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SOUTH AFRICA



AFRIC Victoria Falls – July 2023 – Sovereign Credit Risk

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Why are we concerned about Sovereign Credit Risk?



Definition:

- **Sovereign credit risk is the potential that a government will default on its debt, and may take various forms:**
 1. Late or no payment by government of a sovereign state in terms of interest or principal due
 2. Due to being unwilling or unable
 3. Can be announced or unannounced

Impact of Sovereign default

- Loss of access to capital markets
 - Increased borrowing cost
 - Economic damages and reduced economic activity
 - Secondary impacts on local banks
 - Cost in terms of the fees incurred in creditor lawsuits in the case of default
-

Sovereign credit risk - Types



Two main types of sovereign default events:

TYPE	DESCRIPTION
Foreign default	Default in a currency other than that of the sovereign
Local default	Default on debt issued in sovereign's own currency

Default risk of the South African Government



- The South African government was downgraded in 2020 to BB- by S&P and Fitch and Ba2 by Moody's.
- Since Covid-19 the gross debt to GDP has worsened – high debt to GDP ratios tend to be used as an indicator for the likelihood of government default events, although interest repayments vs revenue can sometimes be a better indicator.
- Other South Africa specifics:
 1. Series of bailouts for state-owned entities (SOEs) like Eskom, South African Airways and most recently also SASRIA
 2. Government has guaranteed certain parts of SOE debt
 3. South African banks held on average more than 20% of their assets in government debt in 2020 – potentially a large degree of systemic risk



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Actuarial Society of South Africa's Sovereign Credit Risk Working Group

Scope and Objectives

Sovereign credit risk – Significance to banks



- The objective of the working group is:
 - **To create awareness about sovereign credit risk** (not to provide guidance as to how the risks related to sovereign default should be managed)
 - **To provide useful information in order for insurers and retirement funds to determine their own approach to managing sovereign credit risk**
- This overall objective is facilitated by:
 - Providing insights on how a South African default scenario might unfold given default events observed globally
 - Providing insights into how other global insurers and retirement funds have dealt with sovereign credit risk from a quantitative and risk management perspective
 - Provide insight into the potential magnitude of the sovereign risk credit which is currently not captured in the insurance solvency capital requirements and retirement fund in the valuation bases, solvency positions, projection statements and investment strategies
 - Provide an overview of conduct considerations for those products exposed to South African sovereign debt
 - Investigate South African industry practices with regards to measurement, exposure and management of sovereign credit risk



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Global case studies

Global sovereign credit events and what we can learn from them.

Case study criteria



- Events that took place after 1995 given developments in dealing with these
- Only consider rates sovereigns
- Other specific events that are of particular interest e.g. defaults in South Africa and other similar economies

Summary of Credit Events Investigated



Total Events Investigated	34	
Included Debt Restructure	34	100%
Included Foreign Debt Default	28	82%
Included Local Debt Default	11	32%
Included both a Local and a Foreign default	7	21%

Credit Events Investigated 1/2



NO	YEAR	COUNTRY	LOCAL DEFAULT	FOREIGN DEFAULT	RESTRUCTURE	RECOVERY RATE
1	1980	Brazil		Y	Y	Not available
2	1985	South Africa		Y	Y	92%
3	1989	South Africa		Y	Y	87%
4	1993	South Africa		Y	Y	78%
5	1997	Thailand			Y	Not available
6	1998	Russia	Y	Y	Y	18%
7	1999	Pakistan		Y	Y	52%
8	1999	Turkey			Y	Not available
9	2001	Argentina	Y	Y	Y	27%
10	2002	Moldova		Y	Y	60%
11	2003	Uruguay		Y	Y	66%
12	2003	Nicaragua	Y		Y	Not available
13	2004	Cameroon	Y		Y	15%
14	2004	Dominican Republic		Y	Y	95%
15	2006	Belize		Y	Y	76%
16	2008	Nicaragua	Y		Y	49%
17	2008	Ecuador		Y	Y	28%

Credit Events Investigated 2/2



NO	YEAR	COUNTRY	LOCAL DEFAULT	FOREIGN DEFAULT	RESTRUCTURE	RECOVERY RATE
18	2010	Jamaica	Y	Y	Y	90%
19	2011	Greece	Y	Y	Y	37%
20	2012	Belize		Y	Y	40%
21	2013	Cyprus	Y		Y	53%
22	2013	Jamaica	Y	Y	Y	89%
23	2014	Argentina		Y	Y	68%
24	2015	Ukraine		Y	Y	80%
25	2016	Mozambique		Y	Y	88%
26	2017	Mozambique		Y	Y	61%
27	2017	Belize		Y	Y	65%
28	2017	Republic of Congo		Y	Y	81%
29	2017	Venezuela		Y	Y	28%
30	2018	Barbados	Y	Y	Y	56%
31	2019	Argentina	Y	Y	Y	43%
32	2020	Zambia		Y	TBC	TBC
33	2020	Lebanon		Y	Y	17%
34	2020	Ecuador		Y	Y	27%

