



South African Reserve Bank

Implementing Macroprudential Policies: A South African Reserve Bank Perspective

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Introduction

- Post-crisis consensus regarding the need for a macroprudential policy framework, equipped with a toolkit to monitor and manage systemic risks in the financial system.
- Twin peaks approach to financial regulation: Government policy papers “A safer financial sector to serve South Africa better” (2011) and “Implementing a twin peaks model of financial regulation in South Africa” (2013).
 - Prudential Authority
 - Financial Sector Conduct Authority
- The FSRB assigns an explicit responsibility to the SARB to monitor and enhance financial stability.
- Presentation outlines the SARB’s role in mitigating systemic risks through the implementation of macroprudential policy, in line with the expanded mandate provided by the Financial Sector Regulation Bill (FSRB).

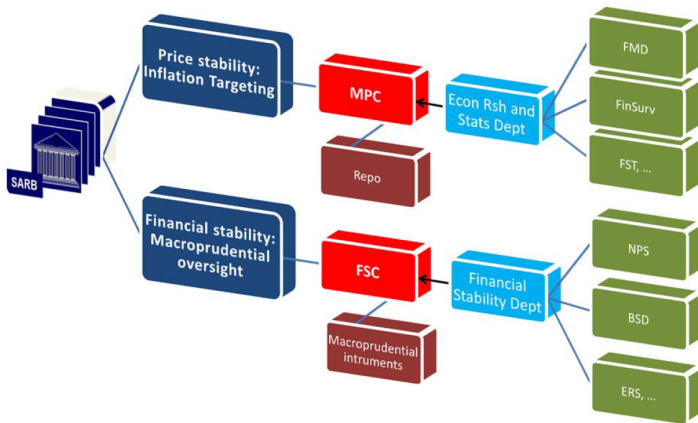
Pursuing macroprudential goals

- The objective of macroprudential policy is to mitigate the buildup of risks in the financial system in order to ensure a stable financial system that will add to the achievement of balanced and sustainable economic growth.
- Macroprudential policy has two aims that are not mutually exclusive:
 - ① strengthening the resilience of the financial system to economic downturns and other adverse aggregate shocks.
 - ② leaning against the financial cycle by limiting the build-up of financial risks to reduce the probability or the magnitude of a financial bust.
- It focuses on the interactions between financial institutions, markets, infrastructure and the real economy.

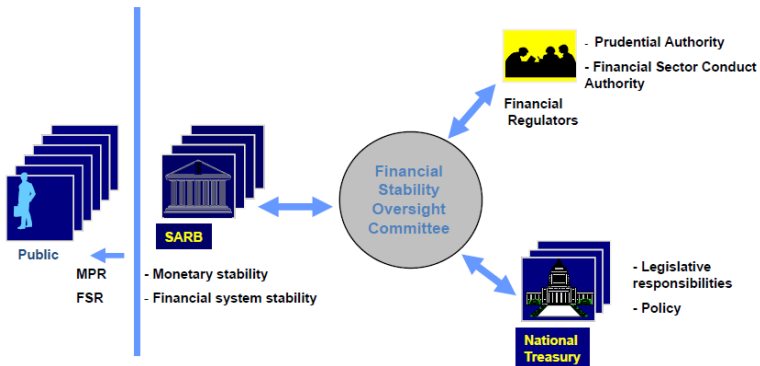
Pursuing macroprudential goals ...

- The coordination of policies that have a bearing on financial stability.
- Monetary policy also has a macroeconomic focus, shares a common long-term objective, and interacts with macroprudential policy in complex ways.
- In the spirit of Tinbergen: Differences in periodicities, intermediate objectives and instruments favour a separate but co-ordinated approach to the two policies
- The two-committee approach (Kohn, 2015).

SARB - pursuing its goals: Internal relationships



SARB - pursuing its goals: External relationships



Implementing macroprudential policy

- Prevention of risk propagation should be the mission of macroprudential policy, not just ex post resolution and crisis management (Goodhart and Perotti, 2012).
- Three key steps can be identified in the process of implementing macroprudential policy.
 - ① a systemic risk assessment
 - ② motivating a case for macroprudential intervention
 - ③ selecting and implementing the macroprudential instruments.
- Instruments should be monitored continuously while active with regard to their calibration and continued appropriateness, and subjected to an ex-post analysis of their costs and benefits once deactivated.

