In pursuit of financial stability: the interaction between macroprudential policy and monetary policy in South Africa

by

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Declaration of Originality

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Declaration

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Nyasha Madya

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Summary

The 2008 Global Financial Crisis was one of the greatest schools ever attended by the world's most intellect financial sector supervisors and regulators. These intelligent minds had for over decades placed much emphasis on only one of their central banks' traditional roles, price stability whilst neglecting an equally important duty of directly promoting and maintaining financial stability. As pioneered during the Victorian era (1840s to 1914), the idea was that financial stability would be achieved through the implementation of monetary policy. The aftermath of the financial crisis saw the great minds from major participants on the global financial market coming together to design a regulatory framework model that facilitates the achievement financial stability. Hence, through the G20 countries' meeting held in 2010 in Basel, Switzerland, a regulatory document or soft law rather, called Basel III was created. Incorporated in this document is a revamped macroprudential policy, a regulatory framework that is going to be heavily relied on to achieve financial stability both at a domestic and international scale. South Africa as a major participant on the global financial market and as a member of the G20 also took it upon itself to adopt the upgraded macroprudential policy as prescribed by Basel III.

However, the adoption of this refurbished policy has not been a smooth flow. Many debates and scholars' eyebrows have been raised concerning macroprudential policy. One of the heated and interesting debates has been on the manner in which this policy is going to interact with other public and macroeconomic policies such as monetary policy given the overlaps and areas of conflict between these policies. This research aims at suggesting the best possible legal framework that will facilitate the peaceful co-existence of macroprudential policy and monetary policy. To achieve this goal, the reader is first given a sense of the Global Financial Crisis and the surrounding circumstances. From there, a brief explanation of monetary policy and macroprudential policy is provided as it is crucial for one to first understand what these two policies that have raised so much concern entail. Meaning, the objectives, institutional, operational and analytical framework of these two policies is discussed. Moving on, the heart of this research is dissected, and this involves deconstructing the heated interaction debate, where it emanates from and the different arguments that have been advanced so far. Lastly, a brief outline of the most convincing argument will be provided together with recommendations on key issues concerning the interaction debate, that the South African Reserve Bank might have to consider.

This dissertation reflects the law as at 31 October 2018

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List of abbreviations

Bank of International Settlements	BIS
Central counterparty clearing	CCPs
Collateralized Debt Obligations	CDOs
Constitution of the Republic of South Africa, 1996	Constitution
Countercyclical capital buffer	CCB
Credit Default Swaps	CDSs
Debt-to-Income	DTI
Financial Policy Committee	FPC
Financial Sector Contingency Forum	FSCF
Financial Sector Regulation Act 9 of 2017	FSRA
Financial Stability Board	FSB
Financial Stability Committee	FSC
Financial Stability Oversight Committee	FSOC
Foreign exchange	FX
International Monetary Fund	IMF
Loan-to-Income	LTI
Loan-to-Value	LTV
Monetary Policy Committee	MPC
Mortgage Backed Securities	MBSs
Nash equilibrium theory	Nash theory
Prudential Authority	PA
South African Reserve Bank	SARB
South African Reserve Bank Act 90 of 1989	SARB Act
Vector Autoregression Models	VARs

Chapter 1: introduction

"Regulators around the world have achieved an unprecedented level of collaboration since the financial crisis to create global standards for financial institutions." – James Gorman

1.1 Background

This chapter briefly examines the 2008 Global Financial Crisis (hereafter the Global Financial Crisis). It touches on the causes of the Crisis, its effects, lessons learnt from the Crisis as well as the measures taken to insure against the future occurrence of such an undesirable event. From there, given the background information on the Global Financial Crisis, the chapter sets out the research problem, hypothesis and objectives, followed by the research methodology and literature review, delineation and limitations of the research as well as the referencing technique and the key terms that are used in the dissertation. Lastly, a brief overview of all the dissertation chapters is provided.

1.1.1 Scene setting: the Global Financial Crisis

A global economic catastrophe that made the great powers and key game players on the global financial markets question the strength and resilience of their financial systems! That was the Global Financial Crisis for you. Since the Great Depression of the 1930s, there had never been experienced on planet earth such a tragic economic disaster as the one brought by the Global Financial Crisis. This crisis unfolded itself in four phases, the first being experienced in 2005 where there was a sharp house price decline in the United States of America (hereafter the USA) in concurrence with a delinquency rate increase on subprime mortgages.[1] During the second stage of the Crisis, there was a widening of credit spreads on unregulated securitisation products.[2] The third stage was characterised by increased volatility in the European markets as banks stopped lending to each other in fear of being exposed to the USA structured financial products and sub-prime mortgages that had gone bad.[3] The fourth and

[1] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 17. For a discussion on the Global Financial Crisis see also GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 30–34.

[2] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 17.

[3] *Ibid* 20.

final stage of the Crisis was experienced in late 2008 when the spillover effects from advanced economies' financial markets were felt in the real sector.[4] Meaning, there was as a result stringent credit conditions which led to reduced demand for credit and consequently, slow private sector growth and reduced spending.[5] One may wonder what brought about such a tremendous economic earthquake. Hence, below I touch on the causes of the Global Financial Crisis.

1.1.2 Causes of the Global Financial Crisis

The Global Financial Crisis was caused by many factors that were intrinsically linked. Most of these factors were systemic risks that were left unmonitored until they resulted in one big systemic event, which was the 2008 Crisis.[6] This research categorises these various factors into four key causes. These are global macroeconomic imbalances, light touch financial sector regulation, low interest rates and the mispricing of assets by credit rating agencies.

1.1.2.1 Global macroeconomic imbalances

Global current-account imbalances which refer to the distortions between savings and investments[7] have been blamed as one of the key causes of the financial crisis. Emerging economies such as China had excess revenue which then created a current-account surplus for them.[8] Hence, countries which held surplus funds in their current accounts began to invest or rather lend money to advanced/industrialised economies such as the USA and United

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[4] *Ibid* 21.

[5] *Ibid*.

[6] Chapter 3 of this research gives a detailed definition of systemic risk but for clarity's sake, systemic risk is the risk that a systemic event will occur. S 1 of the Financial Sector Regulation Act 9 of 2017 (hereafter FSRA) defines a systemic event as an event or circumstance, including one that occurs or arises outside the Republic, that may reasonably be expected to have a substantial adverse effect on the financial system or on economic activity in the Republic, including an event or circumstance that leads to a loss of confidence that operators of, or participants in, payment systems, settlement systems or financial markets, or financial institutions, are able to continue to provide financial products or financial services, or services provided by a market infrastructure. See also S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" *Pretoria paper prepared for the conference "Monetary Policy and Financial Stability in the Post-crisis Era" hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November* 2010 2, who state that in general, two externalities lie at the heart of systemic risk. Firstly, the joint failure of financial institutions due to their interlinkages (mostly as intermediaries) and secondly, common exposures to external shocks (mainly credit and liquidity) to the financial system.

[7] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 39.

[8] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 9.

Kingdom, which at that stage had current-account deficits.[9] By the end of 2009 China held $1, 46 trillion worth of USA securities - making it the biggest security holder in the world.[10] The channeling of excess funds by investors from current-account surplus countries to advanced economies led to the loosening of credit conditions which resulted in the lowering of global interest rates and an increase in asset prices.[11] The combination of abnormally low interest rates, excess credit and high leverage together with the rise in asset prices fueled unsustainable levels of debt-financed consumption.[12] The end result of this credit boom was a Global Financial Crisis when the asset prices dropped and many big lenders lost huge investments due to high default rates on the part of borrowers.

1.1.2.2 Light touch financial sector regulation

It has been argued that during the pre-Crisis period, most central banks were too focused on implementing monetary policy.[13] Too much concentration on price stability,[14] allowed the excessive build-up of risk associated with the global macroeconomic imbalances explained above, rise in assets prices and high leverage, to continuously grow unnoticed.[15] Further, the lack of stringent financial sector regulation on the part of central banks promoted very risky behavior by financial services and products providers. This risky behavior took the form of indiscriminate credit extension as a result of excess funds that were being transferred to current-account deficit countries by investors from current-account surplus countries as

[9] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 39–40. The current-account deficit of most advanced economies also resulted from a competitive disadvantage of high labour costs that they were incurring during production unlike their major trade partner China which had a current-account surplus as a result of cheap labour. Thus, these advanced economies had reduced savings as they were spending a huge part of their money importing goods from countries such as China, in order to save on production costs.

[10] *Ibid*.

[11] *Ibid*.

[12] J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 493.

[13] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 43.

[14] According to S 224 of the Constitution of the Republic of South Africa, 1996 (hereafter Constitution) the primary role of the SARB is to protect the value of the Rand in the interests of balanced and sustainable economic growth in South Africa. This speaks to price stability, a situation where prices of goods and services are kept at the same level. They do not increase (inflation) or decrease (deflation) unreasonably. Pursuing price stability in South Africa has been entrusted with the MPC.

[15] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 43.

highlighted above.[16]

Most importantly, scant regulation meant central banks were preoccupied with the formal banking sector and failed to keep a vigilant eye on the shadow banking system.[17] The shadow banking system comprises of all credit intermediaries (these include investment banks and mortgage originators) and credit associated activities (for instance hedge funds) outside the regular banking system.[18] These unregulated (because they are not subject to prudential capital requirements like commercial banks) shadow banks were actually one of the key sources of most of the systemic risks that led to the Global Financial Crisis.[19] Shadow banks have been blamed for innovating highly sophisticated financial products yet possessing incompetent risk management systems.[20]

Commercial banks would sell commercial paper and certain short-term debts to these shadow banks who would in turn repackage these loans into complex financial products in the form of securitisations such as Mortgage Backed Securities and derivatives such as Credit Default Swaps and Collateralized Debt Obligations (hereafter MBSs, CDSs and CDOs).[21] These repackaged products would be sold to investors all over the global financial market who in turn welcomed the sophisticated financial products which were believed to be of low risk nature.[22] By 2010 the shadow banking system represented 25% to 30% of the global financial system, held about 50% of the global bank assets and was worth $60 trillion (from $27 trillion in

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[16] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 10.

[17] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 44.

[18] *Ibid*. According to Paul McCulley who invented the term shadow banks, these non-banking financial institutions are like commercial banks involved in maturity transformation since they utilize short-term deposits in order to fund long-term loans.

[19] *Ibid*. The mere fact that these banks are not regulated means they cannot access credit lines from central banks and do not have traditional depositors who provide them with insurance against losses.

[20] J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 493.

[21] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 44. See also www.investopedia.com/terms/ (accessed 22 February 2018). A Mortgaged backed security is a security that is secured by a mortgage or a collection of mortgages. During the pre-crisis phase, banks were repackaging mortgages into securities which they would sell to investors and thus, transferring the default risk within those mortgages. A credit default swap is an insurance against default by the issuer of securities. If the issuer defaults, the credit swap default seller will pay the buyer the amount agreed in the swap contract as well as the interest on that money. A collateralized debt obligation is a financial product of multiple cash-flow generating assets brought together into one pool and repackaged into different trenches which are sold to investors. The lesser the risk associated with the trench the lower the yields.

[22] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 10.

2002).[23]

Unfortunately when the key player of this securitization business in the global financial market, Lehman Brothers failed and was not bailed out by the US Government, there was widespread panic amongst investors who then ran to withdraw funds from shadow banks.[24] Hence, to repay these investors, shadow banks had to sell their assets at fire sales,[25] which in turn amplified asset price declines and eventually led to huge losses on a global scale.[26] Due to high interconnectedness between many commercial banks and the shadow banks, this huge loss by the shadow banks also meant significant losses for commercial banks which were highly exposed as they were the key sources of funding for these shadow banks.[27] Thus, it was the widespread nature of these huge losses by major participants in the global financial market that contributed to the Global Financial Crisis.

