FINANCIAL REPORTING FOR LIFE INSURANCE BUSINESS

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February 2004
PRESENTATION LAYOUT

- Fair value reporting
  - Recent developments
  - Country level changes
- Shareholders’ perspective
  - Financial reporting
  - Recent developments
- Risk management and financial reporting
  - Regulatory perspective
  - Overview of different jurisdictions
- Issues for India
Fair value reporting:
Recent developments
Developments under Fair Value Reporting

- Change from International Accounting Standards (IAS) to International Financial Reporting Standards (IFRS)
- International Accounting Standards Board (IASB) published Phase I Exposure Draft (ED 5) on insurance contracts in July 2003
  - First stage of the move to IFRS for insurers
  - Phase II Final standard expected in 2004
- Timelines for IFRS for insurers
  - First IFRS Balance Sheet on Phase II - 2005
  - Fair value disclosure: investment contracts - 2006
  - Fair value disclosure: insurance contracts - 2007
Developments under Fair Value Reporting

• Classification of insurance contracts and investment contracts
  – Distinction between insurance risk and financial risk
  – Insurance contracts – life and annuity business
    • Requires insurance risk to be significant
  – Investment contracts – savings, pension & investment plans
    • Legal form of insurance but no significant insurance risk
  – Service contracts (?) covered under IAS 18

• Need to examine terms and characteristics of contracts for classification
  – Also assess whether contract unbundled or contains embedded derivatives
Developments under Fair Value Reporting

• Phase I : ED5
  • certain exemptions for insurance companies until 2007
  • Existing accounting procedures to continue for business meeting insurance contract definition;
  • acquisition costs can be deferred
  • Catastrophe and equalization reserves will not be recognized
  • reinsurance contracts treated in the same way as direct business but to be shown separately
  • Investment contracts have minimum liability test on guaranteed amount
  • Fund for future appropriations to be treated as a liability, equity or split between the two
Developments under Fair Value Reporting

- Phase I: ED5
  - IAS 39
  - Applies to investment contracts
    - Choice at the outset to measure financial liabilities at amortized cost or at fair value
    - Premiums to be treated as deposit and not as revenue
    - Significant change in apparent revenue
    - Considerable system implications
  - Fair value liability based on best estimate of future cash flows
    - Taking lapses into account
    - Not clear whether cash surrender value will apply as minimum fair value liability
  - Implementation represents major challenge to insurers
  - Assets backing insurance contracts a/ced under IAS39 at fair value
Developments under Fair Value Reporting

- Enhanced disclosure
  - On risks and procedures in place for mitigation including:
    - Factors affecting year on year movement in liabilities
    - Exposure to insurance and financial risks incl. concentration of risk
    - Sensitivity analyses to show impact of different risk scenarios
    - Asset, liability and risk management procedures
  - Disclosure of fair value of assets and liabilities required in 2006
    - But “fair value” not yet defined for insurance contracts!
Fair value reporting: Country level changes
Country level changes in practices

• From 2005, all EU listed insurance companies will report under IFRS
  – EU reviewing supervision of insurance business under Solvency II Project (implementation by 2008 ?)

• Japan: expected to converge with IFRS
  – Areas of disagreement subject to discussions and building of consensus

• USA: IASB and FASB announced convergence agreement in October 2002
  – SEC expected to accept IFRS statements without US GAAP reconciliation only when IFRS convergence is well advanced
Country level changes in practices - UK

- UK
  - Major changes in the way UK life insurers will be regulated by Financial Services Authority (FSA) - effective from 2004
  - Overhaul in the framework for calculation of regulatory capital
    - particularly with profits fund
  - Pillar One and Pillar Two capital requirements
    - Pillar One based on dual valuation assessment – Twin Peak approach
    - Pillar Two (Individual Capital Assessment (ICA)) to be disclosed privately to FSA
Country level changes in practices - UK

- New regulatory regime for life companies
  - Depending on with profits or non profits firm
  - With profits firm
    - Realistic basis reserve calculations compulsory for firms with WP liabilities > 500 m GBP (dual assessment based on regulatory peak and realistic peak)
    - Firms with < 500 m GBP can opt between statutory basis only and dual basis
      - Realistic peak to identify additional capital requirement
  - Non Profit Firms
    - Required to report only under statutory basis
  - ICA applies to all companies
Country level changes in practices - UK