Systemic risk assessment: The monitoring framework

- Monitoring frameworks can be structured in various ways.
- Objectives of monitoring:
 - Monitoring provides for a systemic risk assessment that forms the basis for macroprudential policymaking.
 - Key indicators (complemented by judgement) can provide input to 'guided discretion' decisions on specific instruments
- Focus on systemic vulnerabilities that propagate adverse shocks, rather than the shocks themselves (e.g. Adrian, Covitz and Liang, 2013; Bernanke, 2013)
- Broad areas where vulnerabilities can emerge:
 - systemically important financial institutions (SIFIs)
 - shadow banking
 - asset markets
 - the nonfinancial sector

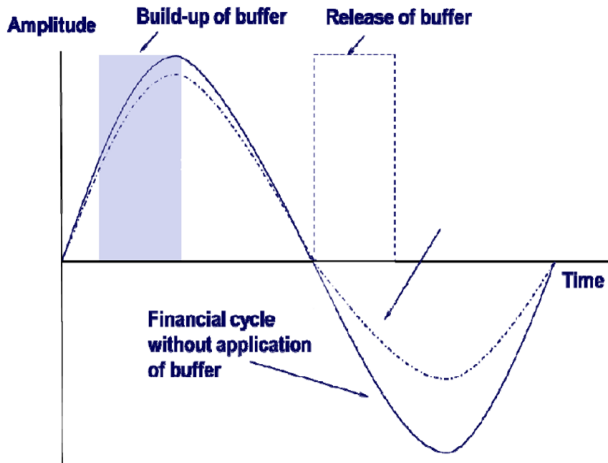
The case for macroprudential policy intervention

- When is a macroprudential intervention the appropriate response to the build-up of systemic risk?
 - Can systemic risk be better addressed through other policies?
 - Are the benefits of intervention likely to outweigh the costs?
 - How to balance the trade-off between missing the buildup of a crisis (type 1 error) and implementing measures that are not needed (type 2 error) (Freixas et al, 2015)?

The case for macroprudential policy intervention ...

- Should macroprudential policy be aimed at controlling the 'financial cycle' ?
- "My reading of the growing empirical evidence is that the effectiveness of macroprudential measures in achieving this more demanding objective is limited" (Borio, 2014b).
- "The aim of macroprudential policy should definitely be about tempering the cycle, rather than merely enhancing the resilience of the financial sector ahead of crises" (Constâncio, 2014).

Stylised financial cycle and macroprudential policy



Source: European Systemic Risk Board (2014) Flagship Report on Macro-prudential Policy in the Banking Sector; Fell (2015)

Selection and implementation of macroprudential instruments . . .

- A complex decision.
- Macroprudential instruments are generally classified in 3 categories:
 - ① capital-based tools (e.g. countercyclical capital buffers, sectoral capital requirements and dynamic provisions);
 - ② asset-side tools (e.g. loan-to-value (LTV) and debt-to-income (DTI) ratio caps);
 - ③ liquidity-based tools (e.g. countercyclical liquidity requirements).
- Transmission channels are currently not well understood.
- The generic design of some of these instruments is directed by international standard setting bodies. One such example is the Basel III countercyclical capital buffer.

Macroprudential instruments ...

Policy instrument	Potential indicators
<i>Capital-based instruments</i>	
Countercyclical capital buffers	Measures of the aggregate credit cycle
Sectoral capital requirements	Measures of sectoral concentrations; Distribution of borrowing; Real-estate prices (commercial and residential); Price-to-rent ratios
Dynamic provisions	Bank-specific credit growth and specific provisions (current and historical average)
<i>Asset-side instruments</i>	
Maximum leverage ratios	Total assets to bank equity
LTVs and DTIs	Real-estate prices; Price-to-rent ratios; Mortgage credit growth; Underwriting standards; Indicators related to household vulnerabilities Indicators of cash-out refinancing
<i>Liquidity-based instruments</i>	
Countercyclical liquidity requirements: LCR and NSFR	Liquid assets to total assets or short-term liab; Loans & other long-term assets to l-t funding; Loan-to-deposit ratios; Lending spreads
Margins and haircuts in markets	Margins and haircuts; Bid-ask spreads; Liquidity premiums; Shadow banking leverage and valuation