1.1.2.3 Abnormally low interest rates

In the 1990s there was a build-up of a bubble in the technology industry. Lots of investors on the global financial market were investing into complex derivatives such as CDOs that were being issued by technology companies (known as dot-coms).[28] These huge investments were made in the belief that these companies would in the future generate large profits. Unfortunately, in early 2000, the dotcom bubble burst due to the sharp decline in value of the CDOs.[29] As a result, there was reduced business spending due to the loss of confidence by investors in these companies and the financial systems to which they were affiliated.[30] The

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[23] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 44.

[24] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 10. See also https://www.investopedia.com/terms/l/lehman-brothers.asp (accessed 22 February 2018). Lehman brothers was one of the largest investment banks is the USA. Due to its high leverage it basically became US's *de facto* real estate hedge fund. At some point it held over $600 billion in global mortgage-based investments, which explains why it collapsed upon the rapid house price declines in 2008.

[25] Https://www.investopedia.com/terms/f/firesale.asp (accessed 15 September 2018). A fire sale is the sale of assets at a heavily reduced price. This is usually the case when the seller is in financial distress, they fire sale their assets.

[26] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 44.

[27] *Ibid*. See also J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 493.

[28] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 15 and 35–36.

[29] *Ibid* 15.

[30] *Ibid* 36.

loss of confidence in financial systems of advanced economies such as the USA was intensified by the September 2001 terrorist attacks.[31] Hence, in the fear of another global economic recession, prestigious central banks responded by lowering their interest rates in order to promote economic growth.[32] Little did they know that by lowering the interest rates they were creating an environment conducive for the excessive build-up of risk and creation of bubbles that were soon to cause an economic tragedy.

These abnormal rates meant borrowing was much cheaper than before. Thus, there was too much borrowing going on. On the same note, financial service providers were not scared to lend especially to the housing industry because of the belief that these houses provided good collateral in case of delinquency.[33] Owing to this high demand for mortgage loans, between 2005 and 2006 house prices rose by over 32% and about 2 million new houses were constructed in the USA.[34] Due to the large credit supply from investors from current-account surplus countries, the large supply of houses and the urge to yield higher profits through charging higher interest rates, most lenders ended up extending credit to borrowers whose credit history they knew little about.[35] In response to this boom in the housing industry due to low interest rates and in order to pass on the high default risk associated with Alt-A mortgages, there was as mentioned above, some creation of sophisticated financial products such as MBSs which were sold to investors all over the global financial market.[36] This meant great exposure to risk for all the financial institutions and investors who were involved in the trading of these securities. Thus, when the housing industry bubble eventually burst, and the house prices ridiculously went down,[37] a lot of financial institutions ran into solvency troubles. Further, liquidity dried up in financial markets as financial institutions became scared to lend

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[31] *Ibid* 15.
[32] *Ibid*.
[33] *Ibid*.
[34] *Ibid* 38.
[35] *Ibid* 15. In financial terms there was increased provision of Alt-A mortgages which are mortgages extended to borrowers with high loan-to-value and debt-to-income ratios and do not possess all the relevant documentation to qualify for a prime loan. Since lending money to such borrowers is riskier, the lenders will charge high interests. There was also a high risk appetite amongst greedy senior executives of financial institutions who took advantage of the low rates and embarked on excessive risk taking in order to outperform their peers, yield high returns and receive high salaries.
[36] *Ibid* 15–16.
[37] *Ibid* 38. The fact that the house prices went down because there was an oversupply of houses in the market and due to high default rates financial institutions were forced to attach and fire sale lots of houses to cater for the unpaid debts.

each other money due to lack of trust of the accuracy and truthfulness of solvency information about the borrowing financial institutions.[38] All these events that took place as a result of abnormally low interest rates contributed to the Global Financial Crisis.

1.1.2.4 Asset mispricing by credit rating agencies

During the global economic upswing around 2004 and 2006, big credit rating agencies such as Moody's as well as Standard and Poor's were busy assigning excessively inflated credit ratings to complex structured and derivative products.[39] Complex financial products such as MBSs, CDOs, Alt-A mortgages and subprime mortgages were assigned AAA ratings.[40] Since, most investors heavily relied on these ratings in order to carry out risk assessments prior to making huge investments, they were misled into believing that these complex products were safe to invest in. Unfortunately, just prior to the financial crisis these credit rating agencies forcefully downgraded the credit ratings of these complex financial products to non-investment grade such as "default".[41] At that moment market prices for many previous AAA-rated derivatives were unavailable and this caused widespread panic.[42] All these unexpected downgrades and defaults caused substantial losses on the banks' part which resulted in a huge liquidity drain on the global financial market and consequently the financial crisis.

1.1.3 Effects of the Global Financial Crisis

Like any other financial crisis, the 2008 Global Financial Crisis had devastating effects on the financial system and the real economy.[43] The costs of a financial crisis are many hence, below

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[38] *Ibid* 39.

[39] *Ibid* 48.

[40] *Ibid* 49. See also https://www.investopedia.com/terms/a/aaa.asp (accessed 22 February 2018). A AAA rating is the highest credit rating that can be assigned to an issuer's bonds. It makes the issuer more credit worth because it can meet all its financial commitments. Although such bonds have low yields, some investors are willing to extend credit to issuers of AAA rated bonds because they are less risky as chances are very slim that the debtor will default.

[41] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 49. See also page 18 where it is mentioned that following a downgrade of 100 second-lien subprime backed bonds in June 2007, 612 subprime residential mortgage backed securities were placed on credit watch by Standard and Poor's in July 2007.

[42] *Ibid*.

[43] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 16. Researchers like Carmen Reinhart and Kenneth Rogoff discovered that for the past 800 years, the consequences of a financial crisis always ensue in four distinct stages. The first one being a continued decrease in asset prices, followed by reduced output, increased unemployment rates and lastly increased government debt as a result of slowed down economic growth and reduced revenues.

I focus on the key effects which I classify under two categories namely liquidity drainage, increased public debt and bailouts as well as reduced economic growth. It is very interesting to note that emerging economies such as South Africa were shielded from the direct effects of the Crisis *inter alia* owing to the adoption of sound financial regulation frameworks and the implementation of highly efficient risk management systems.[44] However, due to spillover effects from the Crisis, emerging economies also felt the indirect consequences of the Crisis especially in the real sector as shall be discussed below. I now venture into explaining the two key categories of the costs of the financial crisis.

1.1.3.1 Reduced liquidity, increased public debt and bailouts

As mentioned before, there was widespread panic on the global markets when AAA-rated assets were downgraded, and financial institutions became sceptical about lending each other money. The drying up of liquidity in the interbank funding market led to huge liquidity shortages.[45] Serious bank runs were also experienced since investors and depositors ran to withdraw their funds from institutions that were suspected to be at the verge of collapsing.[46] Hence, irrespective of the possible implications on future inflation,[47] governments and central banks had to inject emergency liquidity into their systems or else a severe recession was bound to happen. Because governments were spending more yet receiving less from taxes, they incurred huge budget deficits and public debts as they also had to borrow in order to

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[44] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 51–52. By ensuring the implementation of strong risk management practices in financial institutions during the pre-crisis period, South Africa unlike advanced economies, limited its exposure to foreign assets and the trade in derivatives and securitisation products. South Africa also had prudent macroeconomic policies on top of a flexible exchange rate which acted as a buffer against excessive market volatility and irregular portfolio outflows. Thus, during the crisis period it had a very healthy fiscal position and it never had to bailout any financial institution. More so, South Africa had the National Credit Act 34 of 2005 in force which saved as a guard against reckless lending practices such as subprime lending by financial institutions. This protected the financial system against liquidity crises meaning there was not even a moment during the crisis when the SARB was expected to inject additional liquidity in to the financial system.

[45] J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 493.

[46] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 18. For instance, the Northern Rock Bank suffered a serious bank run, the hugest ever in the history of the United Kingdom.

[47] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 16. This is because the more money supply there is, the more the money loses its value which leads to inflation due to the reduced buying power of the money.

redeem their systems.[48] Moreover, the Global Financial Crisis caused severe stress on many large financial institutions and to relieve these institutions, central banks had to spend billions of dollars of the taxpayers' money to bailout these institutions.[49] To save these distressed institutions, governments also had to buy hundreds of billions worth of debt from them.[50]

1.1.3.2 Reduced economic growth

When the Crisis commenced, industrialised economies such as the United Kingdom (hereafter UK) and the USA started implementing rigid austerity programs in order to restrict spending and this led to reduced economic recovery and high unemployment rates as production was cut off which meant lots of people lost their jobs.[51] Further, emerging economies such as China and South Africa were affected by the spillover effects from advanced economies.[52] The USA had been a major trade partner for emerging economies and in order to reduce spending it was cutting down on imports. Hence, the decline in export sales resulted in reversed capital flows and slower economic growth in emerging markets.[53] For example, in South Africa around 870 000 jobs had been lost by 2009 leading to a high unemployment rate of 24.3%.[54] Due to job losses, there were increased defaults on the part of borrowers. Thus, in as much as South Africa initially had a thriving fiscal system, due to high job losses its domestic tax revenue declined. Therefore, emerging economies were also indirectly affected by the Global

[48] *Ibid*. By October 2010 the US Federal Reserve had poured $1.7 trillion into the global financial system. It also made a further liquidity injection of $600 billion in November 2010 and by that time the USA's deficit had widened to $1.6 trillion from $459 billion in 2008.

[49] *Ibid*. See also V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 18, who states that in the United Kingdom, the Northern Rock bank had to be temporarily nationalised whilst in the USA, the largest bailout ever was made.

[50] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 18, notes that in 2008 the USA government spent around $187 billion to bailout Fannie Mae and Freddie Mac, America's two largest mortgage lenders. These institutions held $5 trillion worth of home loans and the USA treasury had to buy about $100 billion worth of preferred stocks and MBSs to redeem these two large institutions from financial distress.

[51] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 21. The Real GDP for most advanced economies went down to 0.2% in 2008 from 2.7% in 2007 and further dropped by 3.4% in 2009.

[52] *Ibid* 52.

[53] *Ibid* 21. In 2008 the emerging market GDP was at 6.1% and by 2009 it had fallen to 2.8 %.

[54] *Ibid* 52.

Financial Crisis as they were forced to increase government spending and reduce policy rates in order to stimulate economic growth.[55]

1.1.4 Lessons learnt from the Global Financial Crisis

Many lessons can be gathered from the Global Financial Crisis. Below I discuss the key lessons that are relevant to this research.

1.1.4.1 Policy rate and price stability alone do not guarantee financial stability

Many uncertainties existed during the pre-Crisis period, but after the Financial Crisis one thing that became certain is the fact that anchoring inflation and price stability is not adequate enough to prevent the build-up of systemic risks in the financial system.[56] In simpler terms they are not pre-conditions for financial stability.[57] Rather, central banks should have also aggressively pursued the reduction of procyclicality in financial systems.[58] This is because during a financial upswing, accommodative monetary policy (usually characterised by stable low interest rates) promotes asset price increases, high leverages and consequently excessive risk taking.[59] Banks take excessive risks without enough capital buffers to protect them from financial distress during downswings when the asset price bubble eventually bursts.[60] To show that policy rate is not an adequate tool, immediately after the Crisis began, six prominent

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[55] *Ibid*. By April 2009 the SARB has reduced its policy rate by 350 basis to 8.5 %.