- **Regulatory Peak**
  - Compares admissible assets with sum of mathematical reserves, resilience capital and long term insurance capital (present min, margin) requirement
  - Mathematical reserves can be calculated using gross premium method; allowance for future discretionary benefits no longer required and will be covered by realistic valuation
  - Prudent allowance for voluntary discontinuance permitted
  - Resilience reserve is a capital requirement and not reserve
Country level changes in practices - UK

- **Realistic Peak**
  - Compares assets, including some inadmissibles, with realistic liabilities plus a risk capital margin

- **ICA**
  - Effective from 2005 (Results of ICA may be asked for 2004 from some companies)
  - Companies required to carry out own assessment of capital needed taking into account their risks
    - Risk categories: credit, market, liquidity, operational and insurance
    - Stress and scenario testing

- **UK will also have to implement Solvency II regime of the EU when established**
Financial Reporting:
Shareholders’ perspective
PRESENT REPORTING

• No official international standards for financial reporting of insurance contracts – both regulatory and GAAP
• National regulatory regimes drive insurance accounting with implicit conservative assumptions (e.g. ignoring policy lapses)
• Insurance and other financial services industries viewed as distinct entities
DRIVERS OF CHANGE

- Pressure to create level playing field for all financial service industries
- Life insurance sector historically mutual in form – now being de-mutualized
- Industry raising capital across borders
- Global consolidation trends
- Globalisation drives need for common financial reporting basis – not possible without common regulation or required capital formula
DRIVERS OF CHANGE

FINANCIAL ANALYSTS

• What do they want - Periodical reporting from management
  – Key performance indicators
  – Segmented results (balance sheet and income statement)
  – Analysis of profits
  – Carrying value and fair value of assets
  – Explain risk management and actuarial practices

• What do they do with this
  – Understand the company’s financials
    • Sensitive to what
    • Exposed to what
  – Company comparisons
  – Try to understand “actuarial black box”
GAAP Statements

- Two broad approaches currently
  - Income statement focus (deferral and matching approaches)
  - Balance sheet focus (asset and liability measurement approaches)
- USA and Australia are examples of the former
- In general, GAAP is oriented towards smooth profits
Recent Developments

- International accounting standards moving towards balance sheet approach (i.e. asset and liability approach)
- Fair Value will form the basis leading to realistic and more relevant information
- Income recognized as insurer is released from risk
- Possibility exists of some income being recognized when policy is sold
- Several unresolved issues and challenges – project going ahead in two phases
Change Analysis

• An example – US GAAP
  – Income statement based approach
  – Income determined by matching expense to revenue or service
  – Forces balance sheet to conform through entries such as DAC and DTL
  – More of a hybrid, valuing some assets at market value but recognizes few liabilities at market value
  – Recognizes gains and losses (from NB and asset liability mismatch) over the life of the liability or at the time of a transaction such as an asset sale
Change Analysis ….

• An example – US GAAP (continued)
  – Acquisition expenses amortized and requires DAC
  – Under the emerging regime
    • All gains and losses recognized in the period in which they arise
    • Notional assets such as DAC no longer required
    • Changes in approach to policy reserves
      – Discount rate is risk free rate
      – Cash flows allow for investment risk
      – Assumptions related to current best estimates plus risk margin
Volatility is a main concern

- Reported financial results will be inherently volatile
- But volatility is a part of life now (volatile economic conditions, continuous capital market innovations, dynamic product management strategies)
- Investment management (ALM) and product design will be key tools in managing and controlling volatility
- Challenge is in developing techniques to present results
- Sources of earnings disclosure can explain volatility
Advantages of emerging system

- Ability to identify problems faced by a company much earlier enabling timely management action
- Allows financial statement user to understand separately the impact of management actions and economic factors beyond management control
- Forces study of economy of policies
  - Explicit quantification of more variables
  - More robust pricing of embedded options and guarantees
Advantages of emerging system ….

