. The annualised additional volatility over the gilt return, after allowing for spreads and losses, are shown in the table below. These volatilities were determined from historical indices of corporate bond returns.

	<b>Credit rating</b>	<b>Duration (years)</b>	<b>Volatility</b>
Corporate Bonds 1	BBB	7	4.20%
Corporate Bonds 2	A	10	4.46%

- Property

Property returns were decomposed into a corporate bond return plus the value of upward only rent increases. Due to scarcity of market data and the serial correlation of published indices, the property parameters were based on expert opinion.

- Real interest rates

The model was calibrated using 5 years of real forward rates data, instantaneous nominal forward rates for 25 years and the RPI inflation rate as at 31 December 2012.

- Correlations

Correlations between asset classes have been determined based on internal expert opinion and analysis of historical values. The correlations implied by the economic scenarios generated for the valuation are as follows:

UK model correlations

	<b>Cash</b>	<b>Bonds 1</b>	<b>Bonds 2</b>	<b>UK Equities</b>	<b>OS Equities</b>	<b>Property</b>
<b>Cash</b>	100%	24%	21%	12%	13%	16%
<b>Bonds 1</b>	24%	100%	77%	40%	31%	20%
<b>Bonds 2</b>	21%	77%	100%	38%	29%	19%
<b>UK Equities</b>	12%	40%	38%	100%	75%	40%
<b>OS Equities</b>	13%	31%	29%	75%	100%	30%
<b>Property</b>	16%	20%	19%	40%	30%	100%

Hong Kong dollar model correlations

	<b>Cash</b>	<b>ZCB</b>	<b>Corp Bond</b>	<b>HK Dom Eq</b>	<b>HK OS Eq</b>
<b>Cash</b>	100%	48%	31%	11%	15%
<b>ZCB</b>	48%	100%	65%	5%	7%
<b>Corporate Bond</b>	31%	65%	100%	42%	33%
<b>HK Domestic Equities</b>	11%	5%	42%	100%	72%
<b>HK Overseas Equities</b>	15%	7%	33%	72%	100%

US dollar model correlations

	<b>Cash</b>	<b>ZCB</b>	<b>Corp Bond</b>	<b>US Dom Eq</b>	<b>US OS Eq</b>
<b>Cash</b>	100%	38%	30%	17%	19%
<b>ZCB</b>	38%	100%	79%	7%	8%
<b>Corporate Bond</b>	30%	79%	100%	39%	29%
<b>US Domestic Equities</b>	17%	7%	39%	100%	75%
<b>US Overseas Equities</b>	19%	8%	29%	75%	100%

- (4)(a)(iii) The UK asset model was used to value the required example options. The same table applies to WPSF UK and SAIF liabilities. The results are set out in Appendix 6.

- (4)(a)(iv) The initial and long-term yields assumed for assets backing WPSF UK and SAIF liabilities are shown below:

	31 December 2012		31 December 2011	
	UK %	Overseas %	UK %	Overseas %
<b>Equity dividend yield</b>				
Current	3.95	2.95	3.89	3.04
Long term	3.25	2.50	3.25	2.50
<b>Property rental yield</b>				
Current	7.15	N/A	7.02	N/A
Long term	6.70	N/A	7.45	N/A

In the UK calibration, all overseas territories for the UK business are treated together; we do not isolate significant territories within these.

The initial and long-term yields assumed for assets backing Hong Kong dollar and US dollar liabilities are shown below:

	31 December 2012		31 December 2011	
	Domestic %	Overseas %	Domestic %	Overseas %
<b>Hong Kong dollar</b>				
Current	3.12	2.95	3.71	3.04
Long term	3.00	2.50	3.00	2.50
<b>US dollar</b>				
Current	2.24	3.38	2.12	3.55
Long term	2.25	2.64	2.50	2.54

- (4)(a)(v) Not applicable

- (4)(a)(vi) A table of the outstanding mean durations of reversionary bonus claims for material UK products is:

Product	31 December 2012	
	Proportion of total RB guarantee (%)	Duration (Years)
WPSF Bonds	12	9
WPSF OB/IB	7	10
WPSF Personal Pensions	4	10
WPSF PPRP	45	6
WPSF Group Pensions	3	11
With Profit Annuities	23	17
SAIF	6	9
<b>Total</b>	<b>99</b>	<b>-</b>

A check of the model was carried out to calculate the (Monte Carlo) prices of the equity put options. The results for the UK model are shown below and demonstrate that the GeneSIS model is capable of reproducing market prices. Similar checks were carried out for the Hong Kong dollar and US dollar calibrations.

UK model (90% ATM)

<b>Term (yrs)</b>	<b>Strike (%)</b>	<b>Market Price (%)</b>	<b>GeneSIS Price (%)</b>
1	90.3%	20.4%	20.4%
2	90.6%	21.3%	21.6%
3	91.2%	22.0%	22.2%
4	92.4%	22.4%	22.7%
5	94.1%	22.6%	23.1%
6	96.2%	23.1%	23.3%
7	98.8%	23.4%	23.7%
8	101.7%	24.2%	24.5%
9	105.1%	24.9%	25.2%
10	108.8%	25.3%	25.8%

- (4)(a)(vii) The model reproduces the current asset values for a wide range of securities, equity options and swaptions when the future income, gains and losses are projected and discounted to the valuation date.
- (4)(a)(viii) PSALM projects 5000 scenarios over 40 years. HKSALM projects 5000 scenarios over 60 years. We have demonstrated that this produces statistically credible results, both using statistical theory and empirically by running the model several times on randomly different sets of economic scenarios and demonstrating that the results are materially the same.
- (4)(b) Not applicable
- (4)(c) Not applicable
- (5)(a) Modelled management decisions are consistent with the Principles and Practices of Financial Management (PPFM) available to the public, and with the Financial Condition Reports submitted annually to the PAC Board. Details are given below.

