



Asset Liability Matching: *Approach and Challenges in an African Context*

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Agenda



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Introduction



Although asset liability management is important to the operations of all insurers, it is a fundamental element of life insurer strategy

Asset Liability Management is the ongoing process of formulating, implementing, monitoring, and revising strategies related to assets and liabilities to achieve financial objectives, for a given set of risk tolerances and constraints

- For **life insurers** with longer duration liabilities, while the scope of Asset Liability Management (ALM) includes all financial risks associated with the assets and liabilities, **interest rate risk** is often the focus of ALM.
 - It is largely because their portfolios are heavily weighted with fixed income securities for more predictable cash flows.
- **Non-Life insurers**, with shorter-term liabilities, traditionally focus on liquidity management, but increasing long-tail liabilities and IFRS17 requirements have driven a greater emphasis on interest rate risk including in African countries.

ALM Objectives

- At its most fundamental level, the goal of ALM is to manage the financial risk exposure associated with the assets backing liabilities.
- Some insurers view ALM primarily as a risk mitigation tool, focused on staying within approved risk limits.
- Others integrate ALM into Enterprise Risk Management (ERM), using it as a strategic framework to achieve financial goals through optimized investment strategies for assets and liabilities.

Protect
Economic Surplus

PV Asset CFs – PV Liability CFs

Protect
Market Value

MV Assets – MV Liabilities

Protect
Accounting Results

BV Assets – BV Liabilities (Reserves)

Why ALM: Sources of Risk



Historically focused on interest rate risk, ALM in the life insurance industry now encompasses (or should) also consider liquidity, credit, market, and currency risks

Interest Rate Risk

- Interest rate risk includes market value, economic, and accounting impacts, influenced by gains or losses from reinvestment and disinvestment of future cash flows.
- Insurers typically use hedging, immunization, and advanced methods such as value at risk and stochastic simulation to manage interest rate risk, though no method fully eliminates the risk.
- Specific challenges exist within an African framework due to under developed and inefficient markets.

Currency Risk

- Currency risk arises when liabilities are backed by assets in a different currency and is challenging to fully hedge, especially for long-duration liabilities.
- Insurers, seeking higher yields, increasingly invest across currencies and hedge FX risk to the extent possible.

Sources of Risk

Market Risk (excl Interest Rate Risk)

- Market risk from equities, property and non-fixed income assets includes potential losses in market value and mismatch risk when used to back insurance liabilities.

Liquidity Risk

- Liquidity risk arises when illiquid assets must be sold to cover demand liabilities.
- Managed by the Treasury, insurers mitigate liquidity risk by maintaining adequate liquid assets or cash to keep exposure tolerably low.

Credit Risk

- It is the exposure associated with the default of principal and/or coupon payments and/or the decrease in market value resulting from an increase in credit spread.
- Credit risk oversight is best managed within ALM to ensure independent monitoring.

Measurement of key risk exposures



Risk exposure in ALM is measured through asset-liability sensitivity to financial variables and through risk distribution

Measurement of the risk exposure can be done in a number of ways:

- Calculating the sensitivity of the assets and liabilities to changes in financial variables: This can be done using traditional ALM metrics such as duration and convexity, the greeks or scenario testing.
- Sophisticated methods such as calculating the risk distribution of assets and liabilities: This is done using stochastic simulation and can be expressed using various measures such as value at risk (VAR) and conditional tail expectation (CTE).

▪ Risk Metrics	Scenario Testing	Stochastic Analysis	Decision Support
▪ ALM metrics for longer-duration portfolios include duration and convexity measures that capture the sensitivity of asset and liability cash flows to interest rate changes. ▪ However, these metrics may not always align with the insurer's desired interest rate risk exposure.	▪ In addition to risk metrics, deterministic scenarios are used to measure the impact of an instantaneous shock to the yield curve or other financial variables. ▪ They also assess the effect of changes in interest rates or other variables over time, focusing on the overall scenario and its capital impacts.	▪ Stochastic simulation is used to generate a risk distribution for the assets, liabilities, and capital requirements using stochastically generated scenarios for interest rates, equity returns and other financial variables.	▪ ALM aids insurers in aligning risks with their risk appetite and ensuring appropriate compensation for assumed risks. ▪ As a part of strategic decision-making framework, ALM strategies control risk and achieve the company's financial objectives by eliminating risks not compensated for and assuming those that provide highest risk adjusted return.