• Consolidates financial management processes
• FV reporting could be a catalyst to review other aspects of business (e.g. financial, capital and risk management, product design, information technology)
• Do not need an actuary to interpret the financial statements?
Challenges

- Stochastic approach to calculating insurance liabilities where deterministic unacceptable
- Market Value Margins (adjustment to cash flows and / or discount rate) – degree of allowance?
  - for diversifiable and undiversifiable risks
  - Financial and non-financial (e.g. demographic) risks
- Definition of insurance contract
  - Insurance risk and financial risk
- Allowance for future premiums only if it increases liability
Challenges ....

- Unbundling (e.g. unit linked contracts into unit fund and insurance contract) and accounted separately
- Embedded derivatives to be separated and measured at FV; exemptions apply (GAO, GSV)
- With profits contracts
- Consistency between asset and liability valuation / reporting
Practical Considerations and Business Issues

• EU
  – Implementation for year ending 2005
  – Comparative figures for 2004

• Management understanding, explaining and managing volatile earnings

• Human resources – skilled expertise, knowledge and training
Practical Considerations and Business Issues …. 

- Challenging time line
- Investment Management
  - Tighter matching of assets and liabilities
  - Investment management on a total return basis
  - Increased focus on credit quality
- Pricing and Product Design
  - Product design and classification
  - Guarantees and options
  - Renewals
Practical Considerations and Business Issues ....

- System challenges
  - Stochastic modelling
  - Earnings analysis
  - forecasting
- Disclosure and external relations
Risk management and financial reporting:
1. Regulatory perspective
2. Overview of different jurisdictions
Risk Management and Financial Reporting – From Regulators’ viewpoint

1. Asset Risk position reporting
2. Liability Risk position reporting
3. Asset-Liability Risk position reporting
4. Operational risk position reporting
Asset Risk position reporting

- Credit risk (downgrading risk, default risk, currency risk)
- Market risk (asset pre-payment, return volatility, asset market values, liquidity)
- Credit exposure / counter party exposure
- Concentration and diversification risk
- Aggregate portfolio risk
Asset Risk position reporting

a. Duration
b. Liquidity
c. Convexity
d. Performance measurement and attribution analysis
e. Value at risk
f. The Greeks
## Analysis of Asset Risk Reporting by Asset Category

<table>
<thead>
<tr>
<th></th>
<th>The asset portfolio in aggregate</th>
<th>Fixed Interest Securities</th>
<th>Equities</th>
<th>Derivative Instruments</th>
<th>Real Estate</th>
<th>Other Investments</th>
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<tbody>
<tr>
<td><strong>Duration</strong></td>
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<td><strong>Liquidity</strong></td>
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<td><strong>Convexity</strong></td>
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<tr>
<td><strong>Performance Measurement and Attribution Analysis</strong></td>
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<td><strong>Value at Risk</strong></td>
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<tr>
<td><strong>The Greeks</strong></td>
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</table>
Asset Liquidity Reports:

- Lists of highly liquid securities that can be sold without triggering a realized capital loss
- Maximum cash that can be raised in 30 days
- Short-term cash match between assets and liabilities
- Comparison of expected market value of assets to surrender values over a variety of scenarios
- Ratio of liquid assets to projected surrenders under 3 scenarios (base, stressed and panic)
- Assessment of primary and secondary asset liquidity, in connection with liability considerations.
- Maturity and investment income reports are effective tools when performing liquidity analysis.
- Operating and crisis liquidity reporting by segment
- Liquidity information split by operating needs, corporate needs and amounts available for investment.
Convexity Reports:

- Convexity of the bond portfolio monitored daily, broken down by asset class.
- Convexity measures included on daily portfolio reports.
- Convexity calculations as part of asset-liability analysis, including:
  - Price behavior curves by product line, business unit, company and enterprise
  - Weekly convexity reports by variable funds
  - Partial convexities by category of asset and line of business
VAR Reports:

- Quarterly reports that show short and long term earnings at risk by percentile.
- Value at Risk for each product portfolio for interest rates, mortality, defaults and other assumptions.
- Aggregate Value at Risk for both assets and liabilities.
- Probability distribution of performance of the largest asset class over a defined timeframe.
- List of major components of risk and amount of capital held for those risks.
- Value at Risk reports that provide probabilities for an x% drop in surplus in any given year.
- Duration is still better understood than Value at Risk. Trend reports and marginal value at Risk usually causes discussion.
**Greeks:**