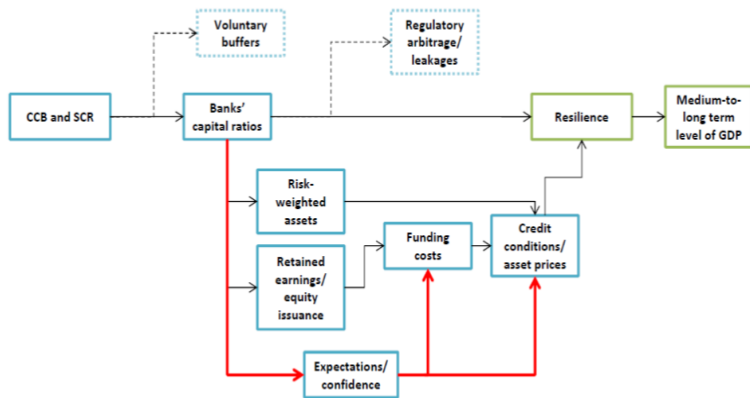
The countercyclical capital buffer

- Implementation in SA will be phased-in from 2016.
- The main macroprudential objective is to increase the resilience of the banking sector. It may also help to lean against the build-up phase of the credit cycle.
- The CCB add-on rate will be set in a range of between 0 per cent and 2,5 per cent of risk-weighted assets.
- The CCB add-on rate will be calculated as the weighted average of the buffers in effect in the jurisdictions to which banks have private sector credit exposures (reciprocity).
- A sectoral CCB may be set if this is deemed appropriate
- The credit-to-GDP gap will be the main indicator informing the activation of the CCB. However, it shall not be the only indicator.
- The decision to release of the countercyclical buffer may be informed by a different set of indicators.

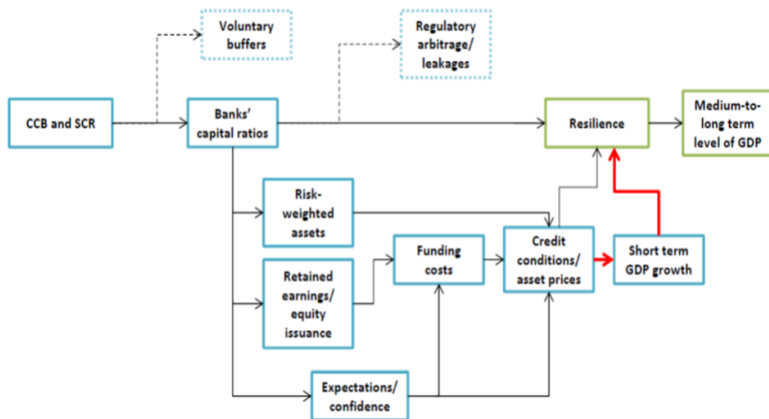
The countercyclical capital buffer . . .

- There are three main ways in which banks can meet the CCB requirement:
 - ① they can reduce their voluntary capital buffers, leaving overall capital ratios unchanged;
 - ② they can raise capital, through equity issues or higher retained earnings;
 - ③ they can reduce risk-weighted assets, by reducing exposures (including lending) or rebalancing away from higher risk-weighted assets.

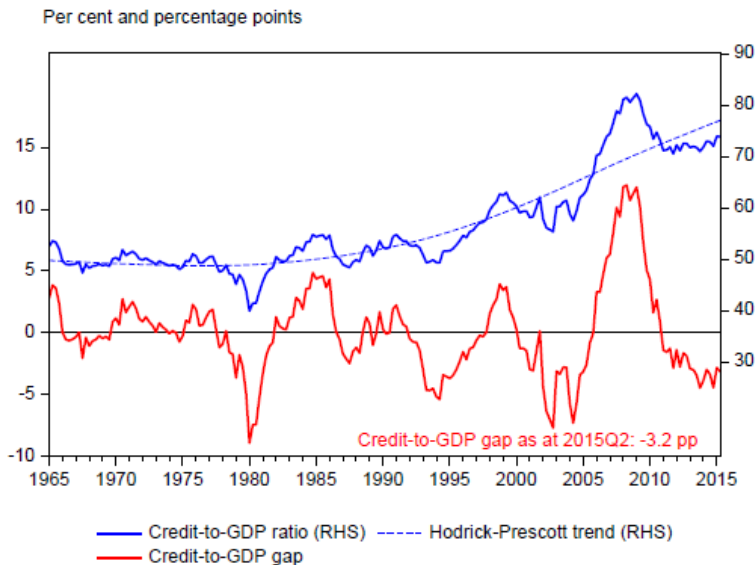
The countercyclical capital buffer: Impact on resilience



