# ICICI Prudential Life Insurance Company Ltd. 

## L-42- Valuation Basis

## Data

For the purpose of valuation, policy data was downloaded from LifeAsia (for individual policies) and Ashima (for group policies), which is our policy administration system, after new business processing was completed for the year ended March 31, 2008 and all the movements were updated for the year ending March 31, 2008.

## Treatment of Valuation Parameters

The liability valuation calculations have been carried out using actuarial software called "Prophet". The assumptions for each plan are fed manually into a spreadsheet. This is independently checked. After this verification, a DCS (Data Conversion System) Program is used to make a "Prophet" readable table from the spreadsheet. Uploading of assumption into "Prophet" is therefore automated. Monthly cash flows are then projected by Prophet to determine the reserves using the specific characteristics of each policy such as age at entry, sum assured, term, etc. The calculations are exact and no approximations are made.

The valuation parameters were calculated as mentioned below.

- Age at Entry was taken as age nearer birthday at the commencement of date of policy. This extracted from LifeAsia.
- Valuation Age was calculated by summing Age nearer birthday at entry with curtate duration, i.e. the age would change only on policy anniversaries.
- Premium Paying Term under the plan is extracted from Life Asia.
- Maturity Date is obtained by summing up the date of commencement and policy term extracted from LifeAsia.
- Period from Valuation date to maturity is calculated in prophet as the difference between the maturity date and the valuation date


## Treatment of Future Premiums

Incident of premiums income
The premiums are assumed to be received when due.
For linked business, premium income is recognised when the associated units are allocated. Fees on linked policies are recognised when due. For the purpose of projections in the actuarial models, future premiums are assumed to be received when due.

## Premiums payable otherwise than annually

As premiums are taken to be received when due, no adjustment is required for nonannual plans.

## Valuation method (Non Linked business)

The valuation methods are described below.

Methods adopted in the determination of mathematical reserves
The prescribed method of valuation is the Gross Premium Valuation. The reserve held represents the net present value of benefits and expenses less premiums. Following is the broad basis of the valuation.

- The cash flows are projected assuming zero lapses.
- The reserves are calculated on a per policy basis.
- Any negative reserves are zeroised, so that they are not treated as an asset.
- The minimum value of reserves is the Surrender Value if applicable or zero. Valuation parameters are set prudently and include MAD in accordance to GN7.
The tables below summarise the specific methods used to value liabilities under each type of product.

| Contract Status | Category | Applicability | Method |
| :---: | :---: | :---: | :---: |
| In Force | Individual Products <br> Group Products | Base Plan <br> Riders - Excluding <br> Accident Benefit <br> Riders <br> Riders - Accident Benefit Riders <br> All group risk products and riders | Higher of the Gross Premium Reserve or Surrender Value (if applicable) or zero <br> Higher of Gross Premium Reserve and Unearned Premium Reserve <br> Unearned Premium Reserve <br> Higher of Gross Premium Reserve or Surrender Value for Mortgage and Auto Loans dependent term assurances and Unearned Premium Reserve for others |
| Reduced Paid up | Individual Products | Base Plan | Gross Premium Reserve on reduced benefit with no future premiums payable |
| Lapsed $\quad /$ Reduced up | Individual Products | Lapse <br> Reinstatement Reserve | Reinstatement rate is applied to the difference between the reserve assuming contract is in force and the outstanding premiums |

## Participating Business

For participating business, the methods applicable are the same as above but with allowance for future bonus and associated tax and transfers to shareholders funds.

For participating plans, the liability is set to prospective Bonus Reserve Valuation (BRV). But the BRV is equated to the Asset Share by solving for supportable bonus. The guaranteed part of the reserve is increased to exhaust the asset share by changing the bonus rate at a per product level. Thus the reserve includes a provision for future bonuses at a rate consistent with the valuation rate of interest along with a provision for associated tax and transfer to shareholders. These bonus rates are set keeping in mind the PRE.

Bonus rates for each product

| Year | Product | Rate <br> YE08 | Rate <br> YE07 |
| :--- | :---: | :--- | :--- |
| $2007-08$ | All | $3.00 \%$ | $3.00 \%$ |

## Policyholder Reasonable Expectations (PRE)

Due consideration must be given to the reasonable expectations of policyholders when making a distribution of surplus. "Reasonable" is not explicitly defined in the regulations and is left to the interpretation of the Appointed Actuary. Our interpretation of "Reasonable" refers to a wellinformed, financially literate policyholder.

