Workshop on Asset & Liability Management

Developing a Strategic Asset Allocation Framework

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- Strategic Asset Allocation (SAA)
  - Definition and importance

- Governance consideration:
  - Decision making
  - Responsibilities

- SAA process

- SAA review
What is SAA?

- SAA is a set of long term target allocations with the highest likelihood of achieving long term investment goals.

- Determining the specific assets and the proportion of each within the portfolio to meet cash flow requirements and long-term investment objectives at the appropriate risk tolerance. SAA is about identifying and remaining consistent with a “policy mix”.

- The efficient optimisation of investment allocation to asset classes in order:
  - to meet the overall investment objectives of the institution; and
  - to achieve an acceptable balance between risk and return.
SAA is one of the key drivers of long-term investment success:

- defines the overall return-risk profile of the portfolio
- ranks high in the hierarchy of investment decisions
- needs to be owned at the highest level
- requires adequate resources
Governance structure

**Board of directors**
*Investment Policy & Strategic Orientation*
- Objectives for holding reserves
- Tranching according to the objectives
- Currency composition of reserves
- Market risk tolerance and investment horizon
- Credit risk tolerance
- Assets’ universe and authorised instruments
- Authorisation of external asset managers
- Authorisation for active management
- Reporting framework
- Delegation to RESMANCO

**Investment Committee**
*Investment Guidelines*
- Exact size of each tranche and transfer rules
- Exact currency composition, globally and for each tranche
- Strategic asset allocation
- Benchmarks for each tranche
- List of eligible counterparties, limit setting methodology, limits
- Exact list of authorised assets and instruments
- List of external managers, mandate amounts and guidelines
- Allocation of the risk budget

**Treasury department**
*Day to day management*
- Transact, settle authorised operations, in the authorised markets within the authorised limits
- Keep accounting records of transactions
- Analyse and manage the risks
- Regularly report to their hierarchy, the RESMANCO and the GEC
- Are regularly monitored about their compliance to the rules
- Functional segregation of responsibilities
1. Articulate Objectives and Investment Horizon

2. Specify Risk Tolerance and Constraints

3. Identify Eligible Asset Classes

4. Determine Capital market assumptions (e.g., expected returns) on a forward-looking basis

5. Decide on neutral asset allocation and Implement the SAA
Defining objectives

- Liquidity
  - The ability to sell a security and realize cash in a short period without negatively affecting the price;

- Safety - Capital Preservation
  - Constraining the portfolio risks to preserve the principal value of the portfolio over the investment horizon;
  - Based on market values (mark to market)

- Return Generation
  - Total return of the portfolio as compensation for a commensurate amount of risk taken on the portfolio
Other objectives

- Achieve a target minimum return
- Reduce cost of sterilization
- Match assets and liabilities, and manage balance sheet risks
- Minimize headline/political risks
- Ensure steady remittances to government
Risk tolerance and constraints

- Risk stems from the inherent uncertainty in investment returns (market risk, credit risk)

- Risk tolerance should ideally reflect an institution’s ability to take risk, and not the Board’s or decision maker’s willingness to tolerate risk
  - Opportunity cost of overly conservative behavior

- Risk can be defined or measured in different ways
  - Likelihood versus magnitude of potential losses
  - Shortfall probability, probability of not achieving a certain target return, worst case outcome at a certain confidence level etc.

- Other related constraints (reputation risk, risk of criticism by the public, parliament etc.)
Risk tolerance of central banks

- Capital Preservation is typically expressed as having no negative total return
  - Preservation of reserves or Central Bank capital?
  - In nominal or in real terms?
  - In foreign or domestic currency terms?

- How to translate ‘no negative return’ constraint?
  - Never… or at a certain confidence level?
  - Over 1 month, 12 months, 3 years?
  - Low likelihood of potential losses
  - Low magnitude and likelihood of potential losses
Commonly used risk measures

- Duration - measures sensitivity to changes in interest rates

- Modern portfolio theory – constructing an efficient frontier - return/risk trade-off

- Downside risk measures
  - Shortfall probabilities - probability of negative return / probability of underperforming a hurdle rate
  - Minimum return at given confidence level
  - Value at risk
  - Maximum Drawdown
Asset class eligibility

- Selection of eligible asset classes is an important part of the asset allocation process

- Considerations influencing choice of eligible asset classes:
  - Investment objectives and risk-return considerations
  - Headline/Reputational risk issues
  - Staff capabilities and skill mix
  - Sophistication of portfolio and risk management infrastructure

- Focus should be on total portfolio risk and return – not the riskiness of individual assets in isolation

- Typical investment universe for central banks
  - Cash & Money-Market Instruments
  - Government Bonds, Agencies
  - Mortgage-Backed Securities
Market assumptions

- Expected returns for each asset class
  - Historical (full sample or rolling window)
  - Factor models (regressions or building block models)

- Volatilities and correlations
  - Historical (full sample, rolling window, exponential weighting)
  - Conditional covariance matrix depending on e.g., bull or bear market regime
From SAA to benchmarks

- Implementation of strategic asset allocation
  - Translation of strategic duration and asset weights into benchmarks
  - Necessary for active management
  - Appoint internal and external managers

- Benchmarks serve various functions
  - Reflect the institution’s long-term risk return profile
  - Establish the risk neutral position for active management
  - Yardstick for measuring and attributing the success of active or passive management
  - Pre-requisite for effective risk control
Tranching

- Handle Daily Cash Flow needs
  - Typically, one to six month investment horizon
  - Liquid assets
    - Available to replenish Liquidity Tranche or for other draw down requirements
    - Fairly sensitive to volatility of returns
    - Six month to one year investment horizon
  - Liquidity less of a concern
    - Low probability of draw down
    - Less sensitive to short-term volatility of returns
    - One to two year investment horizon

- Liquidity Tranche
- Buffer Tranche
- Investment Tranche
From SAA to portfolio structure

SAA
Investment Management Activity

Active Management
- Externally Managed
  - External Consultants
- Internally Managed
  - Internal Advisory Team

Passive Management
- Internally Managed
  - Internal Advisory Team
- Externally Managed
  - External Consultants
Legitimate reasons to revisit the SAA:

- Internal factors
  Changes in balance of payments situation, reserves adequacy measures, macro-economic vulnerability

- External factors
  Decisive changes in market environment, capital market outlook
Summary

- **Strategic asset allocation is the single most important investment decision**
  - Decision should be owned at the highest level
  - Implementation should be delegated to the investment department

- **A comprehensive understanding and articulation of each of the components of the SAA process is fundamental:**
  - What is the portfolio for?
  - When will the funds be required?
  - What outcomes are unacceptable?
  - What type of asset classes are appropriate?
  - Is there a good understanding of the capital market assumptions used to translate return and risk preferences into portfolio alternatives?
  - Do the key players have sufficient experience and market knowledge to understand such assumptions?

- **Periodically test that the SAA and the portfolio’s objectives are aligned.**
  - Internal developments such as changes in the nature of the fund, cash flow projections etc.
  - Externalities such as significant changes in market conditions.