Key responses observed pre-default



- Additional revenue raised to meet expenses

Tax Reforms



- Structural changes to government spending to reduce expenditure to balance its accounts

Fiscal Reforms



- Reduction in public expenditure (e.g. State Benefit Reductions)

Austerity



- Central bank intervention to increase interest rates

Interest Rate Increase



- A change in central bank policy to forgo an inflation target to potentially reduce the impact of future fixed rate commitments on local debt

Increasing Inflation



- Purposeful devaluation of currency to increase exports or to stimulate growth

Currency Devaluation



- Cash and investment withdrawal restrictions

Capital Outflow Controls



- Nationalisation of private pension funds or other assets
- Provision of a government owned low-cost pension which is government guaranteed

Nationalisation of Assets and Pension Reforms



Key responses observed post-default



- Typically, a switching of shorter date debt into longer dated instruments or repurchase of debt (typically at a hair cut)

Restructure



- An injection of funds (usually in the form of debt), usually subject to fiscal or other reform requirements that allow a stressed sovereign to settle near term debt obligations

Bail-Out
(Regional or
IMF)



- A once-off tax on investments and deposits to help a stressed sovereign (or bank) meet its debt obligations

Bail-in



- Where the state passes on the decision-making to its population on whether a particular reform should be selected

Referendums
and Early
Elections



Evolution of structures



- Restructuring typically results in a longer duration of a bond, with lower coupons and/or lower principal, often with a recovery rate lower than 100%
- International norms and standards exist for restructuring processes
- Collective Action Clauses (CACs):
 1. Provisions included that allow a majority of creditors owning a single bond series, or across bond series, to bind the minority to the restructuring terms
 2. Reduces the risk of a minority of “hold-out” creditors that may disrupt the restructuring process by holding out for full repayment instead of settling for restructured debt
- Use of CACs have allowed restructures to be mostly pre-emptive, to conclude faster and have led to a higher average participation than prior thereto
- As such, the use of CACs in restructures addresses the liquidity issues to some extent, but not
 1. The loss for the investor due to the recovery rate being <100%
 2. The mismatch between assets and liabilities that may arise post the restructure

Conclusion



- Governments globally have tried a wide variety of responses pre-default, with fiscal and tax reforms seeming to be most effective
- All the events analysed involved a default and a restructuring of debt, however, it is challenging to identify and study near misses where default did not actually occur, so there may be other cases
- A restructure typically addresses the liquidity concern, but is often not a long term solution, comes with challenges and could be painful for those involved in the process
- Local vs Foreign debt default:
 - Only 32% of the credit events analysed involved local defaults while 82% of defaults involved foreign defaults
 - As such, the burden of foreign currency debt is a common cause for sovereign credit events
- A default on even a single bond payment or coupon can have large knock-on implications, but it is possible to recover (at least to some extent) from sovereign default events



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Sovereign credit risk management – Case of South Africa

Based on the ASSA Sovereign Credit Risk Working Group Industry Practices -
Insurance Survey Results

