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Case Study 3: Technical Investment

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Agenda

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- Current Economic Scenario & Risk Associated with different Asset Classes
- IRDAI Investment Regulation and Risk Mitigation
- Solution
- Liability Management
- Professionalism

- Current Economic Scenario
- Role of investment Department

Current Economic Scenario

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- Falling Interest rate scenario
- Economic activity at all time low
- Likely defaults by the borrowers
- Low income expectation
- Volatility in Equity Market

Government Securities

- Government securities , yield has reduced
- Re investment risk from the old investment
- Short term reduction
- Good Marketability
- Security
- Current volatility due to expected borrowing program of Government

State Government Securities

- Yield has reduced
- Problem of recycling of the loan on maturity
- Short term reduction
- Good Marketability
- Less Security
- Current volatility due to expected borrowing program of Government

Corporate and PSU Bonds

- Bond yield has reduced
- Re investment risk from the old investment
- Enhanced Default risk
- Good Marketability
- Less secure
- Current volatility due to economic slow down
- Rating Risk

Equities

- Volatility
- Marketable
- Change in industry scenario and some industry may go down / prosper
- How to balance old investments if the dividend scenario changes

Preference Shares

- Volatility
- Less Marketable
- Change in industry scenario and some industry may go down / prosper
- How to balance old investments if the dividend scenario changes

Fixed deposit With Banks

- Reduction in interest rate
- Liquidity
- Low chance of defaults

Money Market Instruments

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- Low interest rate
- Liquidity
- Opportunity Cost

Derivatives

- For Short term
- Liquidity may be low
- Required derivative may not be available

Housing and Infrastructure Sector

- Current condition not conducive for housing sector
- Default risk may go up
- Rating Risks remain

Other Assets

- Reverse Repo
- Credit default swaps
- Mutual Funds
- Interest Rate Derivatives

Role of investment Department

- Work in tandem with the valuation department
- Take inputs from the AA
- Work ethically
- Discuss with various stake holders
- Invest as per the Investment Circular of IRDA
- Closely monitor performance of the assets

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Current Economic Scenario & Risk Associated with different Asset Classes

IRDAI Investment Regulation and Risk Mitigation

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IRDA Investment Regulations 2016

Investment Class Exposure	Life Insurance	Pensions & Annuity
Central Govt Bonds	Min 25%	Min 20%
All Govt Bonds (incl Central Govt Bonds)	Min 50%	Min 40%
Other approved investments 27(A)	Max 50%	Max 60%
Subject to: Infrastructure Investments Other Investments 27(A)(2)	 Min 15% Max 15%	 NA Not Allowed

Asset Class	Key Regulation	Current Implications
Equities	Listed liquid securities with good earnings & dividend record classified under “approved investments”. Others under “other investments”. Equity derivatives not allowed.	Earnings & dividends expected to reduce for a lot of companies. Tending to less equity exposure going forward.
Securities Lending & Borrowing	Permitted only in equities. Borrowing not allowed Insurer can only lend securities to the extent of not more than 10% quantity of those scrips of that particular fund.	Lower price for lending implies less potential to earn higher return

IRDA Investment Regulations 2016

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Investment Class	Key Regulation	Current Implications
Reverse Repo	Exposure to corporate debt reverse repo restricted to 10% of total funds. Repo not allowed. Corporate debt securities need to be at least AA rated.	Reinvestment risk increased. Credit downgrade allows less scope to repo corporate debt.
Mutual Funds	Only passively managed & SEBI registered ETF allowed. Investment in Gilt, GSec & Liquid funds treated as “approved investment”, the rest as “other investment” Max investment subject to ceiling based on total investment assets	Reassessment of ceiling needs to be done based on new total investment assets.
Asset Backed Securities	Part of infrastructure investment Must be AAA rated Max 10% exposure limit on investment assets Default leads to reclassification of other investments	Ratings downgrade to stress investment in ABS

IRDA Investment Regulations 2016

Investment Class	Key Regulation	Current Implications
Alternative Investment Funds	Part of other investments, Includes Infrastructure Fund, SME Fund, Venture Capital Fund and Social Venture Fund undertakings or Social Venture entities. Max 3% of total investment assets	Less opportunities for new investment.
Interest Rate Derivatives	Only plain vanilla interest rate swaps, forward rate agreements & interest rate futures allowed	Inability to use swaptions to manage guarantees on products in falling interest rate regime
Credit Default Swaps	Allowed only for hedging against credit risk on listed corporate bonds & unlisted/unrated bonds of infrastructure companies or infrastructure SPVs	Can be used to hedge exposure to corporate bonds Increase counterparty risk
Real Estate/Infra Investment Trusts	AA+ rating classified as approved investment Part of infrastructure Investments	Ratings downgrade to stress investment in REITs
Overseas Investment	Not permitted	

Risk Framework

ALM Objective:

- To meet liabilities as and when they arise
- To maximize return for the given level of risk or minimize risk for given level of return

Current ALM Position:

Given the solvency & disclosure requirements, it would be fair to assume that the insurance company had a solid framework for risk management before the crisis & any rebalancing required now would be a result of model error, residual risk and change in strategy.