The cost of guarantees, options and smoothing is very sensitive to the bonus, MVR and investment policies that the company will employ under varying investment conditions, and the stochastic modelling incorporates several management actions to protect the fund in adverse investment scenarios.

In practice, a range of management actions would be considered at any time of stress. The actions taken would depend on the economic outlook and the financial position of the fund at that time. The stochastic model cannot reflect all possible actions and so it includes assumptions to broadly reflect the likely decisions. The assumptions made, as described below, are therefore indicative of the actions that might be taken in practice.

The trigger points for management actions in PSALM are expressed in terms of the realistic solvency ratio, which is broadly equivalent to the Pillar I Peak 2 solvency ratio excluding the risk capital margin.

Two ratios are calculated, either including or excluding the cost of personal pension mis-selling costs (accumulated past and potential future costs, run-off in line with relevant policy asset shares) as an additional notional asset. The appropriate ratio is applied when deriving management actions in order to ensure that PAC's bonus and

investment policy remain unaffected by the charging of personal pension mis-selling costs to the inherited estate in the WPSF.

Paragraphs (5)(a)(i) to (5)(a)(xiv) below set out the key management actions assumed for UK and Hong Kong business.

(5)(a)(i) UK reversionary bonuses (RB)

The following rules are assumed for WPSF business:

- The initial RB rates are shown in Appendix 7.
- When the solvency ratio (including the cost of personal pension mis-selling) is at or above 7%, RB rates are determined by comparing the projected terminal bonus level with the theoretical terminal bonus level that would be consistent with targeting RB rates on 60% of expected future investment returns, net of charges. RB rates are increased if the projected terminal bonus level is too high or decreased if the projected terminal bonus level is too low, compared with a target range.
- If (on the RB declaration month) the solvency level is below 7%, then RB rates are reduced by 50%. If solvency recovers back above 7% then RB rates are assumed to revert back to the full level.

The following additional rules are assumed for SAIF business:

- The calculated RB rates (i.e. determined by projecting the terminal bonus level) are assumed to apply when the solvency ratio (including the cost of personal pension mis-selling) is at or above 10.5%.
- If (on the RB declaration month) the solvency ratio is below 7%, SAIF RB rates are assumed to reduce by 90%. Between 10.5% and 7% solvency ratio, SAIF RB rates are reduced linearly. When the solvency ratio rises above 10.5%, RB rates return to the full level.
- If the WPSF RB rates have been cut by 50%, the SAIF RB rates derived above are also assumed to reduce by a further 50%.

(5)(a)(ii) UK smoothing rules

Smoothing costs are determined in line with expected company practice to the extent that this can be modelled (given the practical constraints of stochastic modelling).

The stochastic asset liability model does not hold specific final bonus rates; instead the approach used is to determine:

- the opening claim values by applying a ratio of claim value to asset share to each model point asset share, and
- all future claim values as equal to asset shares, subject to the smoothing of claim values and the reversionary bonus underpin (where applicable).

The claim value between year ends is determined by accumulating the previous year-end smoothed claim value at a rate of return equal to the risk-free rate plus a risk premium (which is the weighted average of the risk premiums for each asset class). The risk premiums are set to the levels shown below, based on expert opinion of the long term levels for each asset class.

<b>Asset Class</b>	<b>Risk Premium % p.a.</b>
UK equities	3.25
Overseas equities	3.25
Corporate bonds	1.75
Property	2.50
Cash	(0.50)

In the RCM scenario, the risk-free rate reduces in line with the interest rate event.

The yearly reviews adjust the claim value towards the asset share, as follows:

- If the claim value (before the application of smoothing) is within +/-10% of the target asset share, the smoothed claim value is set equal to the target asset share,
- If the claim value (before the application of smoothing) is outside +/-10% but within +/-20% of the target asset share, the smoothed claim value is moved 10% (of the asset share) closer to the asset share,
- If the claim value (before the application of smoothing) is outside +/-20% but within +/-33% of the target asset share, the smoothed claim value is moved to +/-10% of the asset share,
- If the claim value (before the application of smoothing) is outside +/-33% of the target asset share, the smoothed claim value is moved two thirds of the way to the target asset share.

With-profit immediate annuities, including the ex-ELAS annuities, are constrained such that the year-on-year change in total annuity lies within the range -5% to 11% (before application of the Anticipated Bonus Rate). For Income Choice Annuity business, the year-on-year change in the smoothed annuity is constrained to lie within the range -4% to 12% (before application of the Required Smooth Return).

For PruFund business the model applies the actual rules for smoothed fund price movements. If the smoothed fund price is more than 5% different from the net asset value per unit at a quarter end date then it is moved half-way towards the net asset value per unit. At other times, if the smoothed fund price is more than 10% different from the net asset value per unit then it is moved to 2.5% above or below the net asset value per unit.

In addition to the modelling assumptions described above, smoothing is suspended if the solvency ratio (including the cost of personal pension mis-selling) is less than 6%. That is, for non-annuity business, claim values on maturity or death are set equal to the greater of the guaranteed benefit and the asset share; for other decrements, claim values are set equal to the asset share. For annuity business, there is no limit to the fall in the smoothed annuity when smoothing is suspended. The solvency check is carried out monthly for AWP business and annually for CWP and annuity business, to reflect practical constraints on when claim values can be revised.

The smoothing rules modelled for SAIF are the same as those used for the WPSF.

(5)(a)(iii) UK market value reductions (MVRs)

It is assumed that the MVR-free limit to be applied to all AWP business in the sixth and subsequent policy years varies according to the solvency ratio (including the cost of personal pension mis-selling), as follows:

- when the solvency ratio is above 7%, the MVR-free limit is £25,000.
- when the solvency ratio is between 6% and 7%, the MVR-free limit is £10,000.
- when the solvency ratio is below 6%, the MVR-free limit is zero.
- once the MVR-free limit has fallen to £10,000 or zero it does not return to £25,000 until the solvency ratio is at least 10%.