Sovereign credit risk practices survey

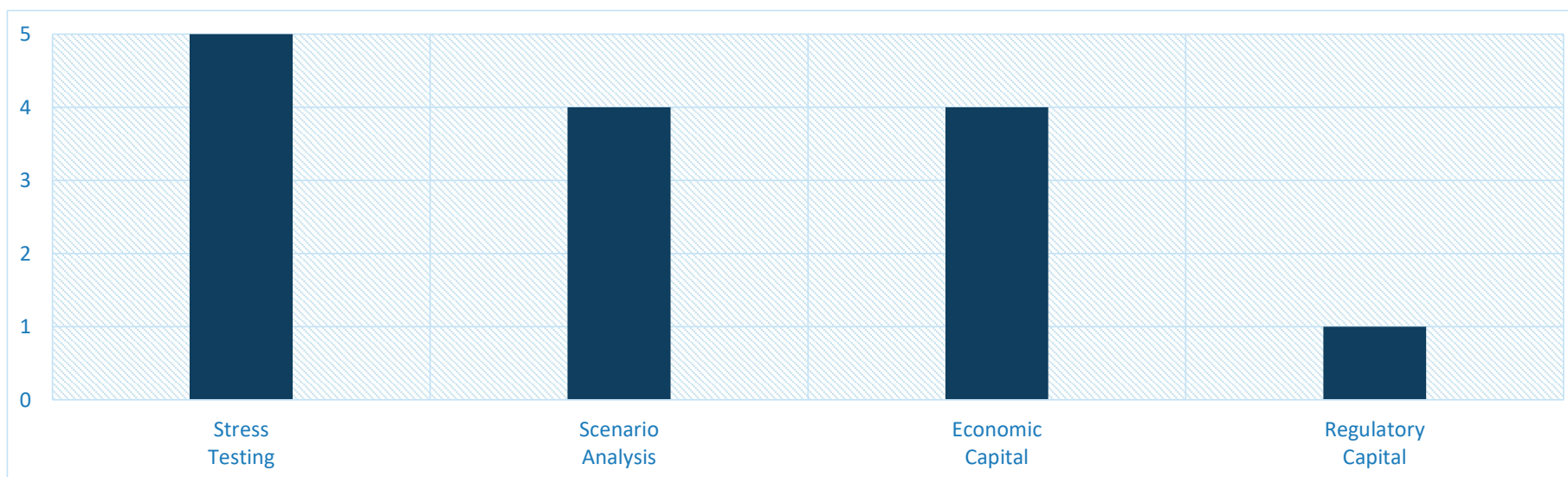


- The survey covered three dimensions:
 1. Risk measurement
 2. Risk exposure
 3. Risk management

Sovereign credit risk practices survey- Risk Measurement



WHICH OF THE FOLLOWING APPROACHES DO YOU USE TO MEASURE YOUR EXPOSURE TO SOUTH AFRICAN SOVEREIGN CREDIT RISK?



Regulatory Capital: Entity part of global insurance group that uses internal model for regulatory capital

Sovereign credit risk practices survey- Risk Measurement



SOVEREIGN DEFAULT SCENARIOS CONSIDERED BY SOUTH AFRICAN INSURERS

- Two scenarios considered (moderate and severe scenario) over a 5-year period with both **including a debt re-structure**, but with different conditions
- Assumed **the South African Reserve Bank remains independent with an inflation targeting mandate**
- The period leading up to the default entails a **recessionary environment**, amplified by **global shocks** impacting on emerging markets, that results in severe impacts on market value of bonds, equities and exchange rate and the operating environment of insurance groups resulting in a **decline in solvency and liquidity positions**
- **Modelled the post-restructure** improvement in government bond yields as this is most relevant to the valuation of insurance liabilities and **ALM loss assessment** during a re-structure, as re-structured assets would not match liability cash flows
- Impact was measured on **solvency, liquidity and earnings**

Considered several scenarios:

- **Hyperinflation** (i.e. if government prints money)
- A **managed default** where there is a negotiated restructure of Sovereign Debt (similar to the Jamaican Debt Exchange)
- An **unstructured default**

Considered various scenarios for path to default and actual default:

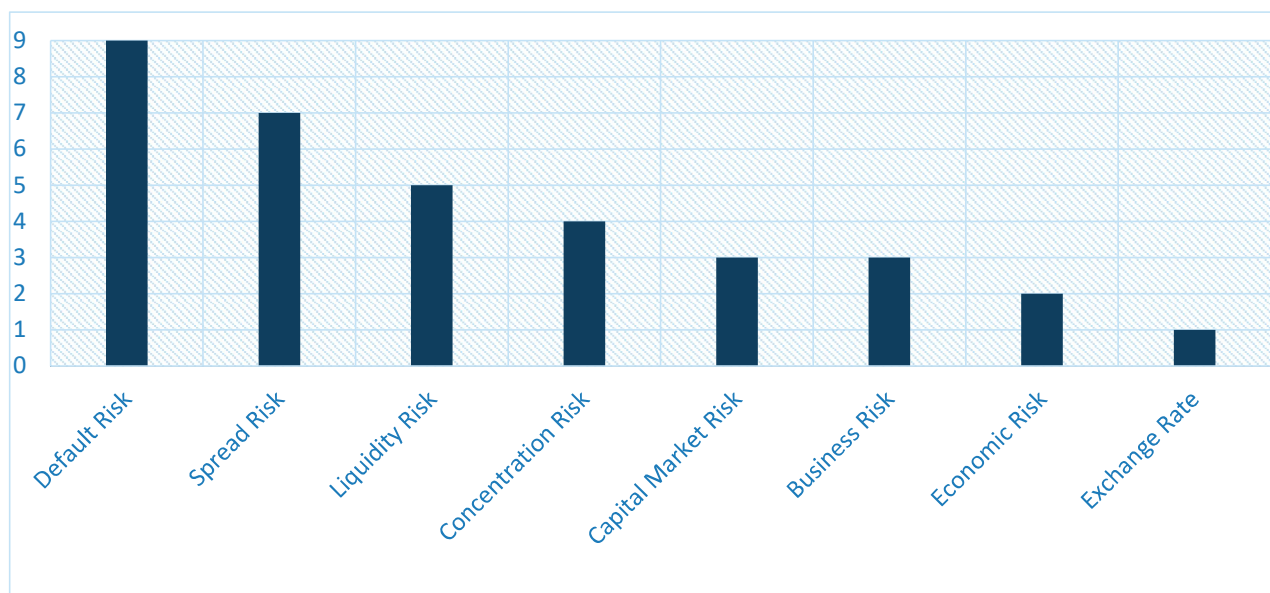
- **Path scenarios**: deterioration in sovereign credit standing leading to (a) **high inflation** scenario as the government attempts to inflate itself out of debt or (b) **stagnation and currency decline**
- **Default scenarios** (1) Haircut for SA government debt; (2) Haircuts for SA government debt, Bank debt and SOE debt