[56] S Mollentze and U Kamlana "Macroprudential policy and the twin peaks (1)" *Claudio Borio, BIS,* (2012) 2. See also V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 56, who mentions that mainstream macroeconomics concentrated too much on narrow real variables such as interest rates and mistakenly thought these projected a sufficient analysis of financial variables such as credit-driven bubbles, the interconnectedness of financial institutions and the emergence of shadow banks which were the main causes of the crisis.

[57] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 54. S 4(1)(a), (b) of the FSRA defines financial stability as condition where financial institutions generally provide and are capable of continuing to provide financial products and financial services, and market infrastructures generally perform and are capable of continuing to perform their functions and duties in terms of financial sector laws, without interruption despite changes in economic circumstances; and (c) there is general confidence in the ability of financial institutions to continue to provide financial products and financial services, and the ability of market infrastructures to continue to perform their functions and duties in terms of financial sector laws, without interruption despite changes in economic circumstances.

[58] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 62.

[59] *Ibid*. See also J Hahm, FS Mishkin, HS Shin & K Shin "Macroprudential policies in open emerging economies" (2012) w17780 *National Bereau of Economic Research* 14.

[60] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 62.

central banks tried to implement a zero lower bound interest rate and beyond but this did not help as the real economy remained largely affected.[61] Macroprudential supervision, a more preventative policy that swiftly detects the build-up of risk in the financial system is what the regulators needed. Therefore, besides pursuing price stability, central banks also had to pay attention to their long neglected traditional role of promoting and maintaining financial stability.[62]

1.1.4.2 The need for a holistic approach to financial sector supervision

The belief that once individual financial institutions are financially sound the whole system is financially stable is one of the misconceptions that ended upon the occurrence of the Global Financial Crisis. Besides pursuing the policy rate, regulators were in the pre-Crisis period preoccupied with implementing microprudential policy instead of assessing risks from a macro-financial angle via macroprudential regulation and supervision. Microprudential regulation aims at the prudential soundness or solvency of individual financial institutions as opposed to macroprudential supervision which aims at the financial soundness of the financial system as a whole.[63] Thus, because individual financial institutions appeared healthy prior to the Global Financial Crisis, the build-up of macroeconomic risks (such as asset price bubbles) in the financial system transpired unnoticed.[64] Upon the occurrence of the Financial Crisis, regulators learnt that the financial wellness of individual institutions was not enough to prevent a financial crisis meaning there was need for a holistic approach to financial sector regulation

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[61] 24. These central banks were the European Central Bank, American Central Bank (the Fed), Bank of England, Riskbank, Swiss National Bank and the Bank of Canada. See also G Marcus "The importance of a robust financial system for growth in the South African economy" (2003) summer 2003 *Auditing SA* 5–8 5, who points out that policy makers learnt that a causal connection exists between financial stability and economic growth. Meaning high economic performance is strongly dependent on a stable financial system. Vice versa, ill-functioning financial markets in contrast with the policymaker's economic growth and job creation goals, thwarts consumption, production and investment. See further J Hahm, FS Mishkin, HS Shin & K Shin "Macroprudential policies in open emerging economies" (2012) w17780 *National Bureau of Economic Research* 8–11.

[62] C Goodhart "The changing role of central banks" (2011) 18.2 *Financial History Review* 135–170 136–137. It is interesting to note that financial stability is not a new concept to central banking, it has always been a key objective for central banks. The financial stability mandate was established and was infused in the price stability objective during the Victorian era (1840s to 1914). However, throughout the history of central banking until the 2008 GFC, more emphasis has just been placed on price stability instead of financial stability.

[63] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 14.

[64] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 12. See also South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 5.

and supervision.

1.1.4.3 The need for policy coordination at a global level

Whilst emerging economies were following export-oriented growth models, advanced economies followed monetary-expansion fueled growth models.[65] This resulted in serious divergences between savings and investments which in turn led to the build-up of global imbalances.[66] Thus, there was need for emerging economies and advanced economies to coordinate in managing the flow of capital between them.[67] Further, in as much as emerging economies had sound financial systems they were still affected by spillover effects from advanced economies.[68] Although some countries had efficient risk management systems in place, excessive risk taking by others still caused a serious financial crisis which upset the stability of the whole global financial system. It became clear that if there was to be global financial stability there needed to be basic standards of regulation that all key participants on the global financial market had to adhere to.

1.1.4.4 The moral hazard of bailing out "too big to fail" financial institutions

The managers of big financial institutions who recklessly took excessive risks during financial boom were the same people who utilised deposit insurance clauses to claim additional liquidity and capital from central banks during the Crisis.[69] Central banks had to spend the tax payer's money worth billions of dollars to bailout distressed so called "Too Big To Fail" financial institutions.[70] Clearly central banks learnt that there is need for amending the financial sector legislation to prevent in future the moral hazard of banks carelessly taking risks in the belief that they will definitely be bailed out simply because they are systemically important.

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[65] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 59.
[66] *Ibid*.
[67] *Ibid* 60.
[68] *Ibid* 52.
[69] *Ibid* 61. See also A Demirgüç-Kunt & T Sobaci "A new development database. Deposit insurance around the world" (2001) 15.3 *The World Bank Economic Review* 481–490 482, who define deposit insurance as a mechanism or extra safety net put in place by governments to protect depositors from losing their money when banks fail.
[70] *Ibid* 61.

1.1.5 Measures taken

After the massive costs of the Global Financial Crisis, various measures were taken to guard against the occurrence of such a tragic event in future. Most of these different measures can all be classified under one all-encompassing measure which is the launch of the financial stability goal.[71] In order to achieve this financial stability goal many countries adopted the Twin Peaks model of regulation which also addresses the above explained moral hazard problem.[72] Most importantly, central bankers from the G20 countries came together and created a document (Basel III) with minimum standards of macroprudential supervision which, when implemented by member states, promote financial stability in the individual states' financial systems as well as the global financial system.[73] This saw in participant countries like South Africa, the introduction of an improved macroprudential policy on top of other key policies such as microprudential policy and macroeconomic policies such as monetary policy and fiscal policy. As mentioned before, macroprudential policy achieves and maintains financial stability through the prevention of risk build-up in the financial system as a whole.[74]

Interestingly enough, the achievement of the financial stability objective and consequently the implementation of macroprudential policy has in most countries always been entrusted with central banks.[75] Given that central banks have all along concentrated more on price stability, many concerns have been raised. One of the major concerns which form the gist of this

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[71] Chapter 2 of the FSRA 9 of 2017 focuses on this financial stability goal.

[72] C Van Heerden and G Van Niekerk "Twin Peaks in South Africa: a new role for the central bank" (2018) 11 *Law and Financial Markets Review* 154–162 154. See also I Goodspeed “Twin peaks” (2013) 2–3. Previously financial institutions used to be supervised by different regulators (Silo approach to regulation). This led to some heavily regulated financial institutions diverging their risky activities to subsidiary institutions where the regulator’s hand was light. However, under the new Twin Peaks model everything is now uniform. Meaning, all financial institutions, banking or non-banking will be supervised for compliance with prudential requirements by the PA and for compliance with market contact rules, by the Financial Sector Conduct Authority (formerly known as the Financial Services Board). These two regulators will perform their duties under the SARB (the apex peak). For a discussion on the different approaches to financial regulation see further, A Schmulow "The four methods of financial system regulation: An international comparative survey" (2017).

[73] Basel Committee “Basel III: A global regulatory framework for more resilient banks and banking systems” *Basel Committee on Banking Supervision, Basel* (2010).

[74] See para 1.1.4.2 above.

[75] S Mollentze and U Kamlana “Macroprudential policy and the twin peaks (1)” *Claudio Borio, BIS,* (2012) 2. See also S 11(1) of the FSRA. See further C Goodhart “The changing role of central banks” (2011) 18.2 *Financial History Review* 135–170 151–152, who notes that it only made sense to allocate the financial stability policy to central banks because they have command over liquidity management. See also GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 44.

research is the manner in which this revamped long neglected macroprudential policy is going to interact with the old monetary policy which has always been the major focus of central banks. This interaction concern is a big issue mainly because unlike microprudential policy which most central banks are also implementing, macroprudential policy is largely distinct from monetary policy in terms of its instruments and objectives. This brings us to the problem statement and research objectives.

1.2 Research problem, hypothesis and objectives

1.2.1 Problem statement

In light of the above background which highlights how the Global Financial Crisis transpired, one can easily deduce that the Global Financial Crisis brought about the reemphasis on macroprudential policy, a financial stability-oriented policy. It is also easy to factor out that the financial stability mandate was entrusted with central banks such as the South African Reserve Bank (hereafter the SARB) as opposed to governments in general.[76] However, the major problem has been the lack of clarity with regards to the manner in which macroprudential policy is going to interact with monetary policy without compromising the effectiveness of its (monetary policy) transmission mechanism.[77] It has been a heated debate amongst economists and legal scholars whether the upgraded macroprudential policy is to be coordinated with and work hand in hand as a support policy to existing macroeconomic policies such as monetary policy thus, making it a type 1 mandate,[78] or whether it is a completely distinct policy that is going to operate separately from existing macroeconomic policies, which makes it a type 2 mandate.[79] Questions have also been raised whether the reemphasis on macroprudential policy implies a new primary mandate for the SARB hence replacing its current constitutionally entrenched mandate of price stability,[80] whether it is an additional mandate meaning the SARB will have two primary mandates (financial stability and

[76] C Goodhart "The changing role of central banks" (2011) 18.2 *Financial History Review* 135–170 151–152.

[77] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 55.

[78] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 2.

[79] *Ibid*.

[80] S 224(1) of the Constitution. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD Thesis University of the Free State 2 on the National Treasury's statement that macroprudential supervision shall form the foundation of our financial system.

price stability) or whether it is just an extension to the current mandate which makes it a secondary but still very important mandate.[81]

In the same vein, the question of institutionalisation has also been brought up. One group of economics scholars submit that both these policies are interrelated or pretty much the same since they both promote economic growth, meaning they can be both conducted by one committee under SARB.[82] Another school of thought views the financial stability as a type 2 mandate and argues that the SARB can still have both mandates but since the issue of concern here is primarily financial stability and not economic growth, it must have two distinct institutions (of course with one or two overlapping members for transparency 'sake) functioning under its supervision, simply because the two policies have different primary goals although they are somehow interrelated.[83] Others suggest that since the line between macro and microprudential is not as clear as it is with monetary policy, the SARB has a type 1 mandate meaning it must just designate its financial stability mandate and invest the proposed tools with the Prudential Authority (hereafter the PA) since it already deals with financial stability related issues.[84] In that case the PA will simply need more manpower.[85]

1.2.2 Hypothesis

The assumption is made that in as much as monetary policy and macroprudential policy may be different from each other in terms of instruments and target goals, they can still co-exist peacefully. If this assumption is correct, then it needs to be figured out how best can one policy interact with the other to bring a desired output without causing disruptions to the operation and effectiveness of the other. In other words, the potential conflicts that might arise and the manner in which they will be resolved with mechanisms such as memoranda of understanding.

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[81] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 55.

[82] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 8.

[83] D Kohn "Implementing Macroprudential and Monetary Policies: The Case for Two Committees" FRB Boston conference October 2, 2015 3-5. See also L EO Svensson "Monetary policy and macroprudential policy: different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2-3, 2015 6 – 7.