- Vega is estimated, but not disseminated. Delta and Rho come through duration.
- Derivative and convertible assets and their comparison versus equity indexed annuity liabilities.
- Weekly reports showing Delta, Vega, Gamma and Rho by variable funds.
- A report showing the Greek measures against predetermined limits.
## Comparison of Asset Valuation Framework across Different Jurisdictions

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Singapore</th>
<th>United Kingdom</th>
<th>Canada</th>
<th>Australia</th>
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</thead>
<tbody>
<tr>
<td>Equities</td>
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<tr>
<td>Quoted</td>
<td>Lower of cost or market value</td>
<td>Market Value</td>
<td>“Smoothened” market value (15% of unrealized gains/losses booked)</td>
<td>Market value</td>
</tr>
<tr>
<td>Unquoted</td>
<td>Lower of Net Tangible Assets (NTA) or net realizable value.</td>
<td>Multiple of Price Earnings ratio plus the proportionate profits attributable to that share at the relevant date</td>
<td>Realizable Value</td>
<td>Realizable Value</td>
</tr>
<tr>
<td>Bonds</td>
<td>Singapore</td>
<td>UK</td>
<td>Canada</td>
<td>Australia</td>
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<tr>
<td>Listed Corporate</td>
<td>Lower of cost or market value</td>
<td>Market value</td>
<td>Market value</td>
<td>Market value</td>
</tr>
<tr>
<td>Unlisted Corporate</td>
<td>Lower of cost or net realizable value</td>
<td>Realizable value</td>
<td>Realizable value</td>
<td>Realizable value</td>
</tr>
<tr>
<td>Local Government</td>
<td>Amortized value or the lower of cost or nominal value</td>
<td>Market value or net realizable value</td>
<td>Market value or net realizable value</td>
<td>Market value or net realizable value</td>
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<tr>
<td>Foreign Government</td>
<td>Amortized value or the lower of cost or nominal value</td>
<td>Market value or net realizable value</td>
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<td>Asset Class</td>
<td>Asset Valuation Basis</td>
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<tr>
<td>Loans</td>
<td>Singapore</td>
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<td></td>
<td>Lower of principal amount outstanding or:</td>
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<td></td>
<td>• In the first year, 70% of the net realizable value of the collateral</td>
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<td>• In subsequent years, 90% of the net realizable value of the collateral</td>
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<td>UK</td>
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<tr>
<td></td>
<td>Recoverable Value</td>
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<td>Canada</td>
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<td>Australia</td>
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<tr>
<td>Loans Unsecured</td>
<td>Lower of principal amount outstanding or net realizable value</td>
<td>Recoverable value</td>
<td>Recoverable value</td>
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<tr>
<td>Mortgage</td>
<td>Lower of principal amount outstanding or net realizable value of the collateral</td>
<td>Recoverable value</td>
<td>Recoverable value</td>
<td>Recoverable value</td>
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<tr>
<td>Policy</td>
<td>Lower of principal amount outstanding or cash value of policy</td>
<td>Face value of the debt if it does not exceed the cash value of the policy.</td>
<td>Recoverable value</td>
<td>Recoverable value</td>
</tr>
<tr>
<td>Bank Guaranteed</td>
<td>Lower of principal amount outstanding or net recoverable value</td>
<td>Face value</td>
<td>Face Value</td>
<td>Face Value</td>
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### Asset Class

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<tr>
<td>Receivables</td>
<td>Principal amount outstanding less any adequate provisions</td>
<td>Principal amount outstanding less any adequate provisions</td>
<td>Principal amount outstanding less any adequate provisions</td>
<td>Principal Amount outstanding less any adequate provisions.</td>
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<tr>
<td>Properties</td>
<td>Cost less any depreciation</td>
<td>Cost less any depreciation</td>
<td>Cost less any depreciation</td>
<td>Cost less any depreciation</td>
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<tr>
<td>Unit Trusts</td>
<td>Lower of cost or realizable value</td>
<td>Realizable value</td>
<td>Realizable value</td>
<td>Realizable value</td>
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<tr>
<td>Foreign Currency Denominated Assets</td>
<td>Current assets are translated at the closing exchange rate and long term assets are translated the historical exchange rate.</td>
<td>Realizable value</td>
<td>Realizable value</td>
<td>Realizable value</td>
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<tr>
<td>Derivative Contracts</td>
<td>Treatment in accordance with GAAP for off balance sheet items</td>
<td>Realizable value</td>
<td>Realizable value</td>
<td>Treated as off-balance sheet item (disclosure required on the objectives for holding such instruments, the context underlying the objectives and the strategies for achieving the objectives)</td>
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Liability Risk Position Reports