Risk Mitigation & Investment Strategy Depends On:

- Willingness to take risk – culture of the organization, shareholder profile
- Ability to take risk - Free Assets, Capital Market Access, Regulations
- Cost of risk management
- Secondary risk as a result of risk management activity

Risk Mitigation

Risk Mitigation only within the context of operational risk:

- Companies working with reduced staff & using work from home with potentially reduced efficiency. Reduced co-ordination between teams
- Higher chance of system or process failure in settlement, contract review & risk management
- Compromised IT systems & data
- Reduced ability to deal with non-exchange traded illiquid instruments
- Systems of checks and balances needed

Interest Rate Risk:

- Should have been matched to begin with but duration expected to increase due to fall in yields & increased slope of yield curve. Rebalancing position may be needed due to evolving situation.
- Increase quality of matching, or shift to near full cashflow matching if feasible to lock in rates
- Bonds for long duration may not be available, so may have to work with swaps

Risk Mitigation

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Bond Credit Risk:

- Buy CDS on corporate/infrastructure bonds & indirectly rebalance to govt bonds

OTC Counterparty Risk:

- Increased counterparty due diligence
- Increase collateral safety requirements in OTC transactions

Infrastructure:

- Prefer liquid infrastructure investments like infrastructure bonds over illiquid infrastructure debentures etc
- Avoid locking in money for long duration, high gestation projects
- Real return not a priority

Liquidity Risk:

- Drop in liquidity due to lapses in premium & higher surrenders.
- GAP or duration analysis done previously should be recalibrated

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Current Position

- Company writes traditional products with Guarantee
- Government bonds, corporate bonds, equity, property and derivatives are being used to back the guarantees
- Market has experienced increased level of volatility and interest rates have reduced significantly
- Concerned about not being able to meet its guarantees in future and possibility of running into insolvency.

Guarantees in Traditional Products are usually Monetary i.e. nominal in Nature and of Long term
Problem being faced by Company and the assets used Indicate that Liabilities are not matched by Assets in Nature and Term

Required Strategy : Reduce Risk & Enhance Return

- Low Strategic Risk-Matched Strategic Benchmark
- Manage Interest Rate Risk: ALM - Portfolio Immunisation
- Manage Liquidity Risk: Cashflow modeling and matching for short term
- Manage Credit Risk- include only high-quality Corporate Bonds and G-Secs
- Risk Optimisation - check Risk efficiency of the Portfolio and increase yield for a given level of Risk
- Continuous monitoring of the portfolio and rebalancing

Required Strategy : Reduce Risk & Enhance Return

- Reduce Interest Rate Risk
  - Match duration of Assets with that of Liability
    - Back Liabilities guaranteed in money terms including accrued bonuses with Fixed Income securities having similar durations preferably G-Secs
    - Move from shorter duration assets to longer Duration ones
  - Include securities having relatively higher convexity
  - High quality rated Corporate bonds and SDL of longer duration may also be included
  - Hedge the Credit risk of Corporate bonds through CDS leaving only liquidity risk
  - Include Corporate Bonds only if there is any incremental yield left after hedging credit Risk

Required Strategy : Reduce Risk & Enhance Return

- Reduce Interest Rate Risk
  - Within the various possible portfolios of Fixed Income securities
    - Compare the risk efficiency
    - Risk here is Market Risk/Interest Rate Risk (Var, PV01)
    - Identify the risk efficient portfolios
  - Test the performance of portfolio/s thus identified vis-à-vis liabilities under various stress scenarios and the impact on solvency
  - Identify the portfolio having risk within tolerance level

Required Strategy : Reduce Risk & Enhance Return

- Reduce Credit Risk
  - Include only High-quality papers giving incremental yield over G-Sec without adding any unwanted Risk
  - Do proper due diligence, check the collaterals
  - Hedge the Credit risk through CDS
  - Additional yield will be for liquidity compensation

Required Strategy : Reduce Risk & Enhance Return

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- Keep a check on Liquidity Risk
  - Ensure Sufficient Liquidity to avoid premature/distress sale of assets adversely impacting duration matched portfolio
    - Cashflow modelling
    - Ensure sufficient short-term liquidity
    - For uncertain outflows -Keep Margin
    - There may be more surrenders and lapses due to general financial distress prevalent these days
- Continuous monitoring of the portfolio and rebalancing

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Impact on Liability Management

- For a Life Insurer the investments are dependent on the nature, term and certainty of the liabilities
- The liability can be split into two components
  - Liability for guarantees – such as liabilities for non-par business or reserves for guarantees
  - Liability for discretionary benefits – such as for future bonuses for par products

Impact on Liability Management

- The proposed measures are aimed at
  - Better duration/ cashflow matching of the guaranteed liabilities.
  - Hedging the interest rate risk
- For liabilities of discretionary benefits, the measures are aimed at aimed at providing higher returns

Impact on Liability Management

- Move to the proposed portfolio is a gradual process as rebalancing the assets in short term it is not possible or advantageous
- The new business must be re-priced to take into account the current economic conditions
- Tailor the expectations of existing par policyholders

Professionalism

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- Every Actuary must adhere to the Professional Conduct Standards (PCS)
- The principal requirements of PCS are
  - Addressing the intended audience
  - Use best judgement while formulating advice and refrain from advising if he/she is not competent in relevant matter
  - Include sufficient relevant information and any reservations or qualifications

Professionalism

- The principal requirements of PCS are
  - Maintain confidentiality
  - Refuse to advice if there are conflicts of interests
  - Disclosure of financial interests

Q&A