[84] L EO Svensson "Monetary policy and macroprudential policy: different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2-3, 2015 7.

[85] 2–3. See also C Goodhart "The changing role of central banks" (2011) 18.2 *Financial History Review* 135–170 165.

1.2.3 Research objectives

Given all the above mentioned problems surrounding the incorporation of macroprudential supervision into our financial system this research aims to achieve the following:

a) Set out the fundamental features of South African monetary policy, its instruments and the manner in which it operates. Before I move on to the new macroprudential policy, it is crucial for one to first understand what this old monetary policy that now has to interact with macroprudential policy is all about.

b) Highlight what the revamped macroprudential policy entails. In other words, I will zoom into its toolkit and the manner in which it is designed to achieve financial stability.

c) Most importantly, analyse all the different approaches to the interaction of macroprudential policy and monetary policy, including the proposed South African approach. It is at this stage that I will also address the mandate type and institutionalization concerns. Further, I will recommend the best possible manner in which these two policies can peacefully co-exist in South Africa.

1.3 Research methodology and literature review

This dissertation mainly utilises a historical, descriptive, analytical and to some extent, a comparative approach.

1.3.1 Historical approach

The tracing of the past events that had a significant bearing on our financial sector is in itself a historical approach. The 2008 Crisis was such a major event that took place in the history of the global financial market. This research takes a look at the manner in which this economic pandemic unfolded. Dissertations and academic articles by writers such as Rooplall and De Jager are used to explain the causes and effects of the financial crisis, lessons learnt from it and lastly the measures taken against the occurrence of such a crisis again.[86] It can be gathered from these writers that the Financial Crisis was caused by amongst other things,

[86] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa and J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512.

global macroeconomic imbalances, scant financial sector regulation, abnormally low interest rates and asset mispricing by credit rating agencies.[87] From these readings, one can also denote that this crisis had devastating effects such as reduced liquidity in financial markets, increased public debt and bailouts as well as stunted economic growth.[88] The literature also highlights that policy makers took great lessons from the Financial Crisis and these *inter alia* include the fact that policy rate alone cannot achieve financial stability and that there is need for a holistic approach to financial sector regulation and supervision.[89] Amongst the measures discussed in the articles, of key importance to this research is the collective international initiative taken at Basel to re-emphasise a macroprudential approach to the financial sector supervision.[90]

1.3.2 Descriptive approach

On top of describing the Global Financial Crisis, this dissertation gives a thorough description of the concepts of monetary policy and macroprudential policy. For monetary policy description the research amongst other sources makes use of the information provided on SARB's website.[91] One of the reasons why South Africa, unlike most advanced economies was not severely affected by the crisis is because it possessed robust countercyclical monetary policy.[92] The South African monetary policy is set and implemented by Monetary Policy Committee (hereafter the MPC) which is housed as a department in the SARB.[93] This committee implements monetary policy (against supply shocks such as money inflation) within a flexible inflation targeting framework whereby a target range that must be adhered to is set yet there is still enough flexibility to be out of the inflation target range when need arises.[94]

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87 V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 12.

88 J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 493.

89 *Ibid* 494.

90 Basel Committee "Basel III: A global regulatory framework for more resilient banks and banking systems" *Basel Committee on Banking Supervision, Basel* (2010).

91 Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 3 July 2017).

92 P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 14.

93 Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 3 July 2017).

94 Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 3 July 2017). See also J Aron and J Muellbauer "Review of monetary policy in South Africa since 1994"(2007) 16.5 *Journal of African Economies* 705–744 4–6, who mentions that South Africa's policy rate generally plays between 3% and 6%. See also P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 13, who states that due the flexibility aspect, the MPC was able during the pre-crisis period

After certain time lags of implementing the policy rate, by making investigations into the impact of monetary policy on the economy (monetary policy transmission mechanism), the MPC is able to examine the effectiveness of monetary policy and make improvements to it.[95]

To describe what macroprudential policy entails a paper issued by the Financial Stability Department housed in the SARB is used together with vast literature from different jurisdictions which like South Africa also adopted the macroprudential policy of supervision. [96] Macroprudential policy, unlike monetary policy which focuses on business cycles, is a bottom-up oriented policy which focuses on observing the development of systemic risks in the financial cycles.[97] The policy comprises of three sub-frameworks which are the operational framework (toolkit), analytical (used to determine what type of tools to use when) and institutional framework (which speaks to the composition and powers of the body which will be entrusted with the responsibility of implementing the policy).[98] In South Africa, the Financial Stability Committee (hereafter FSC) together with the Financial Stability Oversight Committee (hereafter FSOC) will be responsible for macroprudential policy.[99] For now it is key to note that macroprudential instruments are classified into different categories based on their target risk (for instance credit borrowers and credit suppliers) and interesting enough most of them are recalibrated microprudential tools like the capital reserve requirement.[100]

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to raise the rate to 12% in order to guard against excess credit growth. When the financial crisis unfolded, the rate was then swiftly reduced to cushion the domestic economy against the adverse effects of the financial crisis.

95 Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 3 July 2017). See also A Janine and J Muellbauer "Review of monetary policy in South Africa since 1994" (2007) 16.5 *Journal of African Economies* 705-744 6–8.

96 South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016.

97 I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 42–44.

98 *Ibid* 29–30.

99 South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 7–8. Since financial stability has always been a mandate of central banks, the FSC was established in 2000 and was simply upgraded recently to match the needs of the enhanced financial stability mandate. The FSOC is a new committee that was recently established with the coming in of the FSRA. The FSOC will work hand in hand with the FSC to promote and maintain financial stability and it (FSOC) will be briefed by the Financial Sector Contingency Forum (hereafter FSCF).

100 C Stijn, SR Ghosh and R Mihet. "Macro-prudential policies to mitigate financial system vulnerabilities" (2013) 39 *Journal of International Money and Finance* 153–185 4.

1.3.3 Analytical approach

In the search of the best possible manner in which macroprudential policy and monetary policy can interact, an analysis of the proposed different interaction models is made. To achieve this, I mainly make use of a conference paper delivered by Svensson,[101] and a paper written by officials from the SARB.[102] Currently there are two famous models of interaction that different jurisdictions subscribe to. The first model as proposed by Svensson is called the Game theory/non-cooperative Nash equilibrium model.[103] This model maintains the type 2 mandate argument that macroprudential policy is a largely distinct policy from monetary policy with different instruments and objectives hence, the two cannot be coordinated.[104] The supporters of this model advance that the mere fact that monetary policy no matter how effective, failed to prevent the occurrence of the Global Financial Crisis shows that it is not meant for preventing the build-up of systemic risks.[105] Thus, despite some form of interaction between the policies, monetary policy cannot be used and coordinated with macroprudential policy to achieve financial stability, a target it is not originally designed for.[106] They argue that in normal times these two policies should be independently conducted by two completely separate bodies (housed in central banks) which are at all times aware of what the other body is doing without interfering into the business of the other.[107] Meaning that if there is no seriously threatening crisis then monetary policy should independently focus on price stability and macroprudential policy on financial stability.

The second model of interaction is the Cooperative model,[108] which South Africa subscribes to. Advocates for this model believe that macroprudential policy and monetary policy are highly interdependent since they both target economic stability in order to maximise sustainable

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[101] L EO Svensson "Monetary policy and macroprudential policy: different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2-3, 2015.

[102] S Mollentze and U Kamlana "Macroprudential policy and the twin peaks (1)" *Claudio Borio, BIS,* (2012).

[103] L EO Svensson "Monetary policy and macroprudential policy: different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2-3, 2015 6–7.

[104] *Ibid*.

[105] *Ibid*.

[106] *Ibid*.

[107] *Ibid*.

[108] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 8.

long-term growth.[109] They argue that a thriving macroprudential policy can greatly assist monetary policy in the face of adverse financial shocks.[110] They further advance that in the absence of a macroprudential policy, monetary policy can take financial stability into account by "leaning against" financial imbalances build-up.[111] The coordination of these two policies in South Africa will be achieved by ensuring overlapping membership between the FSC and the MPC.[112] In fact most of the MPC members are the same people who sit in the FSC.[113]

1.3.4 Comparative approach

South Africa's financial regulation system is largely modelled on countries it is historically connected to, for instance the UK, Australia and Canada.[114] More so, the 2008 Financial Crisis affected many countries and led to the adoption of the revamped macroprudential model of supervision by many countries before South Africa finally decided to adopt it too. Therefore, this research makes extensive reference to foreign jurisdictions such as the UK and the USA. It follows that foreign literature is also used in explaining concepts such as the macroprudential concept of supervision.

1.4 Delineation and limitations

It is a fact that financial stability is a product of financial sector regulation and the implementation of macroprudential policy. Some Macroeconomics and Financial regulation policies such as fiscal policy and microprudential policy as encompassed under the Twin Peaks model also contribute to financial stability.[115] However, unlike financial regulation which has rules that focus on structural risks and are intended to apply permanently or for a long-term, macroprudential instruments target cyclical risks in the financial systems that vary

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[109] *Ibid*.

[110] J Bagyenda and CA Abuka "Challenges in implementing macroprudential policy in Africa" *Africa Finance Forum Blog*, 2014 3.

[111] *Ibid*. "Leaning against" means the pre-crisis use of monetary policy instruments to counter or dampen financial imbalances such as inflationary booms when the economy is becoming week. Financial imbalances are also referred to as "wind" hence the term "leaning against the wind".

[112] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 8.

[113] *Ibid*.

[114] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 28.

[115] G Van Niekerk and CM Van Heerden "Twin peaks: the role of the South African central bank promoting and maintaining financial stability" UPSpace Institutional repository. See also I Goodspeed "Twin peaks" (2013).

from time to time.[116] Therefore because cyclical tools are the ones that interact with monetary policy, this dissertation focuses on macroprudential policy.[117] It does not dwell too much on other financial stability policies like microprudential policy.

1.5 Referencing technique and key terms

This research makes use of the Style guide referencing technique. The following terms are key to this dissertation: Global Financial Crisis, financial stability, macroprudential policy and monetary policy.

1.6 Overview of chapters

Chapter 1 is the current research chapter which provides some background as to the origins of macroprudential policy. It gives a brief explanation of the 2008 Global Financial Crisis, its causes, effects and measures taken against it. The chapter also states the problem statement, hypothesis and research objectives. From there the chapter touches on the research methodology together with the literature review. After stating the delineations and limitations of the research, the referencing technique and key terms that this research uses are mentioned. Lastly, the chapter gives an overview of all the chapters for the dissertation.

Chapter 2 provides a definition of South Africa's monetary policy, states its objectives and the composition of the committee responsible for conducting it. The chapter gives a description of the framework in which monetary policy operates as well as the different instruments used to achieve its target. This chapter also touches on the implementation of monetary policy and the concept of transmission mechanism.

Chapter 3 defines macroprudential policy and gives an outline of its objectives. From there a thorough definition of systemic risk is provided. This chapter further highlights the institutional framework of macroprudential policy (in other words the authority responsible for implementing the policy). The chapter also describes the operational framework of macroprudential policy by explaining the manner in which different macroprudential instruments are classified based on their target risk. Lastly, under the analytical framework the chapter describes how the use and

[116] G Guibourg, M Jonsson, B Lagerwall & C Nilsson "Macroprudential policy–effects on the economy and the interaction with monetary policy" (2015) 2 *Sveriges Riksbank Economic Review* 29–46 29–30.
[117] *Ibid*.

selection of macroprudential tools is determined.

