



AFRICAN ACTUARIAL CONSULTANTS

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6 September 2018

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Risk Based Capital & its Importance for Medical Schemes

AFHOZ Conference, Victoria Falls



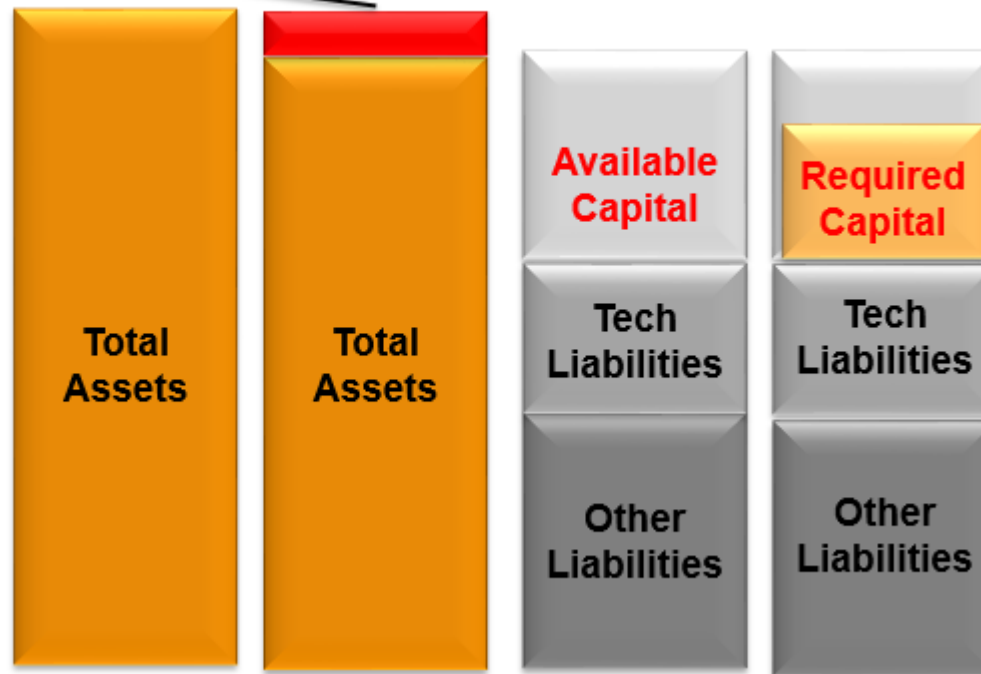
Agenda

1. Solvency & Capital
2. Current Solvency & Capital framework
3. Strengths & Weaknesses of current framework
4. Alternative Solvency & Capital frameworks
5. Overview of RBC framework
6. Key risks covered by RBC framework
7. Global trends in Solvency Management
8. Proposed implementation of RBC in SA
9. Summary: RBC vrs % of Contributions framework

Solvency and Capital

- By law, all medical schemes are required to be solvent at all times

Inadmissible
Assets



- Solvency revolves around the comparison of **Available Capital** to **Required Capital**

Current Solvency & Capital framework

- The main goals for setting required capital are to:
 - To improve the safety and soundness of medical schemes – provide financial stability
 - To protect the interests of members and beneficiaries
 - To provide for an early warning system with a supervisory ladder of intervention that enables timely intervention in the interest of policyholders
 - To promote healthy market competition
 - To minimize barriers to entry
 - To improve confidence in the medical aid sector
 - To enable orderly exit of insolvent schemes from the market

Strengths & Weaknesses of current framework

- **It is easy to implement and monitor being simplistic**
- The underlying risk faced by the scheme is not addressed
- Members may have to contribute more than what is necessary to maintain reserves
- It fails to incentivise good risk management by schemes
- Framework makes it difficult for schemes which are growing as they need to accumulate greater reserves
- The calculation of the 25% solvency includes member's savings accounts for schemes with a savings component