PRE can be formed with respect to many areas including the following.

- Nature of Bonus
- Reversionary (added each year) vs. Terminal (added only on claim)
- Type of Reversionary bonus
- Simple vs. compound vs. super compound
- Level of bonus
- Level of guarantees implicit in the declaration

The main drivers of PRE are currently our point of sale material, the level of guaranteed addition rates, the bonus rates declared last year and past communication with policyholders. We interpret our point of sale material as having created the expectation that bonuses would be compound reversionary.

PRE ultimately needs to be set to the principle that each customer should receive a fair return on the premiums he has paid, allowing for the insurance protection and guarantees provided over the duration of his policy. The basic reference point for this, and therefore PRE, will be the asset share under the policy.

Policyholders enjoy the benefits and protection of both guarantees and smoothing for which they may be charged appropriately. However, the Company will not seek to make any systematic profit through these charges over generations of policies.

PRE will be shaped and actively managed through appropriate communication to the policyholder. The tools that will be used for this purpose are Sales Brochures, Policy Illustrations and annual communications of bonus rates.

Early duration surrender benefits will be established at a level that enables the Company to recover the cost of acquisition and capital support provided subject to the minimum surrender values written into the contracts.

## Tax rate

Tax is provided on surplus emerging under participating life products. The current rate of tax is $14.1625 \%$, which is a base rate of $12.50 \%$, a surcharge of $10 \%$ and education cess of $3 \%$.

## Valuation Method - Linked Business

The valuation methods are described below.

Methods adopted in the determination of mathematical reserves
For linked business, unit liabilities are fully matched. A non-unit reserve is also held which includes provision for the cost of any guarantee.

Further details are mentioned below.
Non Participating Unit Linked Business

| Contract <br> Status | Category | Applicability | Method |
| :--- | :--- | :--- | :--- |
| In Force | Unit <br> Reserves | Unit Fund | The unit reserve is number of <br> units held by the policyholder <br> multiplied by the NAV at the <br> valuation date. |
| Non-unit <br> Reserves <br> Raid up <br> Lapsed <br> Premium <br> Holiday | Life Cover, Rider <br> Benefits and <br> Adequacy of charges <br> to cover expenses | Higher of the unearned risk <br> benefit charges and the <br> projected cash flows under all <br> contracts |  |


|  |  |  |  |
| :--- | :--- | :--- | :--- |
|  | Non-unit <br> Reserves | Life Cover and Rider <br> Benefits and <br> adequacy of charges <br> to cover expenses | Where benefit continues by <br> cancellation of units, higher of <br> the unearned risk benefit <br> charges and the projected cash <br> flows |
|  | Reinstatement <br> Reserve | Reinstatement rate is applied to <br> the difference between the <br> reserve assuming contract is in <br> force and the outstanding <br> premiums. |  |

## Valuation Assumption

## Interest Rate

The valuation rate has been increased to reflect current market yields. The MADs across various lines of business have been aligned at $1.65 \%$. The MAD for non par annuity business (being single premium business) is set at $1.25 \%$ due to a relatively lower reinvestment risk.
The valuation rate of interest has been set with reference to the YTM on the current investment portfolio under the relevant fund as well as the expected new money rate derived by weighting various asset class returns according to the strategic asset allocation of each fund. It was ensured that the valuation rate is lower than the book value return.

## Inflation

We allow for inflation of renewal expenses and per policy claim related expenses in the liability provision. The key considerations in setting this assumption are the levels of salary inflation and the expected inflation on other expenses and consistency with the investment return assumption.
To maintain consistency with the valuation rate of interest, the assumption has been set at $5.5 \%$ as for the last year.