Chapter 4 is the heart of the dissertation. Firstly, the chapter outlines a few lessons to be learnt by financial sector regulators and supervisors, concerning monetary policy and this whole reemphasis on macroprudential policy. Further, the chapter highlights the manner in which the two policies are somehow interrelated, despite being largely distinct from each other. From there, an analysis of the different macroprudential policy and monetary policy interaction models currently existing is made. At the end the chapter makes recommendations on the best possible legal framework in which the two policies can interact.

Chapter 5 is a brief overview of the whole dissertation. It takes into account the content of each chapter (chapters 1– 4). In other words, the chapter is simply a summary of the whole research.

Chapter 2: Monetary policy

"Monetary policy ultimately must be conducted in a pragmatic manner that relies not on any particular indicator or model but, instead, reflects an ongoing assessment of a wide range of information in the context of our ever-evolving understanding of the economy.", "Monetary policy will, as always, respond to the economy's twists and turns so as to promote, as best as we can in an uncertain economic environment, the employment and inflation goals." – Janet Yellen

2.1 South African monetary policy: background and objectives

Around the 1970s more faith was being placed on fiscal policy for macroeconomic stability than on monetary policy meaning,[1] central bank independence was not so important,[2] and the bank rate was hardly changed.[3] A decade later the importance of conducting monetary policy as one of the macroeconomic policies started to gain momentum. In 1977 the De Kock Commission was appointed by the SARB and in 1984 it came to the conclusion that monetary policy objectives were well aligned with the general economic policy goals such as the promotion of stable economic growth.[4] However, it was emphasised that the long term goal of monetary policy should be to promote the low and stable growth of money supply (a less

[1] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 24, refers to macroeconomic stability as a situation where there is a stable economic growth as well as development, more jobs are created, improved standard of living and a relatively fair income distribution of income amongst those who participate in the economic activities. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132–157 135, who notes that monetary policy was conducted by fiscal authorities in conjunction with the SARB.

[2] See FR Malan & JT Prestorius "The reserve bank, banks, and clearing houses in South African law: Part 1" (2001) 13 *SA Merc LJ* 35–69 39, who define central bank independence as a central bank's ability to perform its functions without political, legislative and economic interreference. See also GM Wessels "Comparing the evolving independence of the European Central Bank and the South African Reserve Bank" (2002) 70.6 *South African Journal of Economics* 955–981 975, for a further discussion on the key features of central bank independence.

[3] GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132–157 135.

[4] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 24. The De Kock Commission was fully known as "The Commission of Inquiry into the Monetary System and Monetary Policy in South Africa" and it was chaired by the then Governor of the SARB, Dr Gerhardus de Kock. This Commission had to investigate the effective ways to address the problem of inflation spikes and to look for the best possible monetary policy nominal anchor. In 1985 the Commission published its final report which contained recommendations that set the foundations of our current monetary policy in South Africa. See further, Commission of Inquiry into the Monetary System and Monetary Policy in South Africa *The Monetary System and Monetary Policy in South Africa: Final Report of the Commission of Inquiry into the Monetary System and Monetary Policy in South Africa*. Pretoria, Republic of South Africa: The Commission, 1985.

volatile inflation environment).[5] In other words, keeping domestic price levels stable because this increases certainty within the economy and thus, creates a favorable condition for economic growth and job creation.[6] Stable price levels also strengthen the purchasing power of citizens, especially the poor majority who have reduced access to credit to cushion them from inflation shocks and become more vulnerable and helpless when prices continuously rise.[7] As years passed by and as the SARB,[8] as central bank, progressively gained more independence around the late 1980s, the primary objective of monetary policy was clearly spelt out in the South African Reserve Bank Act (hereafter SARB Act) and later in the mandate that is given to the SARB by our Constitution.[9] One of the reasons why South Africa unlike most advanced economies, was not severely affected by the 2008 Global Financial Crisis is because it possessed a robust countercyclical monetary policy.[10] In section 3 the SARB Act stipulates that the SARB should protect the value of the Rand in the interests of balanced and sustainable economic growth in South Africa.[11] This mandate is confirmed in section 224 of the Constitution. This speaks to price stability which has been all along pursued through conducting monetary policy.

The South African monetary policy is set by the MPC which is housed in the SARB.[12] The MPC conducts monetary policy by following a market-orientated approach and within a flexible inflation targeting framework that was introduced in February 2000.[13] This is a framework in which the government sets a specific inflation target which the SARB then announces and thereafter selects suitable monetary policy instruments to try and achieve the set target.[14] The fact that the government is the one that sets the target (currently 3%-6%) which the SARB has to implement shows that the SARB only has instrument independence

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[5] *Ibid*. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132–157 136.

[6] Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 10 May 2018).

[7] Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 10 May 2018).

[8] Https://www.resbank.co.za/AboutUs/Legislation/Pages/default.aspx (accessed 10 May 2018). The SARB was established in 1920 in terms of S 9 of the Currency and Banking Act 31 of 1920.

[9] S 3 of the SARB Act 90 of 1989 (hereafter SARB Act) and S 224 of the Constitution. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132–157 145, who notes that both in the pre and post democratic era the SARB has never had full control over exchange rate affairs as these have always been entrusted with the treasury department. The SARB however, has been responsible for implementing the set exchange rate policy, administering and monitoring exchange controls and the Minister of Finance hardly makes exchange policy decisions without the concurrence of the SARB.

[10] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 14.

[11] S 224(1) of the Constitution.

[12] Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 10 May 2018).

[13] Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 10 May 2018).

[14] Https://www.resbank.co.za/MonetaryPolicy/Pages/MonetaryPolicy-Home.aspx (accessed 10 May 2018).

whilst goal independence is retained by the government, which is still not a bad idea as the SARB still gets to freely select the instruments it wants to use to achieve the set target.[15] The SARB's instrument autonomy is still not disturbed even if it has to consult with the Minister of Finance before implementing monetary policy instruments.[16] Moreover, as explained below, the fact that the inflation target is flexible means the SARB is even free to go out of the set range if need arises, for instance, when there is a financial crisis. Below I venture into a discussion of the MPC and thereafter, flexible inflation targeting and the market-orientated approach.

2.2 Institutional framework

Monetary policy is such an important facet of every country's economy. Henceforth, the formulation and implementation of such a crucial policy cannot be left in the hands of one man. A committee over a single decision maker is always preferred. When monetary policy is conducted by a committee the moderation of extreme positions and policies is most likely guaranteed.[17] As mentioned above, in South Africa monetary policy is set by the MPC.[18] The MPC is comprised of seven members, the Governor (who is also the chairperson), three deputy governors and three senior bank officials.[19] These committee members do not necessarily represent any province or area as in the case of parliamentarians, they are chosen based on their expertise in the field of economics and monetary policy.[20] Each

[15] See J De Jager "The South African Reserve Bank: an evaluation of the origin, evolution and status of a central bank (Part 2)" (2006) 18 *SA Merc LJ* 274–290 284, who discusses the different types of central bank independence. See further S 224(2) of the Constitution which basically states that the SARB must pursue price stability without fear, favour or prejudice, meaning the MPC can exercise its instrument independence without succumbing to external pressures for example, from greedy politicians. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132–157 148–150, who notes that regardless of heightened criticism and the spiking unemployment rates in 2002 the SARB still raised the repo rate four times in a row in order to curb the increasing inflation. Recently SARB's independence was facing threats from EFF and the public protector Ms Busisiwe Mkhwebane. For further details on these recent threats see https://www.dailymaverick.co.za/opinionista/2018-05-15-towards-the-creation-of-state-banks-from-rhetoric-to-practice/#.WwMQUfZuJPZ (accessed 10 May 2018) and *South African Reserve Bank v Public Protector and Others* [2017] 6 SA 198 (GP).

[16] S 224(2) of the Constitution. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132-157 148-150.

[17] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/default.aspx (accessed 10 May 2018).

[18] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/default.aspx (accessed 10 May 2018).

[19] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/default.aspx (accessed 10 May 2018).

[20] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/default.aspx (accessed 10 May 2018).

committee member has the right to vote in order to set the interest rate (repo rate) at any level consistent with the inflation target.[21] The MPC is constantly briefed by the SARB staff who carry out extensive research on the economy and South Africa's financial system. One of the departments that assists the MPC is the Financial Markets Department bearing in mind that a market-orientated approach is followed when conducting monetary policy.[22] Some of the responsibilities of the financial markets department is to provide treasury services, domestic and international banking services, implementing the interest rate policy, facilitating the efficient operation of South Africa's financial markets as well as managing gold and foreign exchange reserves for the SARB.[23] The MPC's decisions are greatly influenced by the SARB's objectives, local and international research output, a thorough scrutiny of the current state of the country's economy, the possible outlook of inflation and many key factors as discussed later in this chapter.[24] Recently, due to the reamplification of the financial stability objective upon the occurrence of the 2008 Global Financial Crisis, the MPC will also take into account issues of financial stability when setting and implementing monetary policy.[25] The MPC also upholds the principle of transparency as it finalises and issues to the public its meeting dates for the coming year.[26] After every meeting the Governor releases a statement on the SARB website and issues a press conference where he goes live on the national television to explain the reasoning behind the policy stance that the MPC would have taken during their meeting.[27] A monetary policy review is also published twice a year, which basically explains how monetary policy is being conducted, its impact and effectiveness.[28] Twice a year in major centers, the SARB also facilitates forums to which business people, government representatives and academics are invited in order to discuss monetary policy issues.[29] Each year the Governor also has to submit a report to the Minister of Finance and on regular occasions address the Parliament as to the MPC's stance on monetary policy

[21]Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/default.aspx (accessed 10 May 2018)
[22] Https://www.resbank.co.za/AboutUs/Departments/Pages/FinancialMarkets.aspx (accessed 10 May 2018).
[23] Https://www.resbank.co.za/AboutUs/Departments/Pages/FinancialMarkets.aspx (accessed 10 May 2018).
[24]Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/Meetings.aspx (accessed 10 May 2018).
[25] T Pesuth "Redefining the role of central banks" (2016) 1 *Penzugyi Szemle* 35-49 35.
[26]Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/Dates.aspx (accessed 10 May 2018).
[27] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyCommunication/Pages/default.aspx (accessed 10 May 2018).
[28] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyCommunication/Pages/default.aspx (accessed 10 May 2018).
[29] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyCommunication/Pages/default.aspx (accessed 10 May 2018).

These measures clearly serve to make the SARB accountable for the monetary policy implemented by the MPC.[30]

2.3 Discussion of the flexible inflation targeting framework and the market-orientated approach

Different monetary policy regimes succeeded each other before the adoption of the current flexible inflation targeting. From the 1960s up until early 1980s the liquid asset ratio-based system was in place.[31] With this system quantitative controls were imposed on credit and interest rates.[32] Following recommendations in a report by the De Kock Commission of 1978, the cash reserves-based system took over until mid-1985.[33] Under this second regime the reserve bank's main goal was to control market liquidity via creating money shortages on the market and setting the bank rate at a very high level in order to influence the commercial banks' rate.[34] The SARB's rate basically had an influence on collateralised lending and consequently market interest rates.[35] Around March 1998, the third system took over and this was characterised by repurchase transactions whereby the repo rate was market-determined in liquidity daily tenders.[36] During the early days of the introduction of the third system, fixed interest rates were preferred but in the early 2000 this was done away with.[37] The daily liquidity requirement for banks was simply a formality, in actual effect the SARB preferred stabilising the repo rate around the prevailing levels.[38] This conclusion can be made from the marginal over or under liquidity provision that was in place, which pointed towards the repo rate having room to freely move/fluctuate.[39] As highlighted later in this chapter, it is important to note that some of these systems, for instance the cash reserves, are still being utilised today when implementing monetary policy.