The countercyclical capital buffer: Impact on cycle



The countercyclical capital buffer: SA credit-to-GDP gap



The financial cycle

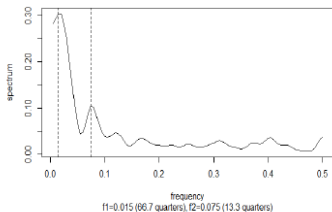
- Understanding financial cycles is currently viewed as critical for informing the use of countercyclical macroprudential policy. No consensus definition, but an urgent need to obtain a robust view on financial cycles.
- Financial cycle reflects self-reinforcing feedbacks within the financial system and between the financial system and the real economy (Borio, 2014).
- Financial cycle indicators:
 - ① Total credit
 - ② House prices
 - ③ Equity prices
 - ④ ... interest rates, volatilities, risk premia, nonperforming loans, ...
- Most parsimoniously described in terms of credit and property prices (Borio, 2012). Equity prices can be a distraction (Drehmann et al, 2012)

The financial cycle in South Africa

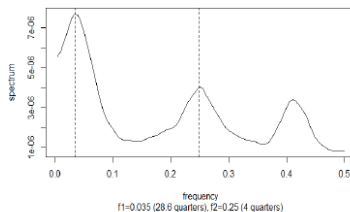
- Two main approaches to measurement in the financial cycle literature
 - ① Traditional turning-point analysis: e.g. Claessens et al, 2011, Drehmann et al, 2012. Related to the business cycle dating literature
 - ② Frequency-based filters analysis: e.g. Drehmann et al, 2012; Stremmel, 2015 and others in the international literature. For SA, Boshoff and Fourie, 2010; Havemann, 2015.
- We use spectral methods (smoothed periodograms to support Christiano-Fitzgerald band-pass filters) and principal components analysis (to combine the filtered series into a notional financial cycle): e.g. Aikman et al, 2015 on the credit cycle; Schöler et al, 2015 at the ECB; Strohsal et al, 2015 at the Bundesbank; Gonzalez et al, 2015 for Brazil.

The financial cycle in SA: Exploratory frequency domain analysis

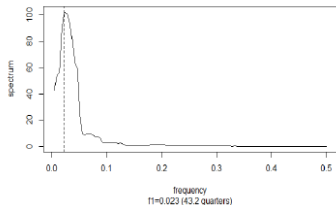
SA House price growth, 1966Q2-2015Q1



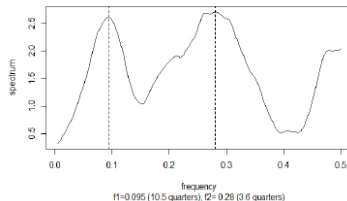
SA Credit growth, 1965Q2 - 2015Q1



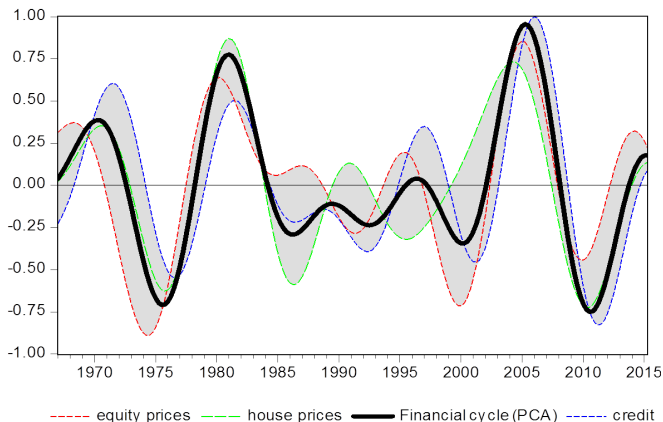
Credit-to-GDP gap, 1965Q1 - 2015Q1



SA JSE returns, 1965Q2-2015Q1

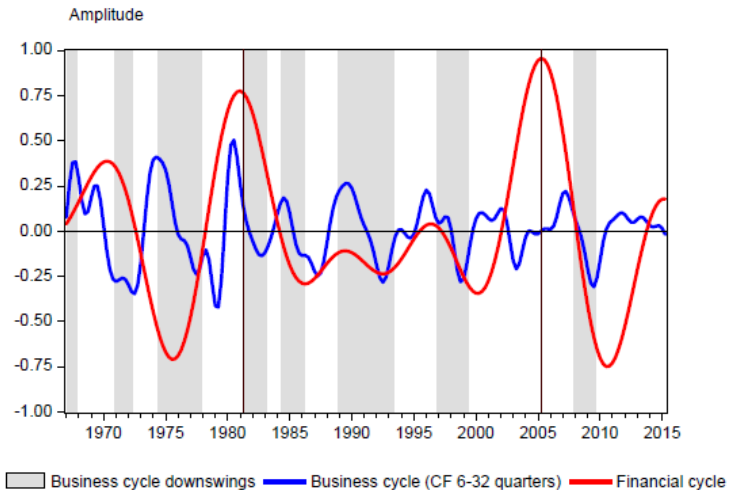


The financial cycle in South Africa



Source: Farrell and van Wyk de Vries (forthcoming). The component indicators are shown as thin dotted lines, obtained from C-F band-pass filters applied to constant price data converted to z-scores. The series are normalised here so that 1 represents the historical maximum. The financial cycle - the thick black line - is the first principal component of the 3 indicators, with sign restrictions imposed on the loadings. The shaded area band shows the minima and maxima of the component series over time. See Fell (2015), Schüler et al (2015).