Alternative Solvency & Capital frameworks

- **Contributions based solvency**
- Minimum fixed capital
- Contribution & claims experienced based solvency
- Market solutions
- Statutory professional involvement
- Risk Based Capital

Overview of RBC framework

- RBC is the quantification of how much capital a scheme may lose due to **risk events** at given **confidence level**
- RBC aims to protect schemes from insolvency arising from severe **unexpected** losses
- The amount of capital needed is dependent on the scheme's **risk appetite** and the confidence level applied
- The safer a scheme wants to be, the more capital it requires – **BUT** capital is not the only effective mitigant

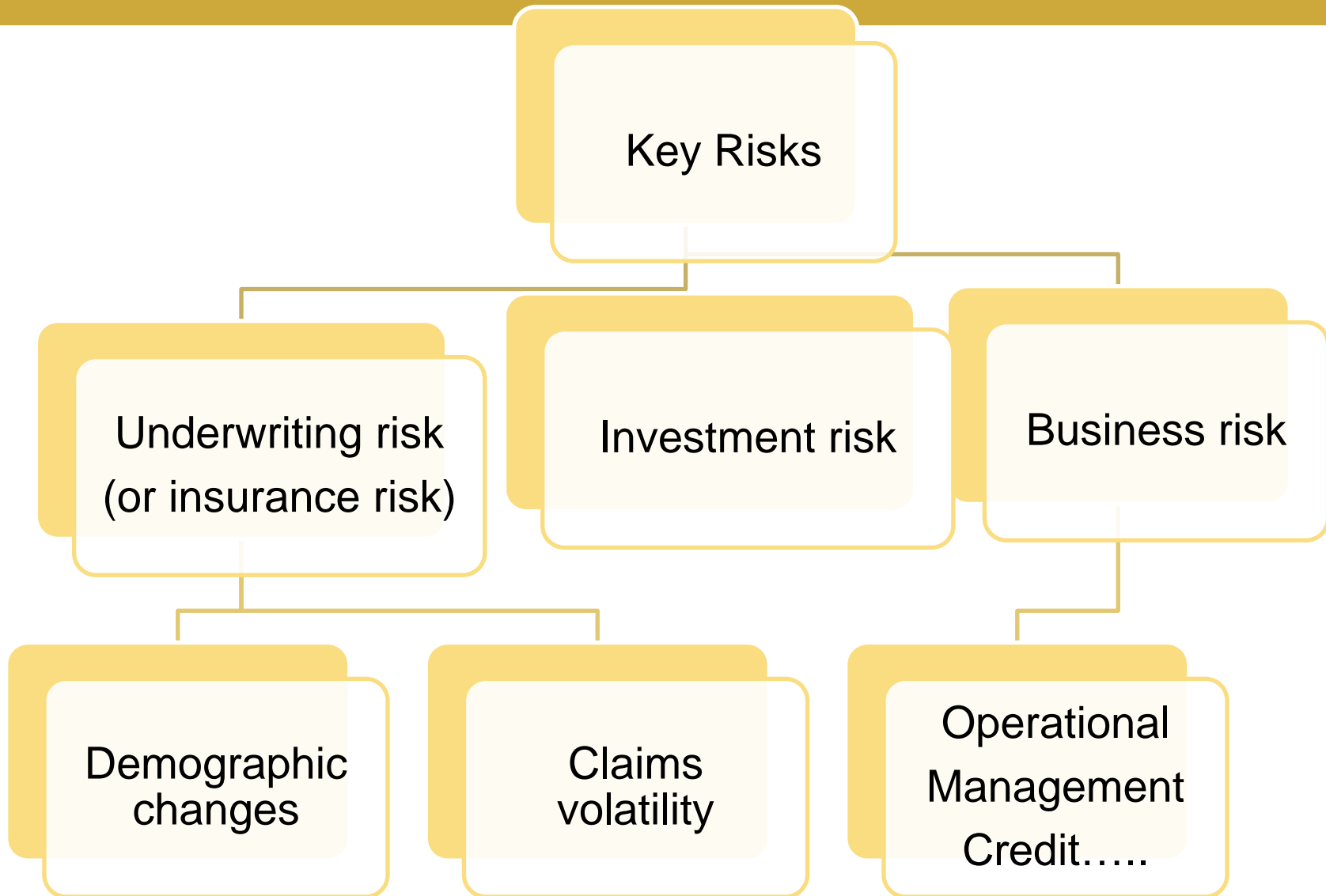
Some limitations:

- Past experience not necessarily good indicator of future
- Some risks are both challenging to measure and manage (e.g. operational risk, reputation risk)
- Aggregation effects are difficult to measure and manage
- RBC often estimated differently by different firms which makes benchmarking difficult

Assumptions required - based on difficult judgements

Potential for error in model design

Key Risks Covered by RBC framework



Source: The BHF Southern African Conference

Underwriting Risks

- Premium risk
 - Insufficient premiums set at underwriting for risks taken
.....e.g ageing population which brings increased morbidity
 - Rating structure – Anti selection
..... A major challenge for individual rates in Zim where there is no medical underwriting carried out

- Reserving Risk
 - Technical liabilities inadequate to cover risks written
.....Reinsurance may help
.....Brings in asset liability mismatch challenges

Investment Risks

- Market risk
 - Equity price movements
 - Interest rate movements
 - Real estate price movements
 - Exchange rate risk e.g foreign treatments
- Credit/Default risk
 - Third party defaults, debtors or reinsurers
- Liquidity risk
 - Current liquidity crunch coupled with exchange rate risk
 - Ensure sufficient liquidity at all times, particularly peak periods

Operational Risks

- Operational Risk
 - Insufficient controls in place
 - Fraudulent claims
 - Failure to put sufficient risk mitigation strategies in place
 - Compliance risk
 - Strategic risk
 - Administration risk
 - Governance risk
 - Technological Risk

Business Risks

- Expense risk
 - Higher than anticipated expenses in claims handling
 - Poor reserving problems
 - Accumulation of risks
 - Claims handling procedures
- Outsourcing risk
 - Outsourced third parties, e.g under managed care arrangements, may fail to perform agreed

Diversification of risks needs to be considered as same events can have opposite impact on capital

Global Trends in Solvency Management

- Solvency II has been adopted in Europe as basis on which minimum capital requirements for insurers are determined
- Officially adopted in 2009. Fully implemented by 1 January 2016. Variations have spread globally. IPEC considering
- Solvency II capital adequacy requirement takes into account operational, liquidity, credit, insurance, market risks
- Insurers can either use some aspects of the prescribed formula, their own models or a combination of both
- Regime enhances market disclosure, effective risk management, internal control and governance systems
- Banks have implemented Basel 2 & 3: all risk based
- As medical schemes & health insurers evolve fixed capital and % of contributions being replaced.

Proposed implementation of RBC in SA

- SA currently on 25% of contribution – similar to Zim
- Proposed RBC framework to account for 3 main risks:
 - Business Risk (day to day capital needs for a scheme)
 - Assets Risk (fall in market values in extreme events)
 - Operational Risks (failures in People, Systems & Processes)
- Sum of above components provides minimum capital
- Investment guidelines to be kept (Annexure B though may be revised) -will help minimise liquidity risks
- 3 year time horizon - not to have a too short term view
- Low probability of failure/ruin: 1% (1 in 100) over a 3 year period
- One model for all schemes to calculate reserves