For personal pensions, our current practice is to apply a reducing scale of MVRs on early retirement within six years of the selected retirement date. Reduced MVRs are also reduced to zero on Prudence Bond and PSA by the later of age 85 and in-force duration of 15 years. In both cases, it is assumed that reduced MVRs would be applied only if the solvency ratio (including the cost of personal pension mis-selling) is at or above 7%. When the solvency ratio is below 7%, full MVRs are assumed to be applied.

It is assumed that the maximum MVR (as a percentage of the pre-MVR claim value) is capped at 15%, providing the solvency ratio (including the cost of personal pension mis-selling) is at or above 6%. When the solvency ratio is below 6%, the MVR is not capped.

(5)(a)(iv) UK frequency of bonus declarations

Bonus declarations are made annually in the modelling. Additional mid-year declarations for AWP business only are made if both:

- the solvency ratio (including the cost of personal pension mis-selling) is less than or equal to 10%, and
- the claim value to asset share ratio is either greater than 125% or less than 75%.

(5)(a)(v) UK asset re-balancing and switching

Under “normal” investment conditions the equity backing ratios (EBRs) of the WPSF asset shares (excluding PruFund cautious) and SAIF asset shares are managed as follows:

- the EBR of each fund is allowed to drift in line with investment returns as long as it is within a +/- 5% band around the long term strategic target EBR;
- if the EBR of either fund falls outside this range, it is rebalanced to the long term target by switching between UK equities and bonds at a rate of 2% per month. Rebalancing incurs an investment expense of 1% of the amount rebalanced.

The EBR of the PruFund Cautious asset shares moves in proportion to that of the other WPSF asset shares.

In addition to rebalancing, asset switching (pro rata from UK and overseas equities into corporate bonds) is triggered when the solvency ratio (including the cost of personal pension mis-selling) falls below 6%. The amounts to be switched are determined as follows:

- When the solvency ratio is at or above 6%, UK and overseas equities are assumed to remain at their long-term benchmark proportions (if switching has not yet taken place). If switching has already taken place in the model, switching from corporate bonds back into equities (in order to return to the long-term benchmark) can only occur when the solvency ratio rises above 7%.
- When the solvency ratio falls below 3.5%, UK and overseas equities are assumed to be fully switched into corporate bonds.
- When the solvency ratio is between 6% and 3.5%, the required switch amount is determined by linear interpolation between the limits specified above.

The maximum amount that can be switched in any month is 2% of total assets. Switching incurs an investment expense of 1% of the amount switched.

(5)(a)(vi) UK tax on shareholders' transfers

If the solvency ratio (excluding the cost of personal pension mis-selling) is above 6%, tax on shareholders' transfers is assumed to be paid from the WPSF inherited estate.

(5)(a)(vii) Hong Kong asset re-balancing and switching

HKSALM projects cash flows in annual steps. Therefore the asset allocations are rebalanced only once a year, in line with the agreed strategic asset allocation.

For AWP (HKD version), a “drift” strategy is applied during the pre-guarantee period (i.e. the first five years of the contract), whereby the percentage of equities held is allowed to drift up or down from its starting position depending on the actual equity return for the period. During the post-guarantee period, the strategic asset allocation is fixed at the long-term level. For the smaller AWP (USD version) fund, a “drift-only” strategy is employed throughout the projection term.

The bond portfolio is rebalanced to the target duration through adopting a “sell and repurchase all bonds” strategy in the model.

The HKSALM model includes a solvency-triggered management action for the CWP business, whereby the equity backing ratio varies according to the solvency position of the Hong Kong portion of the WPSF. The measure of the solvency position used for the purpose of the management action trigger is the “solvency margin cover ratio”, which is calculated using the following definition:

$$\text{Solvency margin cover ratio} = (\text{Total assets} - \text{Local statutory reserves}) / (\text{Solvency Margin})$$

where:

the Solvency Margin is based on the Hong Kong regulatory formula (4% of statutory reserve plus 0.3% of sum at risk); and

total assets include the value of the Standard Chartered Bank (SCB) facilitation fees and the Hong Kong share of the costs of personal pension mis-selling.

Assets are switched from equities to fixed interest at the rate of 24% per annum to de-risk the portfolio in the event of the Hong Kong solvency margin coverage ratio falling below 150%. At 110% coverage, all assets are targeted to be in bonds, with a linear reduction in target equity backing ratio between 150% and 110%. Assets are switched back to equities when the Hong Kong solvency margin coverage ratio recovers above 160%.

A dynamic investment strategy applies for CWP business (apart from the PRUsave Plus product). The strategy is constructed as a ‘re-risk and drift’ strategy which is a



hybrid of (1) the long-term strategic asset allocation and (2) a formula-based de-risked EBR. The long-term strategic asset allocation is maintained when the 20-year spot rate ('reference rate') is higher than a benchmark rate of 4.0%, whereas the EBR starts to be reduced linearly when the spot rate falls below the benchmark rate. The portfolio is completely de-risked to a zero EBR when the reference rate reaches 0%.

The final EBR is set by taking into consideration the lower of the dynamic investment strategy and the local solvency trigger rules.

(5)(a)(viii) Hong Kong reversionary bonuses (RB)

RB rates are set to target a particular split between RB and terminal bonus (TB). The target RB/TB split varies by product group, but is a uniform assumption across the projection in order to simplify the calculation. In each time period, the model calculates a supportable RB rate to achieve the target RB/TB split. This calculation allows for an immediate fall in bond yields of 1%, reflecting the actual practice used to set RB rates.

RB rates are subject to a maximum change of 0.5% (upwards or downwards) in any one year, and a minimum step change of 0.1%.