- Experience studies
- Embedded value added and variance analysis

Asset Liability Risk Position Reports

Stochastic scenario testing
- Deterministic scenario or stress testing
- Mismatch risk (cash flow mismatch; duration mismatch; convexity mismatch; liquidity mismatch)
- Transfer Pricing
Liability Risk Position Reports

Liability risks primarily arise from the following categories:

- Claim costs
- Expenses
- Reserve adequacy and adequacy of pricing elements other than claim costs and expenses
- Catastrophe (P/C)
- Failure of reinsurance
Embedded Value Added & Variance Analysis

- To indicate the drivers of profitability
- To provide more effective feedback on the performance of lines of business
- To monitor and explain, rather than to help make decisions
- To make risk/reward trade offs
- To identify implementable strategies
Asset-Liability Risk Position Reports

Asset-liability specific risks primarily arise from the following categories:

- Duration mismatch risk
- Cash flow mismatch risk
- Crediting spreads
- Product guarantees (minimum interest rates)
- Disintermediation
Deterministic Scenario Testing:

- Calculate the impact of a 200 basis point change on the value of the fixed-income portfolio
- Analysis of historical interest rate patterns
- Stress test increased lapse, morbidity, expense and repayment assumptions
- Earnings and embedded value impacts of high severity /low probability events, say 95 and 99 percentiles
- Report that displays results consistent with financial statement presentation
- These are traditional ratemaking type reports by major type of business groups and line of business
- Cash flow graphs with deterministic scenario of asset and liability cash flows
- Measures shock to current interest rates
Mismatch Reports:

- Cash flow projections of the insurance operation versus investments; variability of each
- Review asset and liability cash flows at company level
- Asset-liability duration management reports, as well as asset-liability cash flow reports
- Premiums should be included with asset cash flows; look at enterprise level and drill down
- Crediting spread, duration mismatch, cash flow mismatch
- Asset and liability cash flows and earnings by duration and percentile reports showing duration, convexity for assets and liabilities, including currency duration and currency convexity
- Report demonstrating impact of change of yield curve
- Key rate duration analysis and aggregate duration reports
- No specific reports; analytic information provided by ALM staff Mismatch reports by line of business/operating division/asset portfolio
- Cash flow mismatch by year (quarter) and duration mismatch, each by investment segment
- Asset/liability duration and cash flow mismatch for selected product lines
- Quarterly liquidity mismatch reports
Operational Risk position Reports

Operational risks relate to any non-financial risk and arise from many sources, including (but not limited to) the following:

- **Event Risk** – This risk category includes risk exposures arising from:
  - Taxation
  - Political sources
  - Regulation
  - Capital Markets

- **People Risk** – This risk category includes risk exposures arising from:
  - Integrity
  - Health and Safety
  - Key Personnel
Technology Risk – This risk category includes risk exposures arising from:
- Inappropriate transactions
- Lost data
- Availability and infrastructure

Distribution Risk
- Business volumes
- Market conduct
- Sales compliance

Catastrophic Risk
- Property Damage
- Flood, hurricane, tornado
- Business interruption
ISSUES FOR INDIA
ISSUES FOR INDIA

• Asian countries adopting “wait and see”
• Most Indian private insurers have foreign parentage
  – Subsidiaries of EU listed companies will be affected soon (2005?)
  – Others: question is not “if” but “when”
• No Indian insurer is a directly listed company in India
• Pressure to fall in line with international norms will come from international analysts / investors
ISSUES FOR INDIA …

• Current financial reporting framework not compatible with FV

• Consequences of adopting FV accounting
  – Significant impact on product design?
  – Pricing for embedded options and guarantees
  – Earnings volatility: availability of appropriate assets and hedges
Thank You