Scenario considered includes the impact of sovereign default on **markets, inflation and capital requirements.**

Sovereign credit risk practices survey- Risk Measurement



WHICH RISKS DO YOU CAPTURE IN YOUR MEASUREMENT OF SOUTH AFRICAN SOVEREIGN CREDIT RISK?



IF YOU MODEL SOUTH AFRICAN SOVEREIGN CREDIT RISK EXPLICITLY, WHICH APPROACH DO YOU USE?

- Moody's Risk Frontier Model
- Economic capital credit risk modelling based on local currency credit ratings for SA government
- Point in time stress test

Sovereign credit risk practices survey- Risk Exposure



ARE YOUR SOLVENCY POSITION AND LIQUIDITY RISK SIGNIFICANTLY EXPOSED TO THE SOUTH AFRICAN SOVEREIGN'S CREDIT RISK?

Solvency Position	Liquidity Risk	
	Yes	No
Yes	7	1
No	1	5

THOSE WHO SAID YES:

- Sovereign bonds are a core component of **hedging and ALM**
- Sovereign exposure is managed within certain limits but the **exposure is still material**

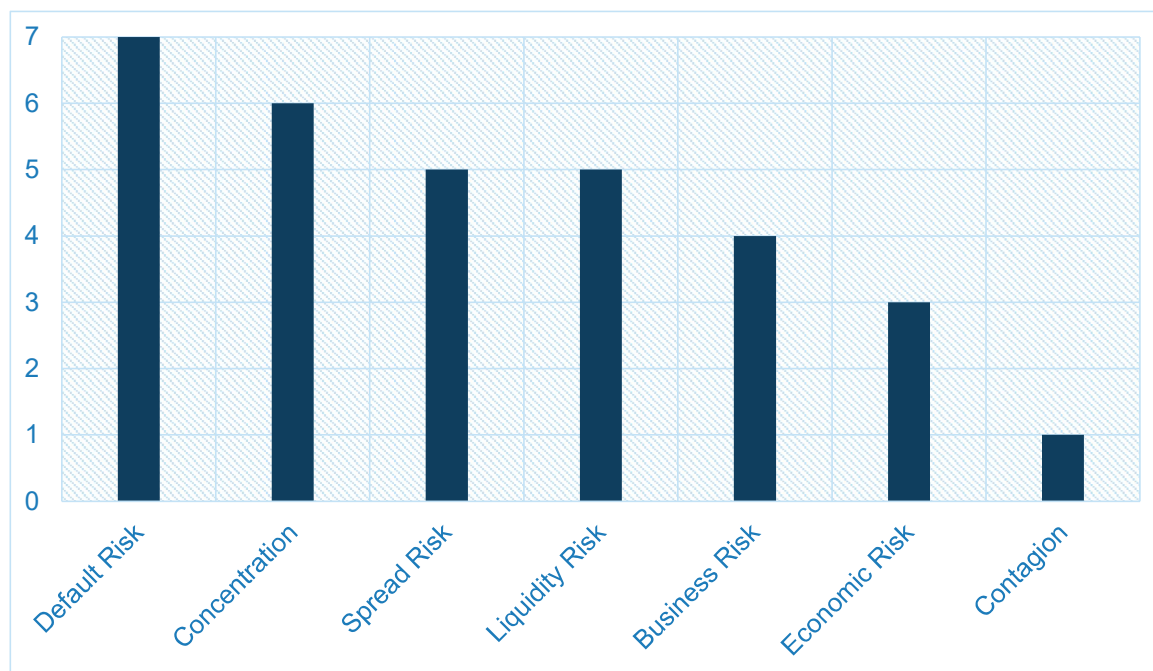
THOSE WHO SAID NO:

- As government is **treated as risk-free** no threat to solvency position - the threat emerges in the event of default
- No **direct exposure** to SA Government sovereign credit risk

Sovereign credit risk practices survey- Risk Exposure



WHICH COMPONENTS OF SOUTH AFRICAN SOVEREIGN CREDIT RISK IS YOUR BUSINESS MAINLY EXPOSED TO?