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[30] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyCommunication/Pages/default.aspx (accessed 10 May 2018).
[31] A Janine & J Muellbauer "Review of monetary policy in South Africa since 1994" (2007) 16.5 *Journal of African Economies* 705–744 706–708.
[32] *Ibid*.
[33] *Ibid*.
[34] *Ibid*.
[35] *Ibid*.
[36] *Ibid*.
[37] *Ibid*.
[38] *Ibid*.
[39] *Ibid*.

After the third monetary policy regime came inflation targeting.[40] Just prior to the adoption of flexible inflation targeting,[41] many central banks were following a strict inflation targeting framework, also known as the "inflation nutter" which uses backward-looking, short term, aggressive and volatile methods to stabilize in isolation only inflation around the set inflation target.[42] Later with time, it was discovered that sometimes exogenous shocks that cause inflation to rise exceedingly (also known as first-round effects of supply shocks) can be experienced.[43] Such shocks include natural disasters, droughts, oil and mineral price shocks as well as currency problems caused by financial contagion.[44] Since getting such spiked inflation levels back to normal often required central bankers to continuously increase interest rates even far beyond the set target,[45] an escape route had to be created to allow this. Thus, most countries (except for the Eurozone countries) started adopting the more accommodative flexible inflation targeting framework for conducting their monetary policy.[46] In South Africa the framework was introduced via an escape clause that was incorporated in the MPC's April 2000 Statement Appendix and later the Medium Term Budget Policy Statement of October

[40] EJ Van der Merwe "Inflation targeting in South Africa" (2004) Pretoria, South Africa: South African Reserve Bank 2–3, stipulates that there are generally three types of inflation targeting and these are fully full-fletched, eclectic and lite inflation targeting. Full-fletched is the one that South Africa follows, whereby there is a target range is set and the responsible monetary policy agent works towards achieving that target within a specific period or maintaining inflation within the set target. Eclectic inflation targeting is generally used by those advanced economies which have so much financial stability that they can afford to keep their inflation low whilst achieving price and output stability simultaneously. The monetary policy agencies in these countries have gained so much credibility that they do not have to fully adhere to the transparency and accountability principles when conducting their monetary policies. Inflation targeting lite economies are those that are very susceptible to financial vulnerabilities, shocks and instability and because of that they set a very broad target range which after all they can barely maintain. These economies have very low credibility and they usually fail to uphold inflation as their primary objective.

[41] *Ibid* 1–2. There are generally four major reasons for adopting a formal inflation targeting. Firstly, it creates more certainty and increases public confidence in your financial system since by upholding the recommended transparency principle, the monetary policy agency communicates to the public its short-term numerical inflation targets, plans and intentions. Secondly, inflation targeting facilitates the coordination of economic policies with similar objectives. It also promotes accountability as the policy agency must stick to the set target, otherwise they will have to provide the public valid reasons for deviation. Lastly, inflation targeting can reduce inflation hence, it can also influence price and wage setting.

[42] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop "Towards a new framework for monetary policy? Lessons from the crisis", organized by the Netherlands Bank, Amsterdam, 21 September 2009 1–2.

[43] Http://www.investopedia.com/ask/answers/041015/why-do-supply-shocks-occur-and-who-do-they-negatively-affect-most.asp (accessed 10 May 2018). Supply shocks relate to a change in the supply of goods or services because of the occurrence of an incident. For example, war or natural disasters such as an earthquake can lead to the destruction of factories where goods are produced meaning the production of goods will be cut or stunted (negative supply shock).

[44] *Ibid*.

[45] A Janine & J Muellbauer "Review of monetary policy in South Africa since 1994" (2007) 16.5 *Journal of African Economies* 705–744 709, note that trying to bring back inflation within the set target points to the fact that monetary policy can only react to second round effects of supply shocks and has little or no control over the first- round effects such as a sudden rise in oil prices or droughts that cause a deviation from the set target.

[46] P Gordhan "A safer financial sector to serve South Africa better" *National Treasury Policy Document* (2011) 13.

2001.[47] The escape clause allows the SARB to go beyond the set target in the event of supply shocks provided it (the SARB) gives a convincing explanation for falling outside the set target as well as fully informing the public about the nature and impact of the shock on the consumer price index inflation and its proposed plan of action as the central bank to bring the inflation back within range.[48] Hence, through this escape clause South Africa adopted the flexible inflation targeting framework which is in essence a forward-looking framework that aims at stabilising not only inflation around the set range but also the real economy and business cycle over a lengthy horizon of two to three years.[49] This framework is well known for anchoring monetary policy in periods of excessive volatility.[50] During the 2008 Global Financial Crisis many Eurozone countries suffered from external supply shocks such as disruptive capital flows partly because of their fixed exchange rate which could not afford them the flexibility to take their rate out of range in order to manage shocks.[51] Around 2005 when the SARB realised that rapid credit growth paused serious threats to the inflation target, the repo rate was gradually raised from 7% to 12% by mid-2008 and as the Crisis unfolded the rate was rapidly reduced to cushion our local economy from the devastating global economic conditions.[52]

Flexible inflation targeting is also known as “forecast targeting” because intrinsically linked to flexible inflation targeting, is the concept of forecasting.[53] Due to the time lags that lapse

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[47] A Janine & J Muellbauer "Review of monetary policy in South Africa since 1994" (2007) 16.5 *Journal of African Economies* 705–744 7087–10. See also EJ Van der Merwe “Inflation targeting in South Africa” (2004) Pretoria, South Africa: South African Reserve Bank.

[48] *Ibid*. EJ Van der Merwe “Inflation targeting in South Africa” (2004) Pretoria, South Africa: South African Reserve Bank 12, also mentions that the more flexible the inflation targeting is the less credible it becomes thus, the SARB can not just be taking inflation out of range without a valid reason.

[49] *Ibid*. Real economy refers to that part of the economy which is concerned with the production of goods and providing services as opposed to the buying and selling of such goods on financial markets. For instance a positive supply shock such as money inflation means that money loses its purchasing power and with time production becomes less efficient. See also L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 1–2, who argues that it must always be kept in mind that the long-term levels of recourse utilisation cannot be effected by monetary policy. See further L EO Svensson "The relation between monetary policy and financial policy" (2012) 8.S1 *International Journal of Central Banking* s 293–295 293–294.

[50] P Gordhan “A safer financial sector to serve South Africa better” *National Treasury Policy Document* (2011) 13.

[51] *Ibid*.

[52] *Ibid*. See also GM Wessels "Central bank independence before and after the democratisation of South Africa" (2004) 19 *South African Journal of Economic History* 132-157 145, who notes that in 2002 the SARB raised the policy rate four times despite serious criticisms from politicians, which also shows how independent our central bank is.

[53] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 1–2.

before the impact of monetary policy decisions on inflation and the real economy can be felt (transmission mechanism), flexible inflation targeting has to resort to forecasts of inflation and the real economy.[54] In simpler terms, the policy-rate path that the central bank chooses should lead to a good-looking forecast meaning, the SARB's monetary policy actions must be anticipated to keep inflation stabilized around the set target and the real economy normal.[55] In the event of conflicting monetary policy actions there must still be an anticipated balance of the treatment of inflation versus the real economy.[56]

Since South Africa is counted amongst one of the countries with a well-established financial market, in conducting monetary policy within a flexible inflation targeting framework, the SARB also follows a market-orientated approach.[57] Where a market-orientated approach is followed, the central bank actively participates on the financial markets of its country.[58] For instance, in South Africa, the SARB buys and sells financial instruments on the financial markets in order to influence quantities on the markets as well as prices and consequently the interest and exchange rates.[59]

2.4 Policy instruments, implementation and transmission mechanism

The 1985 De Kock Commission report made a suggestion against the use of direct controls and instead recommended that market-related instruments such as public debt management, exchange rate policy, the discount rate and the SARB's general accommodation policy as well its open-market operations be used in conducting monetary policy and that in unusual circumstances these market-related instruments could be assisted by semi-market-related instruments.[60] The Commission further recommended that the cash reserve system which had been used since the 1930s replace the liquid asset system as a policy instrument.[61] Building on the Commission's recommendations, policy rate and communication have been

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[54] *Ibid*.
[55] *Ibid*.
[56] *Ibid*.
[57] J De Jager "The South African Reserve Bank: an evaluation of the origin, evolution and status of a central bank (Part 2)" 2006 18 *SA Merc LJ* 274–290 274–275.
[58] *Ibid*.
[59] *Ibid*. See also J De Jager "The South African Reserve Bank: an evaluation of the origin, evolution and status of a central bank (Part 1)" (2006) 18 *SA Merc LJ* 159-174 164-165, who mentions that concerning the external value of our currency, the SARB does not set any exchange-rate targets but rather maintains a floating exchange rate policy where the value is determined by the market.
[60] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 25. See also J De Jager "The South African Reserve Bank: Blowing Winds of Change (Part 2)" (2013) 25 *SA Merc LJ* 492–512 502–503.
[61] *Ibid*.

used as monetary policy instruments during periods of financial stability.[62] Communications mainly refer to the publication of inflation, real economy and policy rate forecasts.[63] When a crisis is prevalent, unconventional instruments will be relied on.[64] These include fixed rate lending with long maturity periods, central bank assets composition or size adjustment in order to influence long-term interest rates, and foreign exchange intervention aimed at preventing currency appreciation or to induce currency depreciation.[65] The target variables which invoke the use of these instruments are inflation and the real economy.[66] In simpler terms, the successful use of monetary policy instruments is targeted at keeping inflation stable and the real economy normal. It is also important to note that specific instruments are selected based on the range of indicators that provide warnings of threats to price stability and resource utilisation.[67] Some of these indicators as discussed below together with certain monetary policy instruments which include changes in administered prices, wages, productivity and unit labour cost; money supply and credit extension; exchange rate developments and lastly, components of domestic and external demand.[68]

Interest rate is one of the key instruments that is relied on in conducting monetary policy.[69] The SARB moves its interest rate aggressively to stabilise rising inflation and the opposite is true when inflation is too low.[70] Although an increase in interest rates for instance, the bank/repo rate,[71] might not necessarily instantly compel banks to borrow less since banks

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[62] J De Jager "The South African Reserve Bank: Blowing Winds of Change (Part 2)" (2013) 25 *SA Merc LJ* 492–512 502–503. See also datahelp.imf.org/knowledgebase/articles (accessed 10 May 2018), which stipulates that policy rate is the key rate used by a central bank to implement its monetary policy. It can be either a repurchase (repo) rate or a discount rate which can be utilised when there is a shortfall of funds (liquidity problems). A repo rate will be the rate at which the central bank lends money to commercial banks in exchange for securities that can be repurchased in future at a pre-determined price.

[63] *Ibid*.

[64] *Ibid*.

[65] *Ibid*.

[66] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 1–2.

[67] J De Jager "The South African Reserve Bank: Blowing Winds of Change (Part 2)" (2013) 25 *SA Merc LJ* 492–512 502–503.

[68] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/Meetings.aspx (accessed 10 May 2018).

[69] MS Mohanty "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 12–14.

[70] *Ibid*. See also G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 23–24, who also note that this is also known as the V-shaped policy where on a short-term basis interest rates are adjusted accordingly depending on whether it’s a downswing or upswing period.