In addition, some extreme management actions are in place to protect the financial position of the fund in adverse scenarios:

- For CWP business, when the solvency margin cover ratio (as defined above) falls below 150%, the RB rates will be reduced by 50%.
- For AWP business, when guarantees are biting for a bonus series, the income bonus is reduced immediately to 0.5%. This is consistent with actual practice.

(5)(a)(ix) Hong Kong smoothing rules

"Policy Value" is defined as the accumulation of policyholder cash flows, rolled up at the long-term expected investment return. The Policy Value is compared with the unsmoothed claim value, which is defined as the asset share multiplied by the target payout ratio, and the smoothed claim value is then derived as follows:

- If the unsmoothed claim value is within +/-10% of the Policy Value, the smoothed claim value is set equal to the unsmoothed claim value;
- If the unsmoothed claim value is outside +/-10% but within +/-30% of the Policy Value, the smoothed claim value is set equal to +/-10% of the Policy Value;
- If the unsmoothed claim value is outside +/-30% of the Policy Value, the smoothed claim value is set equal to the Policy Value plus one third of the difference between the unsmoothed claim value and the Policy Value.

In contrast to the UK business, any smoothing profits or losses accrue to the remaining asset shares, rather than to the inherited estate.

Smoothing is suspended in adverse scenarios when the solvency margin coverage ratio falls below 150% for CWP business, or the asset cover ratio falls below 100% for AWP business.

(5)(a)(x) Hong Kong frequency of bonus declarations

Bonuses are declared at each year-end. Due to the annual time step in HKSALM, it is not currently possible to model mid-year declarations.

(5)(a)(xi) Hong Kong market value reductions (MVRs)

MVRs are only applied in practice in the event of a significant volume of surrenders or a significant fall in asset values.

In the model, an MVR management action is included for AWP policies. It applies when any of the following situations occur:

- asset values fall by more than 15% within a year and asset shares are less than 100% of surrender values; or
- asset values fall by more than 10% within a year and asset shares are less than 90% of surrender values; or
- asset values fall by more than 7.5% p.a. over a 2-year period and asset shares are less than 90% of surrender values.

The asset value fall is measured at asset pool level. Upon application of MVRs, the surrender value is set equal to the asset share, except that at the fifth year principal guarantee point the surrender value is subject to a minimum of the “principal guarantee level”. In the model, an MVR continues to apply until the asset share has recovered to the level of the pre-MVR surrender value.

(5)(a)(xii) Hong Kong tax on shareholders’ transfers

HKSALM does not calculate tax on shareholder transfers. The liability in respect of the tax on shareholder transfers in respect of Hong Kong business is therefore added to the liabilities as an out-of-model adjustment, on the assumption that it is met by the inherited estate. The agreed management action to charge this tax to shareholders when solvency is low is therefore not modelled.

(5)(a)(xiii) Operation of SAIF

PSALM contains rules to model the SAIF Principles of Financial Management. As well as the rules set out above, this includes:

- recalculating the bonus smoothing charge or allocation applied to SAIF asset shares, with the intention of reducing the balance of the bonus smoothing account to zero over the remaining lifetime of the business;
- recalculating the enhancement factor applied to SAIF asset shares, with the intention of distributing all SAIF assets (including future profits arising in SAIF) to SAIF policyholders over the remaining lifetime of the business; and
- merging SAIF into the WPSF when SAIF assets (including the bonus smoothing account but excluding SACF) fall below £1bn, increased in line with RPI from the date of commencement of the Scottish Amicable scheme (1997).

- (5)(b) The proportion of equities and level of reversionary bonus rates projected by the PSALM model after 5 and 10 years, assuming various specific rates of return, are shown below.

- (i) Based on forward rates derived from the risk free interest rate curve

Year	Rate of return	Equity proportion		Proportion of initial RB rate			
		WPSF	SAIF	WPSF Life	WPSF Pensions	SAIF Life	SAIF Pensions
Current	%	%	%	%	%	%	%
5 years	N/A	40	35	100	100	100	100
10 years	0.89	40	35	100	125	100	100
	1.88	40	40	100	125	0	0

- (ii) Based on forward rates plus 17.5% of the long-term gilt yield

Year	Rate of return	Equity proportion		Proportion of initial RB rate			
		WPSF	SAIF	WPSF Life	WPSF Pensions	SAIF Life	SAIF Pensions
Current	%	%	%	%	%	%	%
5 years	N/A	40	35	100	100	100	100
10 years	1.30	40	35	100	138	100	100
	2.29	40	40	100	138	0	0

- (iii) Based on forward rates less 17.5% of the long-term gilt yield

Year	Rate of return	Equity proportion		Proportion of initial RB rate			
		WPSF	SAIF	WPSF Life	WPSF Pensions	SAIF Life	SAIF Pensions
Current	%	%	%	%	%	%	%
5 years	N/A	40	35	100	100	100	100
10 years	0.48	40	35	88	113	100	100
	1.47	40	40	88	113	13	0

The initial reversionary bonus rates are shown in Appendix 7.

- (6) A summary of the decrement assumptions is shown in the table below:

Product	Decrement	Average surrender/paid-up rate for the policy years			
		1-5	6-10	11-15	16-20
CWP savings endowment	surrender	3.15%	4.95%	2.70%	2.70%
CWP target cash endowment	surrender	3.15%	4.95%	2.70%	2.70%
UWP savings endowment	surrender	n/a	n/a	n/a	n/a
UWP target cash endowment	surrender	n/a	n/a	n/a	n/a
UWP bond	surrender	2.79%	8.19%	4.86%	4.05%
UWP bond	automatic withdrawals	0.00%	0.00%	0.00%	0.00%
CWP pension regular premium	PUP	3.15%	3.60%	2.70%	2.70%
CWP pension regular premium	surrender	1.35%	1.35%	1.35%	1.35%
CWP pension single premium	surrender	1.35%	1.35%	1.35%	1.35%
UWP individual pension regular premium	PUP	6.84%	5.40%	4.05%	4.05%
UWP individual pension regular premium	surrender	2.25%	2.25%	2.25%	2.25%
UWP individual pension single premium	surrender	1.35%	1.35%	1.35%	1.35%

For SAIF guaranteed annuity options, modelled in PSALM, no decrements are assumed in deferment and 10% of the annuity is assumed to be taken as cash (i.e. the guarantee cost applies only to the remaining 90%).

