INVESTMENT POLICY & ASSET-LIABILITY MANAGMENT

REGIONAL SEMINAR – SUPERVISORS IN AFRICA ON RISK-BASED SOLVENCY & SUPERVISION

September 16, 2010

Marcelina !Gaoses
Director: Insurance & Pensions
NBFIRA

OUTLINE OF TOPICS

- Setting investment related standards and monitoring compliance thereof
- Role of financial markets
- Understanding complex investment instruments
- Investment Policy – based on risk tolerance, appetite and culture
- Asset and Liability Managing

SETTING OF INVESTMENT STANDARDS & MONITORING THEROF

- Supervisory authority requires insurers to comply with standards on investment activities
- Management of investors standards are either included in the insurance laws or in prudential (supervisory) rules
- Insurers are required to manage their investment portfolios and inherent risk, the requirements they need to meet are:
  - ✓ The mixture and diversification by type
  - ✓ Limits or restrictions on the amount that may be held in particular types of financial instruments (i.e. property and receivables)
  - ✓ The safe keeping of assets
  - ✓ The appropriate matching of assets and liabilities
  - ✓ The level of liquidity
- Insurers are required to value their investments according to a regulatory method prescribed by laws or rules

SETTING OF INVESTMENT STANDARDS & MONITORING THEROF…

- Insurers should have in place an overall strategic investment policy – Board of insurer to approve
- The policy should cover the broad areas of:
  - ✓ Insurer's risk profile
  - ✓ Strategic asset allocation (long-term asset mix)
  - ✓ Limits of allocation of assets
  - ✓ Holding restrictions of some asset types
  - ✓ Conditions on pledging and lending of asset
  - ✓ Policy on use of derivatives and structured products with same economic effects as derivatives
  - ✓ Accountability and responsibility for asset transactions & associated risks

SETTING OF INVESTMENT STANDARDS & MONITORING THEROF…

- ERM system to include all risks associated with investment activities that might affect technical provisions and solvency of an insurer
- Supervisor to monitor that all assets are managed according to investment policy – internal controls
- Requirement for clear Board and Management oversight – accountability to investment policy and procedures
- Insurers to have in place prudent audit procedures which includes investment activities – timely identification of internal control weaknesses
- Effective internal procedures to monitor asset-liability position at all times
- Contingency plans to be in place in case of deteriorating investment conditions
- Insurers to conduct regulatory stress testing on various factors which might affect its investment conditions

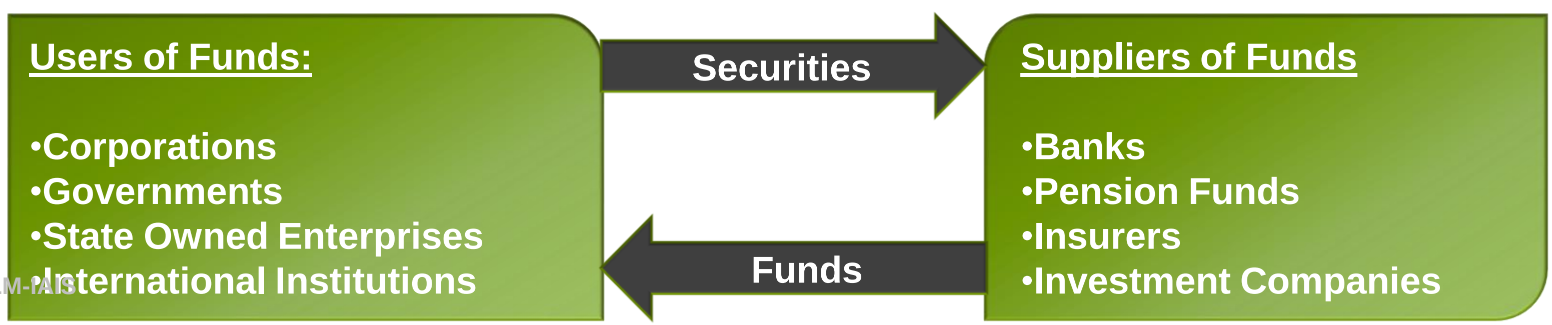
ROLE OF FINANCIAL MARKETS

- Assets are financial resources of an insurer that ultimately provide for future economic benefit
- A financial resource have 3 key characteristics to be counted as an asset:
  - ✓ It must provide some specific right to future benefit or service potential;
  - ✓ The insurer must have exclusive right to those future benefits; and
  - ✓ The insurer must have legally enforceable claim to the rights or service –based on a transaction already scaled.