[71] See n 62 above for the definition of a repo rate. See also https://financial-dictionary.thefreedictionary.com/repo+rate (accessed 10 May 2018), which states that central banks use the repo rate to control inflation. If they raise it the effect will be a short-term reduction on money supply and if the repo rate is reduced there will be an increase in money supply and economic growth.

are also quick to adjust their lending rates accordingly, theoretically this increase in lending rates will reduce demand for credit.[72] Once credit demand falls there will also be a decrease in credit supplied, bank deposits volume, borrowing by banks and eventually the money available in the economic system.[73] Before action to move the policy rate is taken, the SARB relies on many indicators.[74] The exchange rate is one of the key indicators.[75] When the exchange rate is very volatile, usually due to exchange rate shock that has a tendency of depreciating the real exchange rate, inflation and output also increasingly become volatile which will be a signal to the SARB to increase the interest rate in order to tone down inflation.[76] An abnormally large Gross Domestic Product can also be interpreted as inflationary meaning, the SARB may have to hike interest rates to slow down the growth rate.[77] The opposite is true, when there is an economic downswing and there is slow growth interest rates may be reduced to stimulate growth.[78] Adding on, when the consumer price index (excluding mortgage costs) is high, it triggers a spike in inflation thus, the SARB will have to act by increasing interest rates.[79] If the consumer price index is abnormally low then interest rates will have to fall.[80] Notably abnormally low unemployment rates trigger the increase of interest rates.[81] Another indicator that the interest rate sometimes rely on is the amount of credit extended.[82] If consumer credit data reflects that there is a rapid and continued increase in motor vehicle financing and commercial banking credit for instance, the SARB in conjunction with the Treasury (who raises taxes) can raise interest rates to reduce spending and promote saving.[83] Most importantly, house prices are one of the major interest

[72] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 26.
[73] *Ibid*.
[74] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 1–2.
[75] EPJ Kleynhans & R Meintjes “Political independence of the South African Reserve Bank: Managing interest rates” (2013) 13(1) *Acta Commercii* 1–10 4–5.
[76] *Ibid*. EJ Van der Merwe “Inflation targeting in South Africa” (2004) Pretoria, South Africa: South African Reserve Bank 8–10.
[77] EPJ Kleynhans and R Meintjes “Political independence of the South African Reserve Bank: Managing interest rates” (2013) 13(1) *Acta Commercii* 1–10 4–5.
[78] *Ibid*.
[79] *Ibid*.
[80] *Ibid*.
[81] *Ibid*. See also EJ Van der Merwe “Inflation targeting in South Africa” (2004) Pretoria, South Africa: South African Reserve Bank 11–12.
[82] EPJ Kleynhans and R Meintjes “Political independence of the South African Reserve Bank: Managing interest rates” (2013) 13(1) *Acta Commercii* 1–10 4–5.
[83] *Ibid*.

rate indicators.[84] As witnessed during the 2008 Global Financial Crisis, a rapid and continued increase in house prices tends to create an asset bubble and trigger economic growth which is considered inflationary.[85] Meaning, to prevent this asset bubble from bursting or to reduce its effects upon bursting, interest rates would have to be raised.[86]

Moving on, another major instrument that is relied on when conducting monetary policy is forecasting. Forecasting uses a suite of econometric models to try and predict (forecast) how some key indicators or financial conditions such as current asset prices, increased credit growth, imbalances and the potential growth of asset bubbles will impact target variables (loss function) such as inflation and the real economy.[87] If for instance, the rapid increase in price assets is deemed risky the SARB may raise interest rates to dampen the possible foreseeable devastating effects on inflation and real economy in the long-term run.[88]

To add on, the classic cash reserve system has been in place as a monetary policy instrument since the 1930s.[89] The classic cash reserve system aims at curbing monetary expansion by creating money shortage on the market through imposing the cash reserve requirement on banks.[90] Although it is the main limiting factor, it pretty much has the same effect with instruments such as the liquid asset and capital adequacy requirements.[91] Through the cash reserve system central banks have also designed an indirect way of influencing interest rates.[92] Besides controlling interest rates directly through discount window overnight loans to banks, the SARB now indirectly controls interest rates via repurchase agreements.[93] In terms of these repurchase agreements, the SARB lends short-term funds to banks (to accommodate them in their credit extension business) against the pledge of assets such as

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[84] *Ibid*. See also EJ Van der Merwe “Inflation targeting in South Africa” (2004) Pretoria, South Africa: South African Reserve Bank 10–11.

[85] EPJ Kleynhans and R Meintjes “Political independence of the South African Reserve Bank: Managing interest rates” (2013) 13(1) *Acta Commercii* 1–10 4–5.

[86] *Ibid*.

[87] Https://www.resbank.co.za/MonetaryPolicy/Monetary%20Policy%20Committee/Pages/Meetings.aspx (accessed 30 June 2018).

[88] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 3.

[89] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 25.

[90] *Ibid* 26–31. Via imposing the cash reserve requirement, a money shortage is created on the market as the money which banks have to put aside in their reserves at the SARB cannot be utilised by the banks on financial markets.

[91] *Ibid*.

[92] *Ibid*.

[93] *Ibid*.

financial securities by the banks, at a tender rate determined by the SARB.[94] It is this tender rate that influences the market rates.[95] The mere fact that banks can tender for funds give banks the incentive to efficiently manage their state of liquidity.[96] Although not so accurate,[97] this refinancing assistance provided to banks daily by the SARB is in turn used as an indicator of money market conditions.[98]

The SARB also makes use of foreign exchange (hereafter FX) intervention as a monetary policy tool. Capital flow volatility has always posed a huge threat to monetary and financial stability hence emerging economies such as South Africa rely of FX intervention to dampen this volatility.[99] FX intervention can be utilised in instances where the central bank needs to keep the short-term interest rate low.[100] However, FX intervention has been blamed for being too costly, especially where the interest rate differential is high and continues to rise.[101] For the SARB this has been the major reason for its losses on reserve holdings.[102] Again, because intervention is sometimes used to cover up for interest rates that need to be kept low, this can result in a domestic credit boom which can be a threat to financial stability.[103] When exchange rate flexibility is restricted, such intervention promotes high speculation on the currency's value in future and this usually leads to excessive risk-taking by investors in the urge to aggressively exploit the interest rate differentials.[104] It has also been advanced by some economics scholars that a free-floating exchange rate instead of a restricted one via

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[94] *Ibid*.

[95] *Ibid*.

[96] *Ibid*.

[97] *Ibid*. Because it excludes other central bank intervention methods such as open market operations. These open market operations together with various other monetary policy instruments force banks to avail themselves to the SARB for accommodation purposes and this in turn gives effect to the SARB's interest rate policy. For instance, since banks pursue profits, the increase of the repo rate cause banks to spontaneously react by increasing their lending rates accordingly.

[98] *Ibid*.

[99] MS Mohanty "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 12–14.

[100] *Ibid*.

[101] See https://www.investopedia.com/terms/i/interest-rate-differential.asp (accessed 10 May 2018), where it is explained that interest rate differential amounts to the difference between the interest rates of two similar interest bearing assets like mortgage bonds. For example, an investor may notice that if they purchase a South African bond at the cost of R10 000 they can get a yield/profit of 2% but if they convert that R10 000 into Euros and purchase an Australian bond it can yield 5% which is more profitable. Meaning, the interest rate differential will be 3% (5% minus 2%).

[102] MS Mohanty "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 12–14.

[103] *Ibid*.

[104] *Ibid*. See also https://www.investopedia.com/terms/i/interest-rate-differential.asp (accessed 10 May 2018), where it is mentioned that this is also called carry trade, a scenario where investors try to rip benefits by exploiting the difference between interest rates.

FX intervention is more desirable in acting as a buffer against external shocks provided it is strongly supported by efficient and prudent macroeconomic policies such as the fiscal policy.[105] On the opposite end, emerging economies such as Asia believe although FX intervention is costly, its benefits counteract such huge costs involved as it greatly prevents the risks to monetary and financial stability especially when it forces the tradable sector to make excessive adjustments.[106]

As mentioned before, the implementation of monetary policy is carried out by the Financial Markets Department.[107] Besides the classical cash reserve system framework through which monetary policy is implemented, the SARB also has a repo facility where it lends funds to banks against the repo rate agreed on by the MPC and in return the banks have to provide collateral which usually amounts to liquid assets as prescribed by the prudential liquid asset requirement.[108] End of day account settling services are also offered to commercial banks where for instance banks can be given access to their cash held in reserve by the SARB and banks can also lend money to the SARB at the set repo rate (reverse repo).[109] In pursuit of the same goal, which is to manage market liquidity, the SARB also issues debentures, conducts money swaps on the foreign exchange market and moves public funds to and from the SARB and the financial market.[110]

Once monetary policy has been implemented, the MPC and its associated departments will analyse the impact of the measures taken on the economy and price level. The impact that monetary policy decisions has on the economy and prices is called the “transmission mechanism”.[111] As previously mentioned, the MPC ensures a successful monetary policy conducting by relying on forecasting which is in turn dependents on an extensive knowledge

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[105] MS Mohanty "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 12–14.

[106] *Ibid*.

[107] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/MonetaryPolicyOperations-Home.aspx (accessed 10 May 2018).

[108] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/MonetaryPolicyOperations-Home.aspx (accessed 10 May 2018). The prudential liquid asset requirement imposes on banks the duty to keep a certain percentage of liquid assets such as cash and any assets that can easily be converted to cash, so they can meet their daily deposit withdrawals, expenses and payments. See Chapter Three, para 3.4.4 for a detailed explanation of the requirement and its application in South Africa.

[109] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/MonetaryPolicyOperations-Home.aspx (accessed 10 May 2018). The accounts of commercial banks are automatically settled at 100 basis points below or above the repo rate.

[110] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/MonetaryPolicyOperations-Home.aspx (accessed 10 May 2018).

[111] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop “Towards a new framework for monetary policy? Lessons from the crisis”, organized by the Netherlands Bank, Amsterdam, 21 September 2009 2.

of mechanisms through which monetary policy impacts the economy and price levels.[112] These mechanisms include, commercial banks rates,[113] nominal exchange rates as well as bond, equity and real-estates prices.[114] South Africa is counted amongst some of the countries with a very effective transmission mechanism.[115] In South Africa just like in the UK, the repo rate has a swift effect on mortgage rates due to their floating rate nature, which is the complete opposite in continental European countries such as Italy.[116] In the UK as well as South Africa, a rise in house prices means an expansion in collateral for borrowing and simultaneously a huge impact on consumer spending.[117] For instance, a 10% increase in house prices usually converts to a 0.6% to 0.9% increase in consumption.[118] Therefore, there is a fast transmission from the repo rate to the mortgage rate, and the mortgage rate in turn has an effect on house prices which in turn affect consumption.[119] Hence, the notion that South Africa has a powerful monetary transmission.[120]

2.5 Aligning monetary policy with the current overarching financial stability goal

After the occurrence of the 2008 Global Financial Crisis as explained in the previous chapter, it became clear that central banks were going to bulk their regulatory minds with the promotion and maintenance of financial stability in implementing all their roles. It became apparent that the implementation of a short-term inflation targeting framework was excessively primitive and less sophisticated to counter the build-up of financial imbalances.[121]

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[112] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/Monetary-Policy-Transmission-Mechanism.aspx (accessed 10 May 2018).

[113] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/Monetary-Policy-Transmission-Mechanism.aspx (accessed 10 May 2018). See also MS Mohanty "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 13-14.