Valuation Interest rate by product

| Plan |  | 2007-08 | 2006-07 |
| :---: | :---: | :---: | :---: |
| Participating Life <br> Save 'n' Protect I \& II <br> CashBak I \& II <br> SmartKid I \& II <br> Save ' $n$ ' Protect Mass |  | 7.90\% | 7.65\% |
| Participating Pension ForeverLife I, II, III \& IV ForeverLife - SP |  | 7.85\% | 7.55\% |
| Non Participating Life and Health <br> LifeGuard I (ROP) <br> LifeGuard II (ROP) <br> LifeGuard I (WOP) <br> LifeGuard II (WOP) <br> LifeGuard I (SP) <br> LifeGuard II (SP) <br> Easy Life (DM) (WOP) <br> Mitr <br> Suraksha (RP) <br> Suraksha (SP) <br> Suraksha Kavach (SP) <br> Home Assure (SP) <br> Credit Assure (SP) <br> Health Assure Plus <br> Diabetes Care Plus <br> Crisis Cover <br> Health Assure <br> Diabetes Care <br> Cancer Care <br> Cancer Care Plus <br> Hospital Care <br> Diabetes Assure <br> Suraksha Kavach (group) |  | 6.65\% | 6.40\% |
| Non Participating Annuity Immediate Annuity |  | 7.00\% | 7.25\% |
| Non Participating Investment |  |  |  |
| Plan <br> Assure Invest I <br> Assure Invest II | Term 5 7 10 5 | $\begin{array}{\|l} 7.95 \% \\ 8.50 \% \\ 9.00 \% \\ 7.35 \% \end{array}$ | $\begin{aligned} & 7.95 \% \\ & 8.50 \% \\ & 9.00 \% \\ & 7.35 \% \end{aligned}$ |



Mortality Rate by product



| Plan | As a \% of LIC 9496 for ages | Rate | Male / Female |
| :---: | :---: | :---: | :---: |
|  | 30-34 | 679\% | 550\% |
|  | 35-39 | 617\% | 386\% |
|  | 40-44 | 533\% | 365\% |
|  | 45-49 | 446\% | 286\% |
|  | 50-54 | 403\% | 269\% |
|  | 55-59 | 394\% | 281\% |
|  | 60-64 | 355\% | 257\% |
|  | 65-69 | 307\% | 254\% |
|  | 70-74 | 266\% | 235\% |
|  | 75-79 | 235\% | 190\% |
|  | 80-84 | 185\% | 156\% |
|  | 85+ | 197\% | 180\% |
| Non-Par Investment |  |  |  |
| Assure Invest I, II, III, IV, V \& VI | All Ages | 80\% | +1 year male <br> /-1 year female |
| ReAssure I, II, III, IV \& V |  |  |  |
| Single Premium Bond |  |  |  |
| $\qquad$ |  |  |  |
| Non-Par Group |  |  |  |
| Home Assure | All Ages | 80\% | +1 year male |
| Credit Assure |  |  | /-1 year female |
| 4 Wheeler (RC) |  | 90\% |  |
| 2 Wheeler (LC) |  | 110\% |  |
| $\begin{array}{ll} \hline \text { Personal } & \text { Loan } \\ \text { (LC \& RC) } \end{array}$ |  | 135\% |  |
| Education Loan (LC) |  | 100\% |  |
| Riders |  |  |  |
| Accident Disability Benefit | All Ages | Unearned Premium Basis |  |
| Accident Benefit | All Ages | Unearned Premium Basis |  |
| Critical Illness (Accelerated) | All Ages | Unearned Premium Basis |  |
| Income Benefit | All Ages | 80\% | +1 year male /-1 year female |
| Major Surgical Assistance |  |  |  |
| Level Term |  |  |  |


| Plan | As a \% of LIC 94- <br> 96 for ages | Rate | Male / Female |
| :--- | :--- | :--- | :--- |
| Critical Illness <br> (Standalone) |  |  |  |
| Diabetes Benefit <br> Rider | All Ages | $70 \%$ | +1 year male <br> $/-1$ year female |

## Expense Assumption

The renewal expense assumptions (before allowing for inflation) are summarised below.

|  | $2006-2007$ | $2007-2008$ |
| :--- | ---: | ---: |
| All linked and Conventional <br> Regular Premium | 550 | 650 |
| Conventional Single Premium and <br> Paid Ups | 290 |  |

Besides the above, we have a claim and screening related expense in the following products before allowing for inflation.

| Products | Claim expense per policy <br> (Rs.) | Screening expense per policy <br> (Rs.) |
| :--- | :---: | :---: |
| Cancer Care | 5,000 |  |
| Cancer Care Plus | 5,000 |  |
| Crisis Cover | 3,000 |  |
| Diabetes Care | 1,500 | 300 quarterly and 2100 annually |
| Diabetes Care Plus | 1,500 | 300 quarterly and 2100 annually |
| Diabetes Assure | 1,500 |  |
|  |  |  |
| Health Assure | 3,000 |  |
| Health Assure Plus | 3,000 |  |
| Hospital Care | 135 p.a. |  |
| SurakshaKavach (SP) | 25 |  |