ROLE OF FINANCIAL MARKETS

Financial Markets

- Insurers are major participants as financial intermediaries in Financial Markets because most of their assets consist of securities, mortgages and real estate
- Place where entities with a need for funds and entities with surplus funds to invest are brought together
- Definition: institutional arrangements, mechanisms and institutions that exits for the issuing and trading of financial instruments
- Various Financial Markets: Cash& derivatives, Spot & forward, Primary and secondary, Exchanges and over-the-counter (OTC)



ROLE OF FINANCIAL MARKETS…

Functions of the Financial System

- Channeling savings into real investments
- Pooling of savings
- Clearing and settling payments
- Managing risks
- Providing information

Financial Market Participants

- Borrowers – issuers of securities
- Lenders – buyers of securities
- Financial intermediaries – issuer and buyers of securities and other debt instruments
- Brokers – act as conduits between lenders and borrowers (commission earners)

Financial Market Rates

- Interest Rates
- Exchange Rates
- Rates of Return

ROLE OF FINANCIAL MARKETS…

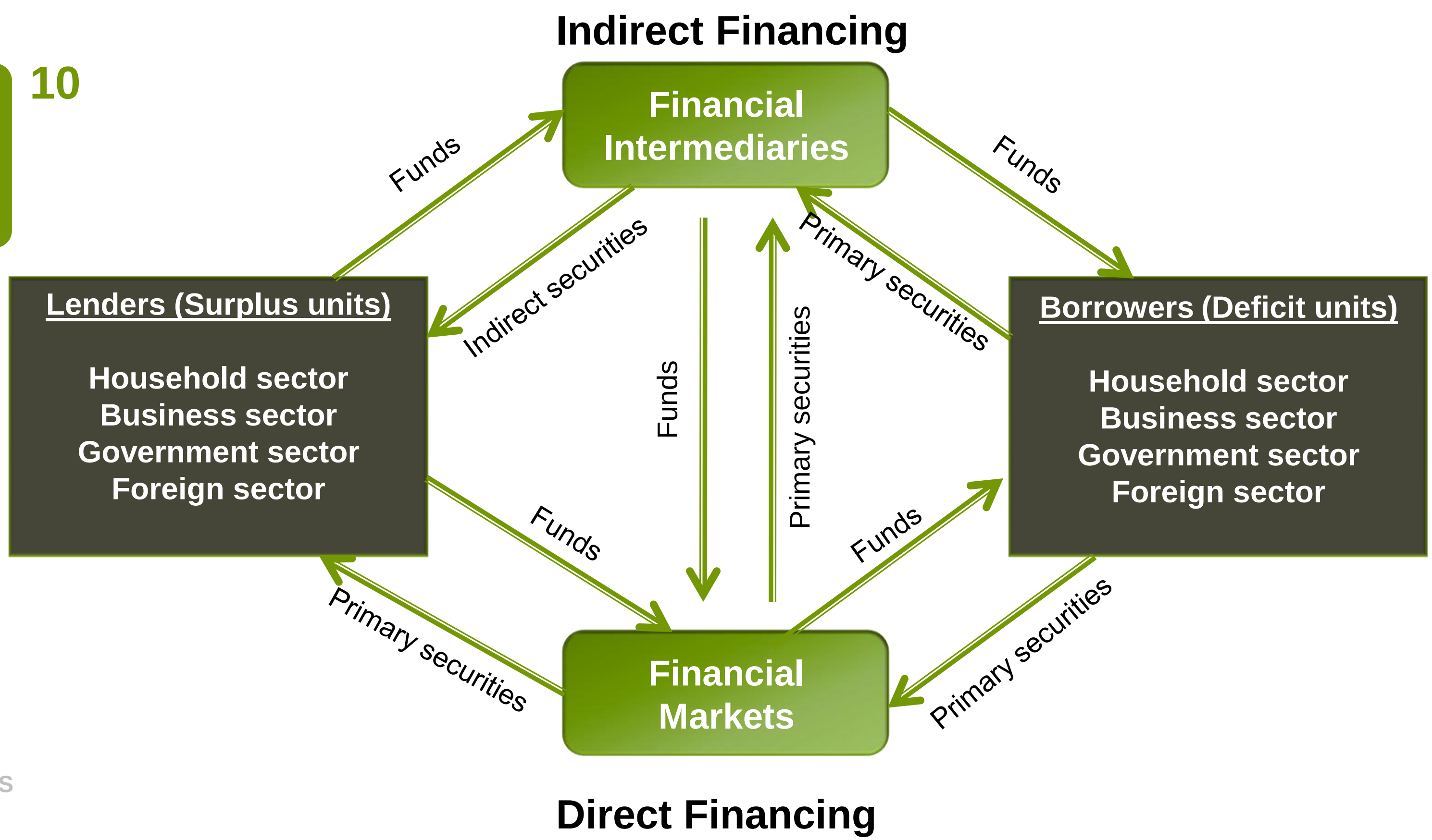
Financial Instruments

PRIMARY SECURITIES (Issued by ultimate borrowers)		INDIRECT SECURITIES (Issued by financial intermediaries)	
Marketable	**Non-marketable**	**Marketable**	**Non-marketable**
•Bankers acceptances/bills •Trade bills •Promissory notes •Commercial paper •Company debentures •Treasury bills •Government bonds •Shares of listed companies	•Hire-purchase and leasing contracts •Mortgages advances •Overdrafts •Personal Loans •Shares of non-listed companies	•Negotiable certificates of deposit (NCDs) issued by banks	•Bank notes (issued by central bank) •Savings accounts •Term or fixed deposits •Insurance policies •Retirement annuities