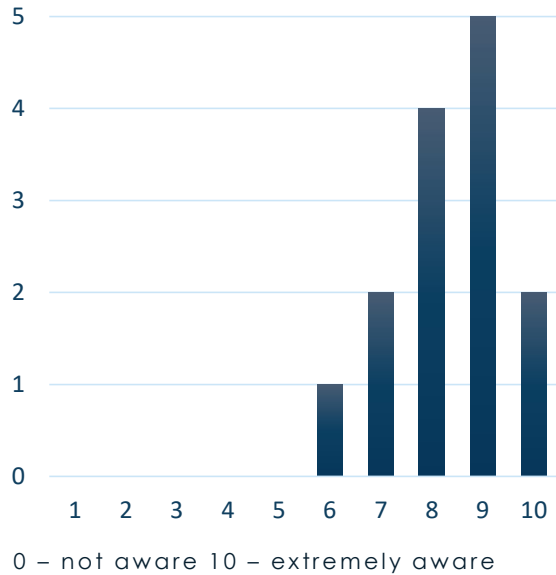
WHICH FEATURES OF YOUR BUSINESS DRIVE YOUR EXPOSURE TO SOUTH AFRICAN SOVEREIGN CREDIT RISK?

- Government bonds **used for ALM** on insurance portfolios and to back technical reserves, in particular for **guaranteed products** (risk and annuities)
- For those insurers who sell these products, guaranteed **annuity portfolios** are a large driver

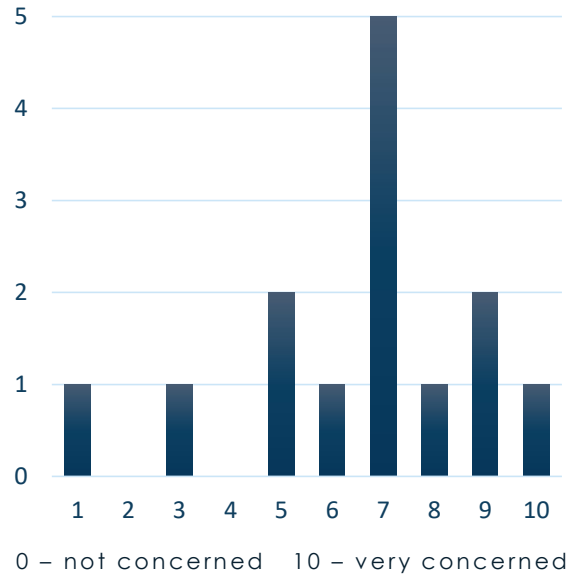
Sovereign credit risk practices survey- Risk Exposure



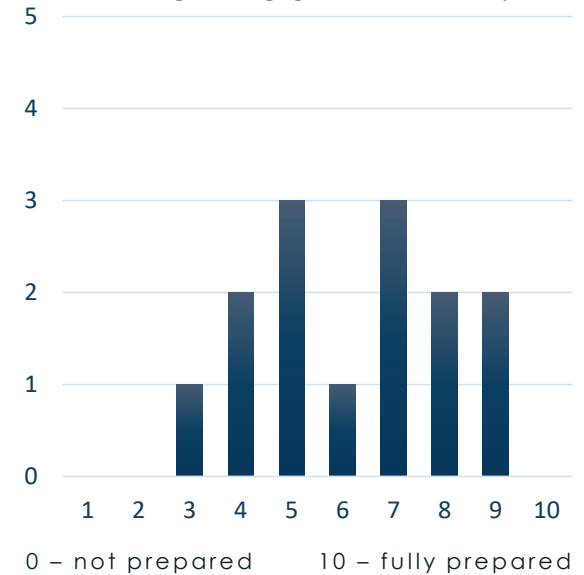
HOW AWARE IS YOUR BOARD OF SOVEREIGN CREDIT RISK FOR THE SOUTH AFRICAN GOVERNMENT?



HOW CONCERNED IS YOUR BOARD ABOUT SOVEREIGN CREDIT RISK FOR THE SOUTH AFRICAN GOVERNMENT?