- (7) For UK business it is assumed that in extreme adverse market scenarios, the group actions of policyholders would serve to increase the costs of guarantees and smoothing. This is modelled by assuming that decrement rates will be 10% lower than our current best estimate. For Hong Kong business, no such group actions are assumed. This reflects the nature of the Hong Kong business, which is largely regular premium whole of life business with continuous surrender guarantees. The same assumptions are used in both the base valuation and the RCM.

**7. Financing costs**

Not applicable

**8. Other long-term insurance liabilities**

No liabilities are shown at line 46 of Form 19. Liabilities shown at line 47 of Form 19 are as follows:

<u>With- profits fund</u>	<u>Description</u>	<u>Amount</u> £m
WPSF	Tax payable from the inherited estate in respect of future shareholder transfers from the fund	401
	Pensions mis-selling liabilities	308
	Contingency reserve	200
	SACF capital support fees receivable from SAIF	(54)
	Capital support fees receivable from DCPSF	(38)
	Reserve for compensation in respect of complaints on mortgage endowment policies	20
	Other	91
SAIF	SACF capital support fees payable to the WPSF	54
	Reserve for compensation in respect of complaints on mortgage endowment policies	12
	Other	11
DCPSF	Charges payable to the WPSF	116

## 9. Realistic current liabilities

Regulatory current liabilities comprise two elements:

- (i) a provision for the capital gains tax (CGT) expected to be paid on unrealised investment gains, and
- (ii) other current liabilities, as reported within Form 14 lines 17 to 41.

The realistic current liabilities shown at line 51 of Form 19 are the same as the regulatory current liabilities, except that the realistic current liabilities include cash bonuses which had not been paid to policyholders prior to the end of the financial year (as shown at Form 14 line 12).

The reconciliation of realistic to regulatory current liabilities is shown below:

	<b>WPSF</b>	<b>SAIF</b>	<b>DCPSF</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Current liabilities (Form 14 line 49)	3,097	427	6
Unpaid cash bonus (Form 14 line 12)	8	-	-
Realistic current liabilities (Form 19 line 51)	3,105	427	6

## 10. Risk capital margin

- (a) The risk capital margin is £1,509m for the WPSF (plus the DCPSF) and zero for SAIF.

This has been calculated assuming:

- (i) a percentage change in market values, in accordance with INSPRU 1.3.68R, of 20.0% for equities and 12.5% for real estate. The assumed percentage changes for each significant territory were the same as for United Kingdom assets. A fall in market values is the more onerous.
- (ii) a change in the yields of United Kingdom fixed interest securities, in accordance with INSPRU 1.3.68R of 41 bps. For significant territories, the required change in yields is 41 bps for the United States and 34 bps for the member states of the European Union that have adopted the euro as their official currency ("Euroland"). A fall in yields is the more onerous. On materiality grounds, a fall of 41 bps has been applied for all currencies.

The assumed long-term gilt yields or nearest equivalent are shown below:

<b>Territory</b>	<b>Long-term gilt yield in base valuation</b>	<b>Long-term gilt yield in RCM</b>
	<b>%</b>	<b>%</b>
UK	2.32	1.91
USA	2.29	1.88
Euroland	1.81	1.40

(iii) in respect of credit risk, average changes in spreads and consequent changes in asset values as follows:

- for bonds, a credit stress in accordance with INSPRU 1.3.84R. The average increases in spreads and corresponding reductions in asset values for all bonds in each asset pool are shown below.

<b>Asset pool</b>	<b>Increase in spread bps</b>	<b>Fall in value %</b>
WPSF UK asset shares	117	7.3%
WPSF UK other assets	82	6.4%
WPSF HK asset shares	63	3.5%
WPSF HK other assets	57	3.2%
SAIF asset shares	106	6.5%
SAIF other assets	70	6.4%

- for debts, it is assumed that asset values fall in line with bonds as described above.
  - no allowance is made for reinsurance credit risk as the volume of reinsured with-profits business is immaterial.
  - no change is assumed for non-reinsurance financing agreements. These are not considered to present a significant credit risk.
  - for other debtors reported in lines 78 and 79 of Form 13, it is assumed that asset values fall in line with bonds as described above.
- (iv) the impact of the persistency risk scenario is equivalent to an increase in the realistic value of liabilities of 0.4% for the WPSF and 0.6% for SAIF.
- (v) that any change in asset values in (iii) is independent of the change in liability values in (iv).

(b) In the risk capital margin calculation the management actions assumed are the same as those set out in 6.(5)(a).

There are no changes to other assumptions.

(c) (i) The assets allocated to support the WPBR, FPRL and the reserve for unrealised capital gains reflect the actual mix of the assets backing these liabilities. Current assets are used to support current liabilities. The RCM is backed by surplus fixed interest assets and cash.

(ii) None of the assets held to cover the risk capital margin are outside the fund.

## 11. Tax

The treatment of tax is set out below.

- (i) The investment returns credited to the with-profits benefits reserves include an allowance for tax deducted during 2012 at the rates shown below. Further adjustments may be made from time to time to bring the tax charged to asset shares into line with the aggregate tax actually paid and expected to be paid in the future
- (ii) The future policy related liabilities include allowance for tax on future investment returns and tax relief on expenses at current rates of tax allowing for any likely deferral of tax on capital gains, as shown in the table below.
- (iii) The realistic current liabilities include the regulatory reserve for unrealised capital gains.