ROLE OF FINANCIAL MARKETS…

Financial Intermediaries and Flow of Funds (Four elements)

- Lenders and Borrowers
- Financial Institutions
- Financial Instruments
- Financial Markets



ROLE OF FINANCIAL MARKETS

Group Exercise – 10 minutes

Based on your understanding of financial markets and flow of funds within any jurisdiction, construct a simple economic activities relating to flow of income in an economy? Use the economic groups that plays a role in the overall economic activity: Government, Firms, Households, Foreign Sector and Capital ownership

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS

Foreign Exchange Market

- This is where currencies are bought and sold
- Plays a crucial role in facilitating cross border trade, investment and financial transactions
- Instruments traded on Foreign Exchange Markets
  - ✓ Exchange rates -
    - The spot rate – quoted for immediate delivery – bid basis (bid rate vs. offer rate)
    - The forward rate transactions – sale or purchase is agreed now but will actualize on future date
  - ✓ Swaps – simultaneous exchange of two currencies on a specific date
  - ✓ Futures contracts – similar to forward contracts but have a standard quantity of foreign currency
  - ✓ Options – difference between call option and put option

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Money Market

- This is where trading in instruments with maturities ranging from one day – one year takes place
- These instruments are not traded on a formal exchange but over- the-counter (OTC)
- Separated between primary market and secondary market
- Instruments traded on money market
  - ✓ Bankers' acceptances
  - ✓ Commercial paper
  - ✓ Promissory notes
  - ✓ Call Bonds
  - ✓ Negotiable certificates of deposit (NCD)
  - ✓ Treasury Bills
  - ✓ Repurchase agreements (REPO)

