

## **TATA AIA LIFE INSURANCE COMPANY LIMITED**

### **L-42 -Valuation Bases as on December 31, 2014**

#### **How the policy data needed for valuation is accessed**

The company employs several systems for its individual business, group life business, credit life business, pension business and for accounting. The systems are, in general, accurate and reliable and produce reports and data that can be relied upon for financial reporting purposes.

For individual life business, data is extracted from each of the systems in a clearly defined manner in order to remove data that is not relevant to the calculation (e.g. address of policyholder since we do not have assumptions varying by area). The data is then validated for accuracy.

#### **How the valuation bases are supplied to the system**

Then a conversion to Prophet friendly format takes place using the Data Conversion System (DCS). Prophet is the main valuation software and system that is used to calculate actuarial liabilities. It has a valuation workspace that is locked and can only be changed by designated personnel. Prophet is used as the product-pricing tool as well. This acts as a reasonable check for the valuation module. The final results are checked for reasonableness

#### **Individual Life Business**

##### *Participating Business*

The actuarial assumptions used to value the policy liabilities vary, depending on the type of product being valued.

Individual life participating business is valued by the prescribed Gross Premium Valuation (GPV) Method. The assumptions used for the valuation reflect the expected future experience in respect of various parameters including mortality/morbidity, interest, expenses, and incorporate a margin for prudence.

The valuation interest rate used is 6.25%.

The mortality assumption ranges from 56% to 180% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified Ultimate) table, depending on the type of product. Morbidity rates range from 406.25% to 656.25% of the prescribed morbidity table CIBT93.

The future simple and compound reversionary bonus rates assumed vary from 2.32% to 5.47% of sum assured and attaching bonuses as applicable and future terminal bonuses assumed vary from 25% - 73% of reversionary bonuses for certain plans and for other plans are 99% - 162% of sum assured.

The future cash dividend scales assumed vary from 2.51 to 32 per thousand of the sum assured.

Premium related expenses are assumed to be 1.56% to 1.572% of premium and per policy expenses range from Rs. 207.88 to Rs. 586.80. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

Policyholders' reasonable expectations have been allowed for by way of provision for future bonuses and dividends consistent with the assumed experience in the valuation basis.

Taxation has been assumed at 12.5% plus 10% surcharge and 3% cess (i.e. 14.1625%) and shareholder transfers equal to one-ninth of the cost of bonus.

Provision for IBNR has been made based on 4 months of claims.

#### *Non-Participating Business*

The actuarial assumptions used to value the policy liabilities vary, depending on the type of product being valued.

Individual life non-participating business is valued by the prescribed Gross Premium Valuation (GPV) Method.

The valuation interest rate used is 5.75%.

The mortality assumption ranges from 29.76% to 240% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified Ultimate) table, depending on the type of product.

Premium related expenses are assumed at 1.58% to 1.91% and per policy expenses range from Rs. 111.98 to Rs.586.8. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

Provision for IBNR has been made based on 4 months of claims.

### *Annuities – Participating Business*

Not applicable

### *Annuities – Non-Participating Business*

Individual annuity non-participating business is valued by the prescribed Gross Premium Valuation (GPV) Method.

The valuation interest rate used is 7.53%.

The mortality assumption is 156% of the prescribed mortality table i.e. the LIC (96-98) Annuitant table.

Per policy expenses are assumed to be Rs. 111.98. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

### *Annuities – Individual Pension*

Individual pension is valued by the prescribed Gross Premium Valuation (GPV) Method.

The valuation interest rate used is 6.25%.

The mortality assumption ranges from 84% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified Ultimate) table, depending on the type of product. Morbidity rates are assumed to be 237.5% of the prescribed morbidity table CIBT93.

The future compound reversionary bonus rates assumed vary from 2.97% to 5.18% of sum assured and attaching bonuses and future terminal bonuses assumed vary from 28% to 30% of reversionary bonuses.

Premium related expenses are assumed to be 1.56% of premium and per policy expenses range from Rs. 207.88 to Rs. 286.73. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

Policyholders' reasonable expectations have been allowed for by way of provision for future bonuses and dividends consistent with the assumed experience in the valuation basis.

Shareholder transfers equal to one-ninth of the cost of bonus.

Provision for IBNR has been made based on 4 months of claims.

### *Unit-Linked Business*

For Individual life unit-linked business, the total reserve is the sum of two components i.e. unit reserve and non-unit reserve. Unit reserves are set, based on the number of units and the unit prices as at December 31, 2014. The non-unit reserves are set using a prospective method, that requires projection of future cash flows, that allow for items including premiums, death benefits (over and above the value of units), fund management and other charges. Charges assumed are as per the contract provisions.

The unit-growth rate assumed for the projections depend on the type of unit fund/s chosen for each policy and vary from 5.74% to 11.95%. The valuation interest rate for discounting the cash flows is 5.75%.

The mortality rates range from 84% to 120% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified ultimate) table, depending on type of product. The morbidity rates used are 187.5% of the prescribed morbidity table CIBT93 for some products and 125% of the pricing basis for others were applicable.

Premium related expenses are assumed to range from 1.86% and per policy expenses are assumed to range from Rs. 221.91 to Rs.306.08. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

Provision for IBNR has been made based on 4 months of expected claims strain.

### *Health Business*

The actuarial assumptions used to value the policy liabilities vary depending on the type of product being valued.

The Unearned Premium Reserve (UPR) method to value renewable contracts and the GPV method for other contracts. For GPV contracts the details are given below.

The valuation interest rate used is 5.75%.

The mortality assumption ranges from 180% to 204% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified ultimate) table, depending on type of product. The morbidity rate is 187.5% of the prescribed morbidity table

CIBT93 for one product while it is taken at a 125% of the pricing basis for another product.

Premium related expenses is 1.61% and per policy expenses range from Rs. 202.74 to Rs. 279.64. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

Provision for IBNR has been made based on 4 months of claims.

### *Rider Benefits*

The actuarial assumptions used to value the rider liabilities vary depending on the type of rider being valued.

Riders are valued at higher of GPV and Unearned Premium Reserve (UPR). For GPV the details are given below.

The valuation interest rate used is 5.75%.

The mortality assumption for riders follows those of base plans, which ranges from 37.44% to 240% of the prescribed mortality table i.e. the Indian Assured Lives Mortality (2006-08) (Modified ultimate) table, depending on type of product. The morbidity rate ranges from 77.5% to 437.5% of the prescribed morbidity table CIBT93.

Premium related expenses are 24% and annuity payment expenses range from Rs. 192 to Rs. 2166. Further, to allow for inflation, per policy expenses are assumed to increase each year at a rate of 5.25% per annum over the term of the policy.

### **Group Business**

The group business is valued using the Unearned Premium Reserve (UPR) basis.

### **Key Changes in the Valuation Basis**

None