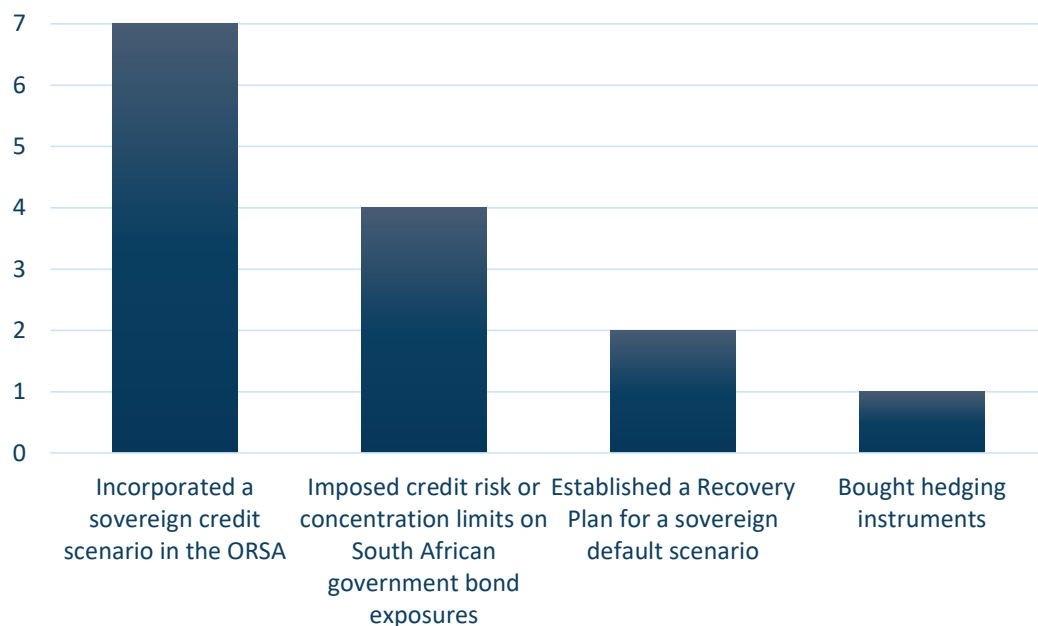
HOW PREPARED DO YOU THINK YOUR ORGANISATION IS TO HANDLE A CREDIT EVENT RELATED TO THE SOUTH AFRICAN GOVERNMENT?



Sovereign credit risk practices survey- Risk Management



WHAT HAS YOUR COMPANY DONE TO PROACTIVELY MANAGE SOUTH AFRICAN SOVEREIGN CREDIT RISK?



• Sovereign credit/default scenarios

- Considered the economic outlook scenarios and how these translate into business impacts
- Assumed a 30% rise in nominal interest rates and inflation following a rating downgrade

• Preparation for the scenario

- Performed several Sovereign distress scenarios and assessed what actions could be taken to recover
- A Sovereign Credit Rating Action Plan was implemented that specifies maximum exposure limits
- Monitoring likelihood of default, with agreed plans to kick in as likelihood increases
- Introduced liquidity and Force Majeure clauses into all contracts

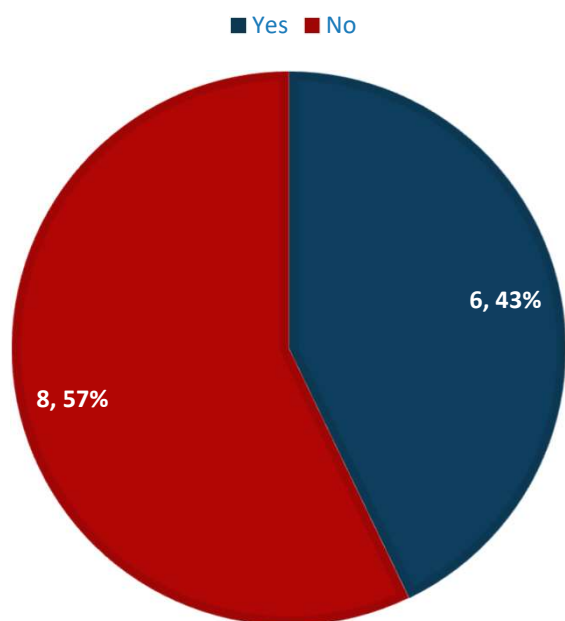
• Annuity products

- Started pricing explicitly for sovereign risk in certain guaranteed products
- Considering to alter annuity product design
- Other: Parental guarantee implemented for solvency purposes

Sovereign credit risk practices survey- Risk Management



DOES YOUR COMPANY INTEND TO ENHANCE THE APPROACH TO MANAGING SOUTH AFRICAN SOVEREIGN CREDIT RISK IN THE NEAR FUTURE?



HOW DO YOU INTEND TO MANAGE THIS RISK?