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Capital Markets

This is where institutions, corporations, companies and governments raise long-term funds to finance capital investments and expansion projects – both Bond and Long-term debt market and equity market fall under Capital Market

Bond and Long-term Debt Market

- These instruments are traded on organized exchanges or OTC
- Also divided into primary and secondary markets
- Instruments traded on Bond and Long term Debt Market
  - ✓ Bonds
  - ✓ Debentures
  - ✓ Floating-rate Notes
  - ✓ Zero coupon bonds

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Equity Market

- Equities (Shares/stock) represent a residual claim against the assets of a company after all obligations to creditors and bond holders has been made.
- Equities are traded on stock exchanges but some can be traded OTC
- Also divided into primary and secondary markets
- Instruments traded on Equity Market
  - ✓ Ordinary shares
  - ✓ Preference shares
  - ✓ Depository receipts
  - ✓ Exchange traded funds (ETF)

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Derivatives Market

- These are financial instruments that derive their value from the value of other underlying variables
- These variables can be underlying instruments in the other markets (equity, money, bond, foreign exchange and commodities market) as well as the derivatives market
- Examples:
  - ✓ A currency option is linked to a particular currency pair in the Foreign Exchange Market
  - ✓ A Bond futures is linked to a certain bond in the bond market
  - ✓ An option on a bond futures is linked to a bond futures trading in the Derivatives Market
- Derivatives are also referred to as contingent claims
- Derivatives can be privately negotiated OTC or traded on organized exchanges
- Instruments traded on Derivatives Market
  - ✓ Forwards and futures
  - ✓ Options; and
  - ✓ Swaps

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Collective Investment Schemes (UT/CIUs)

- A Scheme where funds of various investors are pooled for investment purposes with each investor entitled to a proportional share of the net benefit of ownership of the underlying assets
- It consist of:
  - A pooling of resources of gain sufficient size for portfolio diversification and cost effective operation
  - professional portfolio management execute an investment strategy
- Structure of CIU
  - Corporate
  - Trust
  - Contractual
- Participants of CIU
  - Investors
  - CIS operator or manager
  - Portfolio manager
  - Board of Directors, trustee or depository
  - Investment Advisor
- Categories CIUs
  - Open-end funds
  - Closed-end Funds
  - Other funds
- Types of CIUs
  - Asset orientation
  - Investment objective

UNDERSTANDING COMPLEX INVESTMENT INSTRUMENTS…

Group Exercise – 10 minutes

Rates of Return – Interest rates are promised rates and based on contractual obligation while other assets (property, shares, commodities) do not carry promised rates of return.

- Price appreciation (depreciation) – any gain (loss) in the market price of an asset
- Cash Flow (if any) produced by an asset (cash dividends to shareholders, rental income from property, etc.)

What is the one-year rate of return for a share that was bought for $100 paid no dividend during the year and had a market price of $102 at the end of the year?

Formula: r = capital gain (loss) + cashflow

Where

$$r = \frac{\text{end price of share} - \text{beginning price of share}}{\text{beginning price of share}} + \frac{\text{cash dividend}}{\text{beginning price of share}}$$

INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE

Investment Management

- Insurers collect premiums from policyholders and invest the accumulated funds at the highest possible return at appropriate levels of risks, given regulatory requirements

- Board of Directors of an insurer is responsible for the establishment of an investment strategy and its implementation

- Two portfolios that has to be included in the investment strategy by an insurer
  - ✓ Insurance portfolio – claims against the insurer resulting from its accepted underwriting risks
  - ✓ Investment portfolio – securities held for the profitable employment of funds

INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Investment Process

- Statement of Investment Policy
- Asset Allocation
- Individual Security Selection
- Performance Evaluation

INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Statement of Investment Policy

- Define the responsibility of individual decisions and rank
- State the objective (i.e. maximize the risk–adjusted rate of return on portfolio)
- Ensure sufficient diversification of portfolio
- Address the investment horizon – maturity of assets to/or not to coincide with liabilities maturity
- Portfolio turnover – buy-and-sell strategy makes portfolio changes – investment goals change
- Tax considerations
- Liquidity need – insurer must maintain sufficient liquidity to meet its obligations towards policyholders

INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Asset Allocation Decision

- To ensure the portfolio's long-term return, an insurer's management must determine what proportion of the portfolio's assets will be allocated to:
  - ✓ Equities
  - ✓ Various fixed-income instruments
  - ✓ Derivative securities

Individual Security Selection

- Multiplication of the total assets amount in the portfolio by the proportion to be invested in an asset category-yields the amount of funds available to invest in individual securities
  - ✓ Portfolio manager to decide which securities to
  - ✓ Purchase;
  - ✓ Hold; or
  - ✓ Sell
- In accordance with the investment goals and risk constraints selection between the above is an ongoing process

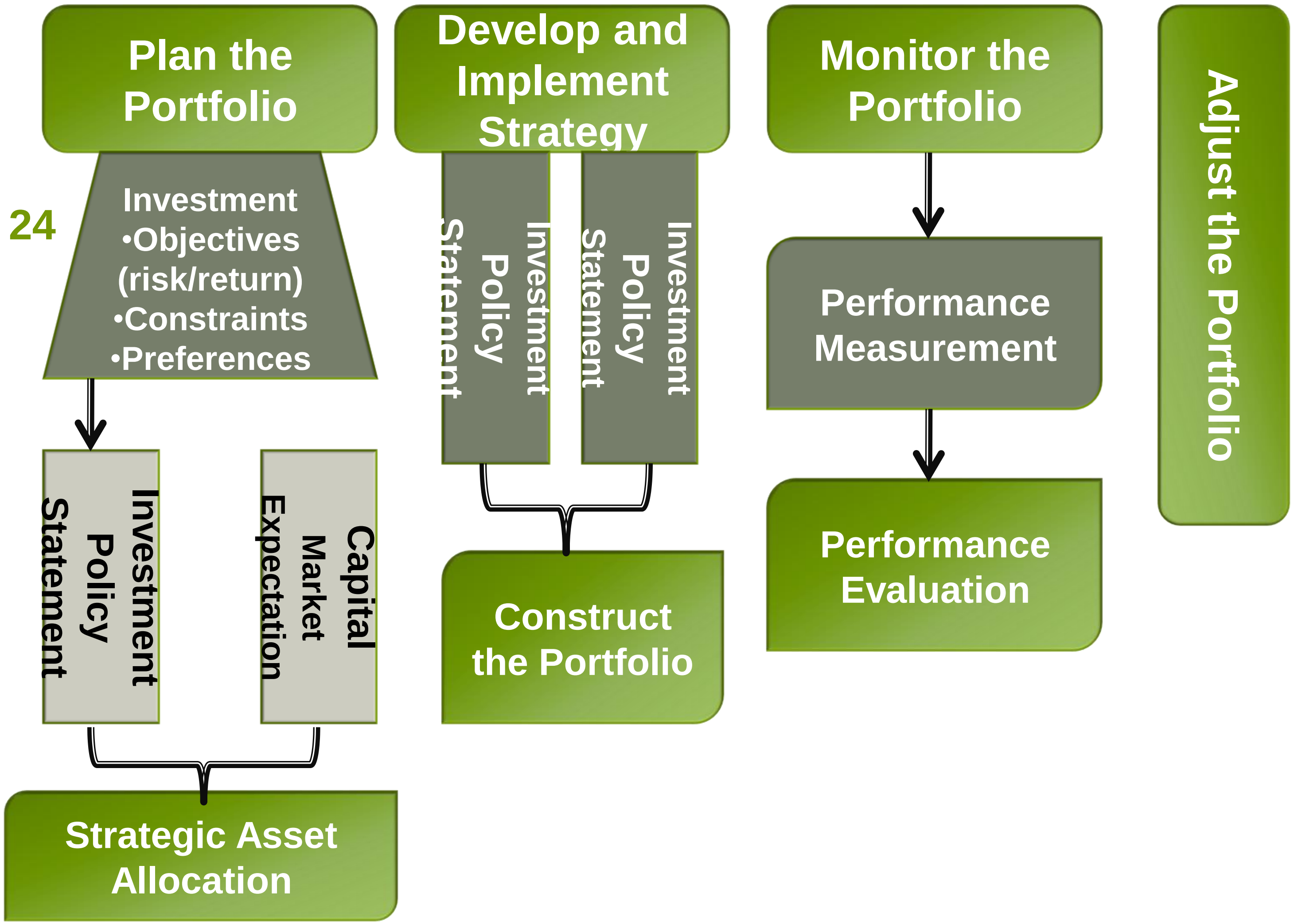
INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Performance Evaluation