Insurers can use various ALM strategies to keep the risk exposure of assets backing liabilities within target limits

- Rebalancing in ALM for insurers is essential to align the asset portfolio with liabilities and maintain risk within target limits. However, frequent rebalancing can incur transaction costs, which can be significant in volatile markets.
- Insurers must also consider challenges like illiquidity, accounting, and tax implications when deciding rebalancing frequency, balancing cost-efficiency with effective risk management.



Specific ALM Challenges in an African Context (1/2)



“ALM is critical for long-term solvency and profitability, but in African markets, it can be a complex balancing act.”

Market Structure and Depth

- Limited long-duration instruments for duration matching
- Illiquid capital markets which hinder rebalancing
- Absence and cost of derivatives
- Currency mismatches increase FX risk

Specific Sovereign Risks

- Default risks
- Exposure to macro-economic shocks- Inflation Rates (including hyper inflationary conditions), Politics etc

Data and Modelling Risks

- Inadequate access to reliable, granular data
- Shortage of actuarial and modeling expertise
- Limited capacity for stress testing and scenario analysis

Regulatory and Accounting Pressures

- Evolving solvency regimes across jurisdictions
- IFRS 17 has introduced volatility and complexity
- Regulatory uncertainty has affected long-term planning in some jurisdictions (E.g countries transitioning to new regulatory requirements)

Specific ALM Challenges in an African Context (2/2)



“ALM is critical for long-term solvency and profitability, but in African markets, it can be a complex balancing act.”

Strategic Misalignment

- Short-term profit focus vs. long-term ALM goals
- Fragmented decision-making across departments
- Lack of integrated ALM governance

Policyholder behavior

- Cashflow mismatch and liquidity Risk from Policyholder Behavior e.g due to high lapse rates and unpredictable withdrawals due to economic shocks

Technology & System Gaps

- Manual processes increase operational risk
- Lack of automation in ALM execution

Mitigating Actions for ALM Challenges



Challenge Area	Mitigating Actions
Market Structure & Depth	▪ Collaboration with regulators and government Treasury/Finance functions to deepen local bond markets (including duration of issued bonds). ▪ Collaboration with other “users” of long-duration bonds and other Instruments such as Pension Funds ▪ Consideration of Alternative Assets that ▪ Use synthetic instruments (e.g. swaps) to extend duration where feasible ▪ Implement dynamic FX hedging policies to manage currency risks ▪ Match currency of liabilities where possible ▪ Diversify across regional currencies to reduce concentration risk ▪ Collaborate with regional exchanges to develop hedging tools
Specific Sovereign Risks	▪ “Market Value Adjustment” clauses tied to sovereign default risks ▪ Allocation to “off-shore” investments ▪ Alternative assets with similar return profile/characteristics to Liability characteristics that are not issued by the “Sovereign”- e.g Infrastructure Debt
Strategic Misalignment	▪ Cross Department Coordination- Align treasury, risk, and finance teams for holistic decision-making
Data gaps	▪ Invest in actuarial talent and digital infrastructure

Next steps/recommendations



1. Deepen Market Understanding

- Benchmark against peers in similar regulatory and economic environments
- Collaboration with regulators, government and Industry bodies

2. Strengthen ALM Capabilities

- Invest in actuarial talent, data infrastructure, and automation tools.
- Scenario testing to better capture tail risks.

3. Align Strategy with Risk Appetite

- Revisit ALM strategy to ensure it aligns with risk appetite, reflects policyholder behavior (e.g lapse risk).
- Capital efficiency

4. Diversify and hedge (with available instruments)

- Explore offshore investments and alternative assets.
- Currency-matching strategies.



Questions?

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