<b>TAX RATES</b>	<b>WPSF and SAIF †</b>
<b>Source</b>	<b>Tax Rate</b>
Franked Investment Income	0.0%
Unfranked Investment Income (fixed interest and cash)	20.0%
Unfranked Investment Income (property)	20.0%
Capital Gains	20.0%
Initial Expense Relief	15.0%
Renewal Expense Relief	20.0%
Shareholder Transfers (gross business)	29.9%
Shareholder Transfers (net business)	2.57%

† Tax is not applied to pensions or DCPSF business other than in respect of tax on shareholders' transfers from the WPSF.

## 12. Derivatives

The WPSF and SAIF held the following major positions in derivative contracts at the valuation date:

- Equity index and fixed income futures. Positions are used either to reflect tactical asset allocation (short term) views around the strategic (long term) benchmark, or as a partial hedge for the WPSF cost of guarantees.
- Equity index options, as a partial hedge for the WPSF cost of guarantees.
- Forward currency contracts and swaps, primarily to hedge currency risk arising from overseas asset exposures.
- Equity single stock options to increase the equity exposure of the convertible bond sub-fund.
- Fixed income derivatives positions to better match the liabilities.
- Total return swaps based on the IPD Annual All Property index to tactically adjust the fund's exposure to property.
- Index and single name credit default swaps to increase or decrease credit exposure.

**13. Analysis of change in working capital**

	<b>WPSF £m</b>	<b>SAIF £m</b>
Working capital as at 1 January 2012	6,055	-
Reversal of zeroisation for closed funds	-	251
Working capital at 1 January 2012 prior to zeroisation	6,055	251
New business	(199)	
Emerging experience:		
Claims (smoothing and guarantees)	198	0
Expenses	(80)	(6)
Investment return on asset shares	676	(46)
Investment return on other assets	574	132
Changes in valuation assumptions:		
Model enhancements	85	(41)
Changes in non-economic assumptions	(56)	(26)
Changes in economic assumptions	190	(2)
Change in contingency reserve	(200)	-
Non-profit business	(92)	-
Distribution of inherited estate	-	(65)
Other factors	14	(14)
Unattributed	(117)	7
Working capital at 31 December 2012 prior to zeroisation	7,048	190
Zeroisation for closed funds	-	(190)
Closing working capital	7,048	-

**14. Optional disclosure**

Not applicable



## Appendix 6: Values of Specified Assets

This appendix relates to paragraph 6(4)(a)(iii).

Asset type		K = 0.75			
n		5	15	25	35
	Annualised compound equivalent of the risk free rate assumed for the period	0.89%	2.58%	3.39%	3.73%
1	Risk-free zero coupon bond	956,709	682,065	434,671	277,274
2	FTSE All Share Index (p=1)	80,094	223,992	291,255	350,242
3	FTSE All Share Index (p=0.8)	77,606	192,880	220,404	238,617
4	Property (p=1)	31,367	106,810	175,665	238,187
5	Property (p=0.8)	29,779	84,210	119,610	145,650
6	15 year risk free zero coupon bonds (p=1)	4,841	8,264	10,515	18,236
7	15 year risk free zero coupon bonds (p=0.8)	4,343	3,427	1,855	1,535
8	15 year corporate bonds (p=1)	13,307	31,455	49,120	68,033
9	15 year corporate bonds (p=0.8)	12,357	20,025	21,320	23,027
10	Portfolio of 65% FTSE All Share and 35% property (p=1)	46,695	155,215	217,376	276,231
11	Portfolio of 65% FTSE All Share and 35% property (p=0.8)	44,743	128,628	155,569	176,208
12	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=1)	32,795	119,237	166,958	215,146
13	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=0.8)	31,159	95,598	112,108	126,132
14	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=1)	14,974	64,981	101,805	143,293
15	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=0.8)	13,921	47,576	58,588	71,528
		<b>L = 15</b>			
16	Receiver swaptions	17.44%	8.39%	5.63%	3.65%

Asset type		K = 1			
n		5	15	25	35
	Annualised compound equivalent of the risk free rate assumed for the period	0.89%	2.58%	3.39%	3.73%
1	Risk-free zero coupon bond	x	x	x	x
2	FTSE All Share Index (p=1)	203,665	384,049	464,530	533,019
3	FTSE All Share Index (p=0.8)	198,450	334,696	356,974	369,024
4	Property (p=1)	133,121	240,563	326,244	401,435
5	Property (p=0.8)	128,134	197,174	230,881	254,430
6	15 year risk free zero coupon bonds (p=1)	75,870	88,522	93,481	111,078
7	15 year risk free zero coupon bonds (p=0.8)	71,221	53,721	30,429	23,738
8	15 year corporate bonds (p=1)	97,699	132,806	159,092	186,873
9	15 year corporate bonds (p=0.8)	92,933	94,222	84,476	77,960
10	Portfolio of 65% FTSE All Share and 35% property (p=1)	157,624	300,740	376,630	445,496
11	Portfolio of 65% FTSE All Share and 35% property (p=0.8)	152,605	254,734	276,582	293,397
12	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=1)	135,759	255,597	314,711	372,338
13	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=0.8)	130,890	211,535	221,236	230,750
14	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=1)	102,852	185,035	234,779	288,055
15	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=0.8)	98,121	143,331	148,508	156,864
		<b>L = 20</b>			
16	Receiver swaptions	18.84%	9.53%	6.40%	4.15%