- Scenarios have indicated that a Sovereign credit event would be extremely systemic in nature and would **hit the insurance industry not only through direct Sovereign exposures but also through the SA banking system** - several actions would need to be considered to be able to withstand a more serious Sovereign default
- The difficulty in preparing for such an event is that if the sovereign defaults it will have **knock on effects for all local banks**, so it is hard to mitigate
- Monitoring and mitigation plan covering **strategic, operational and financial resilience** has been implemented
- Significant thought has gone into managing this risk, but given that it is a low probability high impact event it is **difficult to implement practically if the peer group in the SA market does not follow suit**, as actively managing this risk may make you uncompetitive

Conclusion



- Some South African insurers have put in significant effort to measuring sovereign credit risk
- The scenarios considered focus on the economic impacts of a sovereign default event, with most anticipating an increase in inflation, as well as the impact of a debt-restructure
- Many insurers are significantly exposed to this risk in terms of their solvency and liquidity positions, whereas a large number consider the exposure insignificant for both
- While most boards are aware of the risk, there are varied views about whether it is a concern and how prepared the industry is for such an event
- The majority of the insurers consider a sovereign default scenario in their ORSA and some have also implemented risk/concentration limits and response/action plans
- There are concerns about the impact of this scenario on the banking system



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Sovereign Credit Risk: Banking Perspective

Sovereign credit risk – Significance to banks



- Banking regulations have caused banks to hold more sovereign debt on their balance sheets.
- Therefore, Bank stability should depend on the creditworthiness of governments

Significance of Sovereign Credit risk- Studies done (1):



- There was a study done to examine the relationship between sovereign credit ratings and bank stability in Central America and the Caribbean (CAC), with data on 177 banks from 24 countries for the period 1999-2014.
- What was found:
 1. Sovereign rating downgrades precede deterioration in bank stability
 2. Sovereign risk spill-overs are more intense in countries with:
 - i. low foreign currency reserves
 - ii. limited financial transparency
 - iii. weak central bank independence

Significance of Sovereign Credit risk- Studies done (1):



- What do these findings imply?
 1. Banks are vulnerable to the aggravation of sovereign risk concerns
 2. Financial stability analysis, sovereign risk assessment, and appropriate design of bank scenarios need to incorporate macro-financial linkages
 3. The complexity and entwining of sovereigns and private sector balance sheets requires a more holistic approach to risk analysis and stress testing

Significance of Sovereign Credit risk- Studies done (1):



- There are three contagion channels from sovereign risk to bank risk:
 1. Information cascade.
 2. Balance sheet exposure.
 3. Asset valuation adjustments
 - Discuss this in detail on next slide.
-

Significance of Sovereign Credit risk- Studies done (1):



Channel	Description
Information cascade	<p>Sovereign downgrades cause households and firms to lower their beliefs about future economic conditions, causing</p> <ul style="list-style-type: none">○ A cut on their expenditure e.g. underservicing loans○ Investors demanding higher risk premia○ Increased bank borrowing costs
Balance sheet exposure	<p>Banks' holding of sovereign debts tend to increase their risk profile when sovereigns are downgraded. The likely effects are:</p> <ul style="list-style-type: none">○ Increased costs of funds and compressed interest margins for banks○ They respond by increasing loan rates, which adversely impacts borrowers' ability to service their loans
Asset valuation adjustments	<p>Sovereign holdings constitute a significant proportion of banks' assets.</p> <ul style="list-style-type: none">○ Sovereign downgrades likely to negatively impact the profitability of banks due to credit value adjustments.○ In response, banks are likely to increase their lending rates.○ Increased lending rates adversely affects borrowers' ability to service their loan obligations, hence increases the non-performing loans (NPLs) of banks

Significance of Sovereign Credit risk- Studies done (1):



Another contagion channel is based on the idea that sovereign ratings tend to impose a “sovereign ceiling” on the rating of domestic firms and banks, particularly in small and opaque markets

A negative outlook about sovereigns can lead to a general deterioration of domestic credit ratings and reinforce the initial shock.

Economic agents may anticipate that the government will force banks to buy their bonds by, inter alia, raising bank reserve requirements.

This may give rise to the “moral suasion” hypothesis and households and firms may refrain from depositing money into banks .

Banks may be forced to ration credits (reduce lending) by raising lending rates.

Significance of Sovereign Credit risk- Studies done (1):



The impact of sovereign stress on bank behaviour is mainly in two-folds:

Public, bailed-out and poorly capitalized banks were more likely to purchase domestic government debt in response to sovereign stress, in support of the “moral suasion” and “carry trade” hypotheses.

Banks decrease lending when there is increased sovereign stress due to bank losses on public bonds.