Proposed implementation of RBC in SA

Risk Category	Key Risk	Risk covered in the RBC Framework?
Financial	Solvency	Yes
	Bad Debts	No
	Non-Healthcare Expenditure	Yes
	Claims Profile	Yes
	Benefit Pricing	Yes
	Reporting/IBNR	No
Underwriting	Membership demographic profile: Number of members, average age, chronic prevalence, chronic ratio	No
	Scheme loss ratios	No
Credit Risk	Third party failure e.g. Manager Care Organisations, Administrators, Brokers	No
Strategic	Investment policy and investment strategy	Yes
	Competitiveness of Benefit offering	No
	Long Term Sustainability	No
	Regulatory compliance	No
	Reputational	No
Corporate Governance	Changes and Compliance with regulation, rules, contracts and SLAs	No
	Succession planning	No

Proposed implementation of RBC in SA

	Trustee Education and training	No
Operational	Admin systems and data integrity, third party failure	No
	Claims coding and verification	No
	Membership and contribution management	No
	Member Servicing and Call Centre efficiency	Yes
	Staffing and resourcing	No
	Fraud and Forensics	Yes
External	Third Party Contracting	No
	SLA Compliance	Yes
	Accessibility, availability and financial strength of providers	No
	Catastrophe, pandemics, natural disasters	Partial

Summary: RBC vs 25% Solvency

- Both act as a cushion against scheme insolvency
- 25% may turn out too high for some schemes but inadequate for others, depending on risk assumed
- RBC is responsive to risk – allows for ‘triggers’
- RBC promotes proactive risk management which in turn improves scheme stability
- Changes in the operating environment are taken into account under the risk based approach
- RBC allows for interaction between risks (Correlations) - beneficial through diversification
- Allows for statistical modelling using internal data to in order to gain insight into the business

Summary: RBC vs 25% Solvency

- RBC interacts well with reinsurance programs for special contracts when modelled together
- RBC also interacts well with contributions pricing methods which are all risks driven
- RBC allows for other measures eg Risk Adjusted Return on Capital, to be implemented and track performance of different medical scheme plans
- Enables efficient allocation of capital
- Modelling challenges where there is lack of data
- Can also be complex to communicate and therefore difficult to implement effectively
- **THANK YOU!**



OUR ACTUARIAL & RISK ADVISORY TEAM



BACKGROUND TO ALEXANDER FORBES GROUP

- Alexander Forbes Group is a specialized financial services company established in 1935 with headquarters in South Africa.
- We have operations in a growing number of African countries, focusing on Actuarial Consulting, Insurance, Employee Benefits, Banking Risk solutions for institutional clients and retail financial solutions for individual clients.
- Alexander Forbes' African businesses have over 4,000 institutional clients, 175,000 retail customers and 1.4 million members under administration and more than \$32 billion in Assets under Management and Administration.
- As a group, Alexander Forbes has extensive business experience in Africa.
- Emerging Markets division houses Alexander Forbes' network of offices and correspondents throughout Africa outside of South Africa.
- The Alexander Forbes Group employs more than 60 qualified actuaries and actuarial students across 7 countries making it one of the largest employers of actuaries on the African continent.
- African actuarial Consultants is a subsidiary of the Alexander Forbes Group providing actuarial services to many financial and non-financial institutions in Africa for over a decade.
 - In 2017, Alexander Forbes acquired majority stake in African Actuarial Consultants with its wide experience and clients in Actuarial services

BACKGROUND TO AAC

Team AAC provides specialized, independent and objective advice to Financial Services firms across Africa

Arose from the merger of Quantum C&A and AAC

We are a subsidiary of Alexander Forbes - part of the Mercer, Marsh and Oliver Wyman Group

Our range of actuarial services to financial institutions include:

- Quantitative Modelling
- Risk Management
- Capital and Solvency Management
- Data Management and Analytics
- Product Development, Pricing and Funding
- Actuarial Valuations
- Internal and External Audit Advisory

Strong actuarial contingent, including 4 qualified local actuaries, 1 CFA Charterholder, 12 actuarial consultants and Risk Management specialists

Specialist focus on Insurance, Health and Employee Benefit Schemes

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