

**Aravind Venugopalan, Associate of SOA,
Senior Consultant, Genpact, India**

Evolving Frontiers, Exciting Prospects

16th Global Conference of Actuaries & 2014 AGFA

17th – 18th Feb, 2014 Mumbai - India

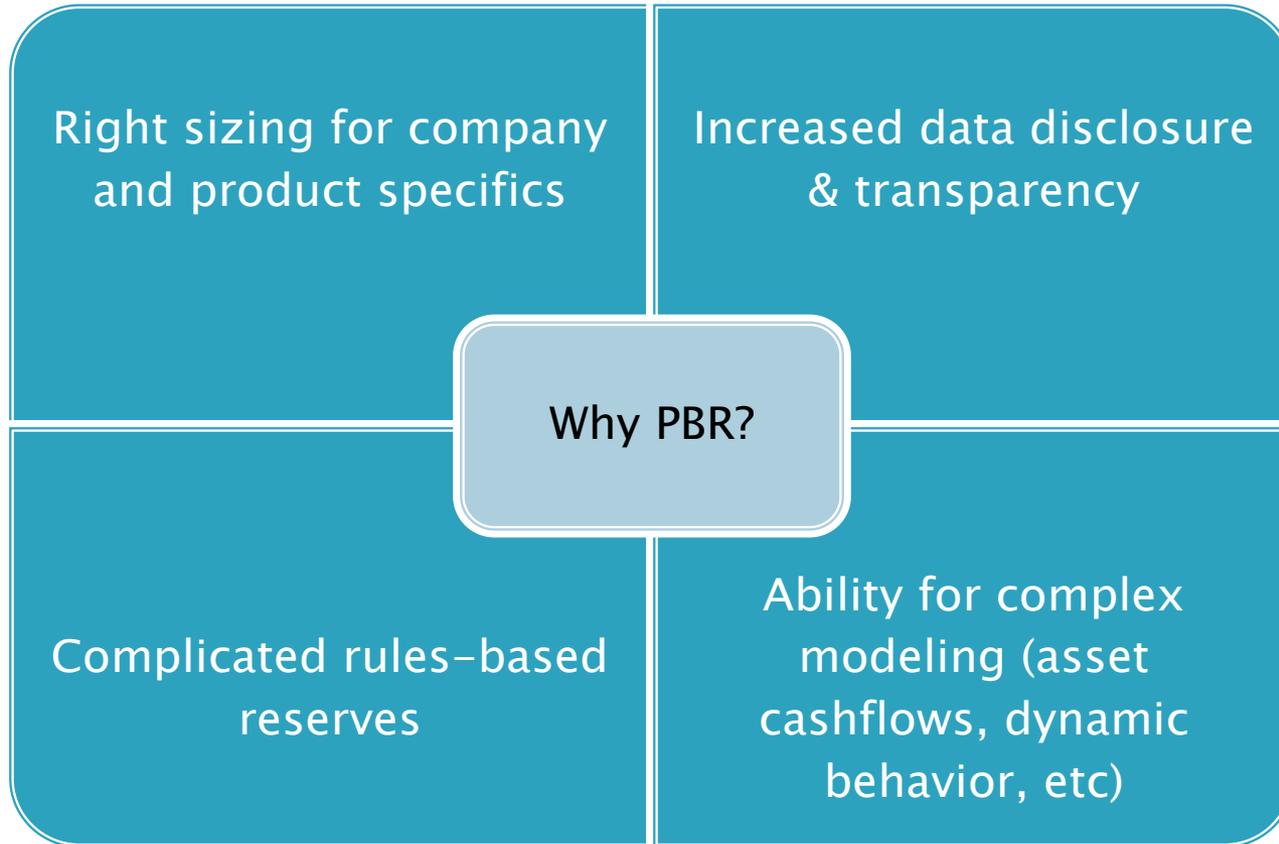
Common US Life products and terminology

- ▶ Term
- ▶ Whole Life
- ▶ Universal Life – Variable Life
- ▶ Variable Universal Life (VUL) – Unit Linked Life
- ▶ Universal Life with Secondary Guarantee (ULSG) – a type of UL, which assures coverage even when account value is zero (based on some more lenient charges)
- ▶ NAIC – the regulator

What kind of stat reserving is done in the US for Life Insurance?

- ▶ Net premium reserves also called CRVM
- ▶ Expense allowance (Zillmerisation)
- ▶ Generally uses formulas
- ▶ Rules-based
- ▶ Additional requirements for non-level premium Term
- ▶ Additional requirements for ULSG products

Why principles based reserves?



Timeline of implementation

Passed by the US regulator (NAIC) in December 2012



Implementing legislation needs to be passed by at least 75% of states by number and by premium levels



Earliest date of implementation on new policies: 1st Jan after the first 1 July when the law is passed



Latest date of implementation on new policies: 3 years from earliest date

Structure of the manual

- ▶ Maximum of Net premium reserves (NPR), deterministic reserves(DR) and stochastic reserves(SR)
- ▶ SR required only for VUL and ULSG which fail the stochastic reserve exclusion test (SRET)
- ▶ DR is required for products which fail the deterministic reserves exclusion test (DRET) and for ULSG
- ▶ Some assumptions in the Valuation Manual are prescribed

Net premium reserves

- ❖ The methodology and assumptions of NPR are prescribed and not open to actuarial judgment.
- ❖ Acts as a regulator set floor for reserves
- ❖ Assumptions varying widely with product features and economic environment
- ❖ At present only Term and ULSG products will use the new reserves. Other products will use the existing NPR methodology as of now.

Assumptions for deterministic reserves

- ▶ Gross premium reserves based on cashflows
- ▶ Best estimate + PAD for all assumptions
- ▶ Discount rate does not reflect product-specific risks
- ▶ Mortality PAD to be determined using credibility theory
- ▶ No mortality improvement/expense improvement

Assumptions for stochastic reserves

- ▶ Which assumption is Stochastic? Only Interest rate/equity needs to be.
- ▶ Other assumptions – as in deterministic reserve
- ▶ Dynamic Policyholder behavior
- ▶ Asset assumptions
- ▶ CTE (70%)

Exclusion tests

- ▶ Why exclusion tests? – Save time/effort
- ▶ What do they measure? – interest rate/equity sensitivity, NP sufficiently below GP
- ▶ How do they measure this?
- ▶ What happens if the test is passed? – No need to calculate SR and DR

Impact Study results

- ▶ Results as of 2011, submitted to Towers Watson and Milliman for analysis
- ▶ Most ULSG products failed the exclusion tests
- ▶ Change shows mixed trend
- ▶ Most Term products passed both exclusion tests
- ▶ Term products reduced reserves considerably
- ▶ Effectiveness of exclusion tests

Thank you – Questions?