- The last step is to monitor the portfolio performance. It involves:
  - ✓ Measuring the rate of returns; and
  - ✓ Measuring the degree of risk taken in achieving the return
- Also evaluates the performance of the investment managers

INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Portfolio Management Process



INVESTMENT POLICY – BASED ON RISK TOLERANCE, APPETITE AND CULTURE…

Investment Risk Management

- Each insurer should have an investment risk management strategy and policy in order to mitigate various risks faced by its investment portfolio
- This should however be built into the insurer's ERM framework
- Most financial risks that an insurer's investment are exposed to are:
  - ✓ Actuarial
  - ✓ Systematic
  - ✓ Credit
  - ✓ Liquidity
  - ✓ Operational
  - ✓ Legal
  - ✓ Including others

ASSET-LIABILITY MANAGEMENT (ALM) FRAMEWORK

Purpose of ALM

- It looks at all risks requiring coordination of the insurer’s assets and liabilities especially market risk, underwriting risk and liquidity risk
- Its objective is not to eliminate risk but to manage risks within a framework that includes self-imposed limits (i.e. ERM)
- It helps insurers to balance competing and legitimate objectives of growth, profit and risk
- ALM process will vary from insurer to insurer and reflect circumstances relevant to each however when designing ALM system and insurer should take new products in considerations

ASSET-LIABILITY MANAGEMENT…

- By nature an insurance business requires an insurer to make technical provisions, and invest in and hold assets to cover those technical provisions and solvency margins
- An insurer should have a sound asset management system and reporting framework across the full range of its investment activities
- A key driver of the asset strategy is the insurers liabilities profile – the need to ensure that it holds enough assets to meet those liabilities
- Detailed analysis and management of the asset/liability relationship is therefore a must
- This analysis involve:
  - ✓ Testing of the resilience of the asset portfolio to a range of market scenarios and investment conditions and
  - ✓ The impact on the insurer's solvency position

ASSET-LIABILITY MANAGEMENT…

- Depending upon the nature of its liabilities an insurer generally hold in varying proportions four main types of financial assets (directly or indirectly)
  - ✓ Bonds and other fixed-income instruments;
  - ✓ Equities and equity type investments;
  - ✓ Debts, deposits and other rights; and
  - ✓ Property
- Holding an asset portfolio carries a lot of investment-related risk to technical provisions and solvency
- Insurers therefore need to monitor, measure, report and control these risks

ASSET-LIABILITY MANAGEMENT…

Asset Class Segregation (Sample Table)

BREAKDOWN BY ASSET CLASSES					
	Table	Market Value		Historical Costs	
		Current Year	Last Year	Current Year	Last Year
Equity Securities					
Debt securities					
Loans					
Properties					
Cash and deposits					
Receivables					
Others					

ASSET-LIABILITY MANAGEMENT…

ALM Measurement Techniques

- Insurer's use different techniques to measure risk – the type of measurement tool used should be consistent with the risk characteristics of the insurer's business structure (
- A-L Matching - relative movement in the value of free assets for a given movement in interest rate (measuring interest rate sensitivity)