Asset type		K = 1.5			
n		5	15	25	35
	Annualised compound equivalent of the risk free rate assumed for the period	0.89%	2.58%	3.39%	3.73%
1	Risk-free zero coupon bond	x	x	x	x
2	FTSE All Share Index (p=1)	573,547	763,520	853,715	935,427
3	FTSE All Share Index (p=0.8)	562,404	675,445	671,582	661,636
4	Property (p=1)	524,451	612,499	700,585	785,435
5	Property (p=0.8)	512,389	523,033	521,499	521,738
6	15 year risk free zero coupon bonds (p=1)	501,991	505,641	505,222	510,933
7	15 year risk free zero coupon bonds (p=0.8)	489,021	399,879	294,080	220,671
8	15 year corporate bonds (p=1)	505,542	523,952	534,274	558,225
9	15 year corporate bonds (p=0.8)	492,896	425,314	345,471	294,261
10	Portfolio of 65% FTSE All Share and 35% property (p=1)	537,842	671,111	754,145	833,177
11	Portfolio of 65% FTSE All Share and 35% property (p=0.8)	526,203	583,129	575,514	567,403
12	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=1)	521,561	625,206	686,236	748,712
13	Portfolio of 65% FTSE All Share and 35% 15 risk free zero coupon bonds (p=0.8)	509,598	536,687	508,249	489,504
14	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=1)	506,952	563,281	607,583	662,582
15	Portfolio of 40% equity, 15% property, 22.5% 15 year risk free zero coupon bonds and 22.5% 15 year corporate bonds (p=0.8)	494,372	470,450	425,026	401,813
		<b>L = 25</b>			
16	Receiver swaptions	20.51%	10.52%	7.06%	4.58%

## Appendix 7: Initial reversionary bonus rates in stochastic valuation

This appendix relates to paragraph 6(5)(a)(i).

	RB rates
	%
<u>Life &amp; Pensions</u>	
PSA/PIB	2.0
Personal Pensions	2.0
OB assurances	1.2/2.5
IB assurances	1.1/2.3
PPRP	0.10/0.25
<u>Annuities</u>	
WPIA	0.25
Ex-ELAS	0.00
<u>Corporate</u>	
Unitised	2.25
DC Cash Accumulation	1.75 <sup>1</sup>
DB Cash Accumulation	1.25 <sup>1</sup>
AVC Cash Accumulation	1.75 <sup>1</sup>
Pension Savings Plan	1.25
<u>IFA</u>	
Prudence Bond	
- Standard	2.00
- High RB	2.75
Prudential Pensions	2.00
SAL Life	1.75
SAL Pensions	2.125
<u>SAIF</u>	
Principal Endowment	0.8/1.5
Flexipension (series 1)	0.25/0.5
Life	2.0
Pensions – Funds 3 & 4	2.0

<sup>1</sup> Subject to a guarantee of 4.75%, 2.50% for certain earlier business

Where two rates are shown, the first is the rate of RB added to the original sum assured and the second is the rate of RB added to existing RB.

## Appendix 8: Bonus Rates

The tables below show the Reversionary Bonus (RB) rates and the Terminal Bonus (TB) as a proportion of the Sum Assured. This appendix relates to paragraph 5(1)(d).

### OB Assurances

RB Rates				
	2012 Actual	2013	2014	Ultimate
RB on SA	1.20%	1.20%	1.20%	1.20%
RB on RB	2.50%	2.50%	2.50%	2.50%

TB as a proportion of Sum Assured					
Term	2012	2013	2014	2015	2016
10	21%	20%	17%	15%	13%
15	29%	31%	33%	32%	31%
20	38%	40%	41%	35%	33%
25	63%	64%	63%	56%	49%
30	66%	65%	47%	45%	45%

### PPRP Regular Premium

RB Rates				
	2012	2013	2014	Ultimate
RB on SA	0.25%	0.10%	0.10%	0.10%
RB on RB	0.50%	0.25%	0.25%	0.25%

TB as a proportion of Sum Assured					
Term	2012	2013	2014	2015	2016
10	17%	14%	13%	10%	9%
15	0%	0%	0%	0%	23%
20	0%	0%	0%	0%	0%
25	0%	0%	0%	0%	0%
30	0%	0%	0%	0%	0%

### PPRP Single Premium

RB Rates				
	2012	2013	2014	Ultimate
RB on SA	0.25%	0.10%	0.10%	0.10%
RB on RB	0.50%	0.25%	0.25%	0.25%

TB as a proportion of Sum Assured					
Term	2012	2013	2014	2015	2016
10	35%	30%	26%	19%	10%
15	0%	0%	2%	0%	35%
20	0%	3%	0%	0%	0%
25	0%	0%	0%	0%	0%
30	68%	47%	10%	2%	0%

### PP Regular Premium

RB Rates				
	2012 Actual	2013	2014	Ultimate
RB rate	2.50%	2.00%	2.00%	2.00%

TB as a proportion of Sum Assured					
Term	2012	2013	2014	2015	2016
10	12%	12%	12%	10%	11%
15	15%	17%	17%	16%	18%

## Appendix 9: Forward Rates

The table below shows the instantaneous risk-free forward rates used to calibrate the nominal interest rate model. This appendix relates to paragraph 6(4)(a)(ii).