Significance of Sovereign Credit risk- Studies done (1):



- In the developing world, an understanding of the impact of sovereign credit risk on banks is important due to the following:
 1. Banks have high exposure to sovereigns due to the underdeveloped microstructure of the financial system and high banking reserve requirements.
 2. These markets are highly vulnerable to shocks stemming from high global trade exposures and natural disasters
 3. Bank credit is the dominant form of financing for the real economy, government, and household sectors
 - As a result, sovereign rating downgrade adversely impacts bank stability
-

Significance of Sovereign Credit risk- Studies done (1):



The sovereign risk spill-over is particularly intense in countries with low international reserves, reporting transparency, and central bank independence

- High reserves provide reassurance to the market that the country is still likely, despite the downgrade, to meet its debt obligations
- In turn, banks and markets are less affected and continue to function under normal business conditions. Further, banks and markets are less affected when reporting is made transparently, and central banks and governments are not connected.
- In such environments, banks are less likely to face pressure (moral suasion) from governments to finance their debt and domestic ratings are less dependent on the sovereign rating ceiling

Sovereign Credit risk - Impact of on Bank funding conditions



1

Higher sovereign risk reduces the value of the collateral banks can use to raise wholesale funding and central bank liquidity. The repercussions of this channel have historically been contained by the intervention of central banks

2

A weakening of the sovereign reduces the funding benefits that banks derive from implicit and explicit government guarantees. During the 2008-2010 GFC, the value of government guarantees diminished for the weaker euro area countries

3

Losses on holdings of government debt weaken banks' balance sheets, increasing their riskiness and making funding more costly and difficult to obtain. Banks' exposures are mostly to the home sovereign.

4

Sovereign downgrades generally flow through to lower ratings for domestic banks, increasing their wholesale funding costs, and potentially impairing their market access

Sovereign Credit risk- Implications to banks & policy considerations



- Changes in banks' operations may mitigate their exposure to sovereign risk. On the assets side, banks might further diversify the country composition of their sovereign portfolio, to contain their overexposure to the home sovereign
 - For banks located outside the euro area this implied, in addition to currency risk, a trade-off between sovereign and liquidity risk
 - Banks may lessen the adverse impact of sovereign risk on their funding
 -
 - Cross-border banks might also diversify their debt issues across different jurisdictions through their subsidiaries
 - Internationally active banks – and their supervisors – need to track fiscal conditions in the foreign countries in which they operate, as any worsening in sovereign risk in those countries could affect their branches or subsidiaries, with negative spill overs on the parent bank
-

Sovereign Credit risk- Implications for the fiscal sector



- The negative spill overs from sovereign risk to bank risk, and the impossibility of fully protecting the banking system from a severely distressed domestic sovereign, is yet another reason to maintain sound public finance conditions.
 - Increasing international financial integration and the close links between banks and sovereigns imply that global financial stability depends on the solidity of fiscal conditions in each individual country.
 - Sound supervisory and macroprudential policies are also of the essence, as a strong capital base and rigorous credit and liquidity risk management practices are indispensable in containing the impact of sovereign tensions on banks
 - Because the crisis has shown that sovereign debt may not be liquid and riskless at all times, authorities should closely monitor the effects of regulatory policies which provide banks with strong incentives to hold large amounts of government securities.
-

Sovereign Credit risk- Implications for the fiscal sector cont'd



- Transparency is also important. During a sovereign crisis, when risk aversion is high, uncertainty about the quality of banks' assets (including sovereign portfolios) can create funding pressures for all banks. Depending on the specific circumstances, authorities might want to consider coordinated, industry-wide disclosures on banks' sovereign exposures.
 - To contain potential bank liquidity shortages induced by sovereign risk, central banks might consider having flexible operational frameworks that allow funding to be supplied against a broad range of collateral. But this is not costless – it shifts credit risk to the central bank and creates moral hazard – and so should be used sparingly and with appropriate safeguards
 - Regulatory developments such as changes in bank resolution regimes contribute to weakening the link between sovereign and bank risk, by reducing investors' expectations of government support for distressed banks
 - Looking ahead, authorities should monitor how regulatory changes influence the relationship between banks and sovereigns.
-

Sovereign Credit risk- Interaction with IFRS 17



- The IFRS17 Standard can strictly be interpreted to require that credit risk should be stripped out of discount rates, as it does not reflect the characteristics of the insurance policies
- In Africa:
 - Most insurers use bottom up approach, not top down
 - The Prudential Authority's risk-free curve, which is provided for solvency reporting, is generally used as a starting point
 - This curve is based on government bond yields, which is not risk-free but could be considered the most risk-free.
 - Arguably considering most government debt and most insurance liabilities are mostly local currency denominated, this assumption may hold in practice
 - The concern might rather be how default avoidance impacts the economy and financial markets
 - Analysts will have to adjust for sovereign default risk depending on their views thereof, i.e. it will be an input which can be varied by the users of the financial results if required



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The importance of Sovereign Credit Risk

THANK YOU!

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