✓Let: Ai = the market value of total assets at interest rate I
Li = the fair value of total liabilities at interest rate I
Ai – Li = free assets at interest rate I
Therefore the absolute movement M in free assets for a shift in interest rates from i to j: equals [(Ai – Li) – (Aj – Lj)]

Measure of Matching: 100M/(Ai – Li) – percentage change in the value of free assets for
a given change in interest rates

✓Let: Ki = the market value of interest rate sensitive liabilities at interest rate I
Bi = the fair value of assets backing the interest rate sensitive liabilities at interest rate I
Measure of matching interest rate shift from I to j: 100[(Bj – Kj)]/Bi - the degree of mismatch for a given change in interest rates, expressed as a percentage of the interests rate sensitive assets

ASSET-LIABILITY MANAGEMENT…

- Composition of an agent portfolio should be the product of a well structured investment (Circular movement)
  - ✓ Formulation and development of strategic and technical investment policy
  - ✓ Implementation of investment policy – set clear precise investment mandates
  - ✓ Investment results to me controlled, measured and analyze including risks taken
  - ✓ Seek feedback at appropriate level regarding above
- Supervisor can set investment restrictions on asset classes that can be used for technical provisions
- Adequate internal controls relating responsibility and accountability levels

ASSET-LIABILITY MANAGEMENT…

An effective asset-liability management rest on the functioning of:

- Appropriate monitoring and control of the insurer’s risk management function
- Adequate systems of internal control
- Audit function that fully covers an insurer’s investment activities and ensure timely identification of internal control weaknesses and deficiencies on operating systems
- An effective supervisory system

ASSET-LIABILITY MANAGEMENT…

Role of Supervisor

- Supervisors to satisfy themselves that an insurer's asset-liability management function involves their ability to identify, monitor, measure, report and control the associated risks
- Requirement on insurers to have overall investment policy and procedures – reporting on quantitative and qualitative aspects of the investment performance
- When assessing insurers control mechanisms on the risks associated with their investments activities, supervisors to request information on:
  - ✓ Board's overall approach on policy for product, underwriting, reinsurance, investment and solvency
  - ✓ Asset-liability management procedures
  - ✓ Investment policy specifics
- Accessibility of the above information to supervisors during inspections and to external auditors

DISCLOSURES – INVESTMENT & ALM

An insurer must be required to disclose the following information in set timeframes by the supervisor:

- Investment objectives, policies and management
- Information about asset-liability matching and any changes thereto
- Information on management, structure and organization of its investment function and any changes thereto
- If investment objectives, policies and management differs significantly among business parts of an insurer, this should be disclosed separately
- Asset classes should be segregated by description and profile and this information should also be disclosed
- Information on returns on assets should be disclosed
- Information on its risks exposure should be disclosed

Due care to be exercise on the manner and detail of disclosure as some information are confidential and proprietory to the insurer's business

CONCLUDING THOUGHTS

Several elements need to be in place for an insurer to have an effective investment function to optimized its return on investments

- Supervisory standards on investment activities
- Effective financial and capital markets
- Insurers to implement and manage their investment portfolios and inherent risk through an effective investment strategy. The strategy to set out policies and procedures around:
  - ✓ Investment objectives (risks and returns)
  - ✓ The mixture and diversification of investment by type
  - ✓ Limits or restrictions on the amount that may be held in particular types of financial instruments
  - ✓ The safe keeping of assets
  - ✓ The appropriate matching of assets and liabilities
  - ✓ The level of liquidity
  - ✓ Responsibilities and accountabilities
- Based on supervisory requirement, insurers to regularly disclose information related to their investment functions and risks exposures

CREDITS

- Financial Markets – SAIFM
- Investment Management – IISA/UNISA
- Standard on Asset Management by Insurance Companies – IAIS 1999
- Standard on Asset-Liability Management – IAIS 2006
- Standard on Disclosures concerning Investment Risks and Performance for Insurers and Reinsures – IAIS 2005

THANK YOU!

QUESTIONS???