Year	Sterling		US Dollar		Hong Kong Dollar	
	31 Dec 2012 %	31 Dec 2011 %	31 Dec 2012 %	31 Dec 2011 %	31 Dec 2012 %	31 Dec 2011 %
0	0.47	0.49	0.00	0.00	0.01	0.21
1	0.19	0.21	0.17	0.22	0.18	0.29
2	0.47	0.49	0.48	0.48	0.19	0.62
3	1.01	1.14	0.77	0.77	0.44	1.19
4	1.55	1.79	1.29	1.53	0.57	1.61
5	2.02	2.35	1.72	2.19	0.59	1.79
6	2.43	2.80	2.43	2.63	0.74	1.94
7	2.78	3.15	2.75	2.90	0.88	2.01
8	3.06	3.42	3.09	3.04	1.00	2.02
9	3.30	3.60	3.52	3.15	1.09	1.98
10	3.51	3.73	3.73	3.28	1.15	1.90
11	3.68	3.82	3.92	3.41	1.18	1.78
12	3.84	3.89	4.06	3.51	1.22	1.67
13	3.98	3.94	4.18	3.57	1.25	1.56
14	4.11	3.98	4.26	3.62	1.30	1.49
15	4.23	4.02	4.31	3.64	1.35	1.45
16	4.33	4.05	4.34	3.64	1.35	1.45
17	4.42	4.07	4.34	3.62	1.35	1.45
18	4.49	4.09	4.33	3.59	1.35	1.45
19	4.54	4.09	4.30	3.54	1.35	1.45
20	4.57	4.09	4.26	3.49	1.35	1.45
21	4.59	4.07	4.21	3.43	1.35	1.45
22	4.58	4.04	4.16	3.36	1.35	1.45
23	4.57	4.00	4.10	3.30	1.35	1.45
24	4.53	3.96	4.05	3.23	1.35	1.45
25	4.49	3.91	4.00	3.17	1.35	1.45
26	4.49	3.91	3.96	3.12	1.35	1.45
27	4.49	3.91	3.93	3.07	1.35	1.45
28	4.49	3.91	3.92	3.04	1.35	1.45
29	4.49	3.91	3.93	3.02	1.35	1.45
30	4.49	3.91	3.95	3.02	1.35	1.45
31	4.49	3.91	3.95	3.02	1.35	1.45
32	4.49	3.91	3.95	3.02	1.35	1.45
33	4.49	3.91	3.95	3.02	1.35	1.45
34	4.49	3.91	3.95	3.02	1.35	1.45
35	4.49	3.91	3.95	3.02	1.35	1.45
36	4.49	3.91	3.95	3.02	1.35	1.45
37	4.49	3.91	3.95	3.02	1.35	1.45
38	4.49	3.91	3.95	3.02	1.35	1.45
39	4.49	3.91	3.95	3.02	1.35	1.45
40	4.49	3.91	3.95	3.02	1.35	1.45

## Appendix 10: Equity Volatility Surface

The table below shows the UK, HK and US equity volatilities obtained for the GeneSIS asset model calibration. This appendix relates to paragraph 6(4)(a)(ii).

### UK Calibration

<b>Year</b>	<b>100% at the money</b>	<b>90% at the money</b>	<b>80% at the money</b>	<b>Average moneyness</b>
1	17.57%	20.40%	23.10%	20.40%
2	19.37%	21.25%	23.04%	21.25%
3	20.54%	22.01%	23.47%	22.01%
4	21.13%	22.39%	23.64%	22.39%
5	21.53%	22.64%	23.73%	22.64%
6	22.12%	23.10%	24.03%	23.10%
7	22.54%	23.43%	24.24%	23.43%
8	23.54%	24.24%	24.89%	24.24%
9	24.29%	24.86%	25.38%	24.86%
10	24.88%	25.34%	25.77%	25.34%

### Hong Kong dollar calibration

<b>Year</b>	<b>80% at the money</b>	<b>70% at the money</b>	<b>Average moneyness</b>
1	22.25%	24.18%	23.79%
2	22.52%	24.09%	23.77%
3	22.63%	23.88%	23.63%
4	22.64%	23.74%	23.52%
5	22.60%	23.61%	23.41%
6	22.81%	23.79%	23.59%
7	22.96%	23.92%	23.72%
8	22.94%	23.92%	23.72%
9	22.93%	23.92%	23.72%
10	22.92%	23.92%	23.72%

### US dollar calibration

<b>Year</b>	<b>80% at the money</b>	<b>70% at the money</b>	<b>Average moneyness</b>
1	24.59%	27.38%	27.38%
2	24.53%	26.61%	26.61%
3	25.03%	26.83%	26.83%
4	25.27%	26.98%	26.98%
5	25.34%	27.00%	27.00%
6	25.73%	27.27%	27.27%
7	26.01%	27.46%	27.46%
8	26.03%	27.43%	27.43%
9	26.05%	27.41%	27.41%
10	26.06%	27.40%	27.40%

## Appendix 11: Equity Volatility Term Structure

The table below shows the final term structure for UK, Hong Kong dollar and US dollar equity volatilities used in the GeneSIS asset model calibrations.

This appendix relates to paragraph 6(4)(a)(ii).

Year	Equity volatilities (%)					
	UK Domestic	UK Overseas	HK dollar Domestic	HK dollar Overseas	US dollar Domestic	US dollar Overseas
0	20.40	18.36	23.79	17.13	27.33	24.59
1	20.40	18.36	23.79	17.13	27.33	24.59
2	22.82	20.54	23.73	17.09	24.89	22.40
3	24.12	21.71	23.20	16.70	27.17	24.45
4	23.83	21.45	23.09	16.63	27.19	24.47
5	23.84	21.45	22.88	16.47	26.58	23.92
6	25.70	23.13	24.65	17.75	28.22	25.40
7	25.58	23.03	24.60	17.71	28.05	25.25
8	30.00	27.00	23.69	17.06	26.44	23.79
9	29.84	26.85	23.69	17.06	26.34	23.71
10	29.73	26.75	23.69	17.06	26.24	23.62
11	27.78	25.00	23.96	17.25	24.99	22.50
12	25.84	23.25	24.22	17.44	23.75	21.37
13	23.89	21.50	24.48	17.62	22.50	20.25
14	21.95	19.75	24.74	17.81	21.25	19.12
15	20.00	18.00	25.00	18.00	20.00	18.00
16	20.00	18.00	25.00	18.00	20.00	18.00
17	20.00	18.00	25.00	18.00	20.00	18.00
18	20.00	18.00	25.00	18.00	20.00	18.00
19	20.00	18.00	25.00	18.00	20.00	18.00
20	20.00	18.00	25.00	18.00	20.00	18.00