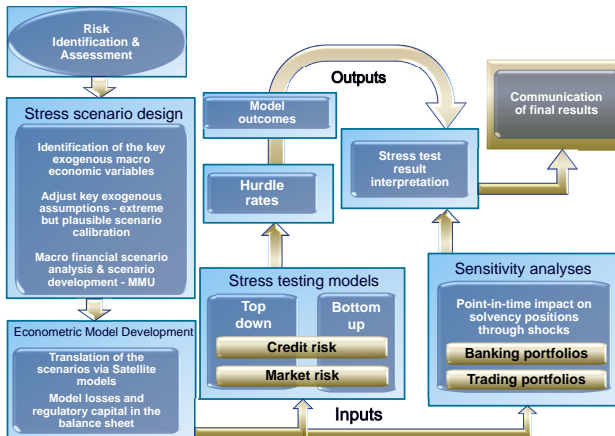
Financial and business cycles in South Africa



Source: Farrell and van Wyk de Vries (forthcoming)

Stress testing

Financial stability stress tests provide both a forward-looking assessment of the resilience of the financial sector to a range of adverse shocks and a foundation for policy interventions to enhance the stability of the sector.



Stress testing in South Africa

- In South Africa:
 - ① 2008: Bottom-up and top-down stress tests as part of the IMF FSAP/Article IV Consultation
 - ② 2012: Common scenario bottom-up stress test (peer reviewed)
 - ③ 2014: IMF FSAP stress test of the South African banking sector, including both bottom up and top down components. Also conducted insurance sector and conglomerate-level stress tests.

Stress testing exercise: 2015/16

- SARB bottom-up and top-down stress testing exercise.
- Scenarios are based on major global shocks ('extreme but plausible'): A surge in global financial market volatility, combined with a prolonged period of slower growth in advanced and EM economies.
- Four globally- and domestically-consistent macro-financial scenarios (baseline and 3 adverse scenarios)
- Baseline set to the SARB core model forecast presented to the September 2015 MPC meeting (extended to 2020)
- Exercise to be undertaken between Q4 2015 and Q2 2016 (when aggregated results will be made available).

Resolution planning

- Joint National Treasury, SARB and Financial Services Board discussion document, “Strengthening South Africa’s Resolution Framework for Financial Institutions” (August, 2015).
- Sets out the motivation, principles and policy proposals for a strengthened framework for the resolution of designated financial institutions in South Africa (‘designated resolution institutions’ or DRIs).
- Mostly sets out how the special resolution framework for DRIs will apply to banks, but further work will be undertaken to develop specific proposals for non-bank financial institutions (including insurers), FMI and financial conglomerates.
- Once finalised, the paper will form the basis from which a Special Resolution Bill (SRB) will be drafted.

Resolution planning: Key features of the SRB

- One resolution authority (SARB) with specific governance requirements
- Uniform definition of a trigger for entry into resolution
- Wider set of powers in resolution to facilitate open-bank resolution (bridge bank, bail in, transfer of assets and liabilities)
- Wider set of pre-resolution powers to facilitate resolution planning and the removal of barriers to resolution
- Ability to share information and cooperate with resolution authorities in other jurisdictions
- Industry-funded Deposit Guarantee Scheme to be introduced
- Safeguards and more certainty for investors (“no creditor worse off in resolution than in liquidation”)
- Revised creditor hierarchy for financial institutions

Concluding comments

- Presentation outlined the main elements of the SARB's approach to executing the expanded mandate provided by the Financial Sector Regulation Bill.
- Identified and described three important steps in the process of activating macroprudential instruments, namely a systemic risk assessment, building a case for macroprudential intervention and selecting and applying the instruments.
- Provided an analysis of the financial cycle for SA, as well as a case study of the countercyclical buffer.
- Provided an update on work on the resolution framework, and information regarding the stress testing exercise that the SARB will be undertaking in 2015/16.

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