[114] Https://www.resbank.co.za/MonetaryPolicy/MonetaryPolicyOperations/Pages/Monetary-Policy-Transmission-Mechanism.aspx (accessed 10 May 2018). See also S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" Pretoria paper prepared for the conference “Monetary Policy and Financial Stability in the Post-crisis Era” hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November 2010 3-4, who give examples of the transmission mechanism of an accommodative monetary policy decision. Low interest rates make investments less costly and increase the profitability of projects; reduces the value of your currency which leads to increased exports; increases real estate and stock value which in turn fuels investment and household consumption; increases a bank’s reserves and deposits. Hence, the ability of banks to supply more funds impacts on banks’ balance sheet by enhancing their net worth and consequently their leverage and lastly it also makes households more credit worthy which can promote too much borrowing.

[115] A Janine & J Muellbauer "Review of monetary policy in South Africa since 1994" (2007) 16.5 *Journal of African Economies* 705–744 8.

[116] *Ibid* 712.

[117] *Ibid*.

[118] *Ibid*.

[119] *Ibid*.

[120] *Ibid*.

[121] T Pesuth “Redefining the role of central banks” (2016) 1 *Penzugyi Szemle* 35–49 35.

Hence, there was a need to modify and adjust monetary policy to ensure that it takes cognisance of financial stability.[122] Since an accommodative policy rate can sometimes lead to build-up of bubbles that cause financial imbalances when they burst, we can conclude that monetary policy is also linked to financial stability.[123] To align monetary policy with the financial stability objective, most central banks adopted a non-conventional monetary policy stance which entails measures affecting central banks rates, forward guidance and measures aimed at the size and composition of central banks' balance sheets.[124] All these measure will reduce market volatility since market participants will be well informed about the future strategies and expected outcomes (forward guidance) of the central bank.[125] There will also be certainty as to costs of borrowing since interest rates will be kept low for a longer period (effects of low interest rates will be countered by macroprudential instruments) as opposed to shorter terms.[126]

2.6 Conclusion

In light of the above discussion, one can conclude that our monetary policy has over the years evolved to meet the needs of each financial era. Initially, more emphasis was placed on fiscal policy and monetary policy was conducted by both the treasury department and the SARB. Meaning, the SARB did not have as much monopoly over monetary policy as it has now. Around the late 1980s the SARB was given more control over monetary policy and its primary goal was clearly spelt out in the SARB Act and later entrenched in our Constitution. In as much as monetary policy has other objectives such as promoting economic growth, it was strongly recommended that its primary objective should be in simpler terms promoting and maintaining price stability in the interest of a sustainable economic growth in South Africa. Secondly, it can be gathered from this chapter that there were different monetary policy regimes such as the ratio-based regime and the cash reserves-based system before flexible

[122] De Jager J "The South African Reserve Bank: Blowing Winds of Change (Part 2)" (2013) 25 *SA Merc LJ* 492–512.

[123] 502. M Shirakawa "Central banking: before, during, and after the crisis" (2013) 9.1 *International Journal of Central Banking* 373–387 8.

[124] L Linde "The changing roles of central banks" Fourth future banking summit, Economist Conference February 2013 2-3. See also T Pesuth "Redefining the role of central banks" (2016) 1 *Penzugyi Szemle* 35–49 37–39.

[125] T Pesuth "Redefining the role of central banks" (2016) 1 *Penzugyi Szemle* 35-49 39. See also L Linde "The changing roles of central banks" Fourth future banking summit, Economist Conference February 2013 2–3, who also notes that the Bank of Canada, Japan and the FED have already started implementing some of the non-conventional monetary policy measures.

[126] R Amzallang "The role of central banks in the aftermath of the 2008 financial crisis; a banker's perspective" (2015) DT-01 *CIRANO* 1–50 24–25.

inflation targeting was introduced. The most important feature about flexible inflation targeting as discussed, is the fact that it allows the interest rate to fall out of target when need arises, for instance, upon the occurrence of a financial crisis. The chapter also highlighted that monetary policy just like any other macroeconomic policy makes use of specific tools in achieving its goals. These tools include the interest rate, forecasting and foreign exchange intervention. It has also been pointed out that the use of these instruments is usually determined by financial indicators such as the consumer price index, credit expansion, asset bubbles and exchange rate. This chapter also discussed the implementation of our monetary policy which is done by the Financial Markets Department as well as the point that South Africa has a very swift and powerful transmission mechanism. As discussed above, it is also very interesting to note that our monetary policy is being aligned with the currently popular financial stability goal of central banks. Hence, from this whole chapter, the most important point that one should carry home is the fact that our monetary policy is quite competent and it has always been evolving to meet the needs of each financial era.

Chapter 3: A synopsis of macroprudential policy

"A policy that uses primarily prudential tools to limit systemic or system-wide financial risk, thereby limiting the incidence of disruptions in the provision of key financial services that can have serious consequences for the real economy, by dampening the build-up of financial imbalances and building defences that contain the speed and sharpness of subsequent downswings and their effects on the economy; identifying and addressing common exposures, risk concentrations, linkages and interdependencies that are sources of contagion and spillover risks that may jeopardise the functioning of the system as a whole." - FSB, BIS and IMF (2011)

3.1 Background

Intrinsically linked to macroprudential policy is the concept of financial stability and systemic risk. Hence, it is very important to first breakdown the meaning of these two concepts before venturing into a detailed discussion of macroprudential policy. Unlike with monetary stability which directly relates to price stability and the value of a currency, it is not so easy to come up with an exact all-encompassing operational definition of financial stability.[1] What scholars, economists and central banks such as the SARB have done is to paint a picture of what happens when there is financial stability. For instance, Section 4(1)(a), (b) and (c) of the FSRA defines financial stability as "a condition where financial institutions generally provide and are capable of continuing to provide financial products and financial services, and market infrastructures generally perform and are capable of continuing to perform their functions and duties in terms of financial sector laws, without interruption despite changes in economic circumstances; and there is general confidence in the ability of financial institutions to continue to provide financial products and financial services, and the ability of market infrastructures to continue to perform their functions and duties in terms of financial sector laws, without interruption despite changes in economic circumstances".[2] In other words, there is financial stability if financial markets are stable together with the financial institutions that operate within those markets. Meaning, there is no extreme volatility or disturbances on the markets that can produce dire consequences for the real economy.

For financial institutions this means that they will be holding sufficient capital in reserve as well as liquidity that will act as buffers to absorb shocks and increase their resilience during

[1] GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 18. See also T Pesuth "Redefining the role of central banks" (2016) 1 *Penzugyi Szemle* 35–49 36.
[2] S 4(1)(a),(b) and (c) of the FSRA 9 of 2017.

economic downswings or a financial crisis.[3] Thus, financial stability focuses on the system as a whole or rather, on building a robust financial system which is capable of predicting, preventing and withstanding all type of domestic and international shocks.[4] Key indicators for financial stability would be high confidence in the financial system; effective regulatory infrastructure; zero macroeconomic costs of disturbances on businesses and financial service providers; sound and efficiently functioning markets and financial institutions as well as stable prices, interest and exchange rates.[5] The opposite is true for financial instability which can also cause disruptions in the payment and settlement system.[6] Notably others have classified financial stability as an outcome of traditional macroeconomic stability which aims at keeping low the probability or severity of a financial crisis which is usually caused by propagation mechanisms that tend to amplify certain impulses.[7] These impulses include asset prices and the loss of general public confidence in the financial system, for example when information about a huge financial institution's bankruptcy is published.[8]

I now move on to the concept of systemic risk, a risk that can be a severe threat to financial stability. Just like financially stability there is no one standard definition for systemic risk.[9] Systemic risk has been defined by some, as the risk that a systemic event will be experienced where second round effects of some initial shock will lead to the crashing of financial markets and collapsing of financial institutions that were *ex ante* solvent.[10] Given that systemic risk is the risk that a systemic event will occur, section 1 of the FSRA defines a systemic event "as an event or circumstance, including one that occurs or arises outside the Republic, that may reasonably be expected to have a substantial adverse effect on the financial system or on economic activity in the Republic, including an event or circumstance that leads to a loss of confidence that operators of, or participants in, payment systems, settlement systems or financial markets, or financial institutions, are able to continue to provide financial products or financial services, or services provided by a market infrastructure".[11] Thus,

[3] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 159–160.

[4] G Marcus "The importance of a robust financial system for growth in the South African economy" *Auditing SA* Summer (2003) 5–8 5–6. It is important to ensure the entire system is financially sound because the sole soundness of all individual institutions can be misleading as such financial institutions may still be susceptible to extraneous risks which can cause massive disruption in the financial system.

[5] *Ibid*.

[6] *Ibid*.

[7] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 159–160.

[8] *Ibid*.

[9] G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 857–858.

[10] *Ibid*.

[11] S 1 of the FSRA.

systemic risk is risk that some disruptions to the provision of key financial services will ensue as a result of damage to parts of or the whole financial system, with dire consequences for the real economy.[12] Some scholars believe that in general, two externalities lie at the heart of systemic risk.[13] Firstly, the joint failure of financial institutions due to their interlinkages (mostly as intermediaries) and secondly, common exposures to external shocks (mainly credit and liquidity) to the financial system.[14] Others believe that systemic risks that cause financial instability are primarily endogenous and do not have much to do with contagion but rather extended exposure to prolonged booms which sow seeds for devastating economic downswings.[15] It has been further advanced that systemic risk can manifest in two dimensions, firstly, a procyclicality or time dimension where the systemic risk develops over time for example credit booms that lead to asset bubbles that expand over time and eventually burst causing disruptions in the real sector.[16] Secondly, a structural or cross-section dimension where the risk is distributed at a specific point in time in different parts of the financial system.[17] The structural risk is also known as the interconnectedness risk.[18] Systemic risk can also be explained in a narrow or broader sense based on their magnitude and geographic reach.[19] For instance, systemic risk is narrow (financial disturbance) when it only affects one institution or is limited to one region but becomes broad (financial shock)

[12] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 9–10.

[13] S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" Pretoria paper prepared for the conference "Monetary Policy and Financial Stability in the Post-crisis Era" hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November 2010 2.

[14] *Ibid*.

[15] G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 857–858.

[16] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 9–10. During periods of economic upswings financial institutions and households engage in excessive risk taking. Financial institutions will be very innovative when it comes to financial products and households will be borrowing more than they can afford. This makes them extremely risk-averse leading to serious consequences on the real economy when these bubbles eventually burst leading to the fire-selling of assets at very low prices and credit crunches to mention but a few. See also I Van der Merwe "Macroprudential Policy: A Conceptual Framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 14–15.

[17] GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 36.

[18] I Van der Merwe "Macroprudential Policy: A Conceptual Framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 14–15, notes that structural risk can spread due to the exposure of financial institutions to their counterparties. For instance, where the major activities in the financial system are conducted by a few big financial institutions that are highly interlinked (financial conglomerates) these institutions may be exposed to risk because they depend on the same source of funding. These risks can swiftly spread throughout the financial system and be intensified when there is contagion or spill-over effects from one institution to the others.

[19] *Ibid* 11.

when it affects most parts or the whole financial system at a national or international level.[20] Classification can further be based on whether the systemic risk is real or non-real (pseudo).[21] A pseudo systemic risk only causes a reduction in asset prices and institutional wealth without necessarily causing widespread bank runs or rather loss of public confidence in the financial systems as in the case of a real systemic risk.[22] Meaning, there is not necessarily any need for intervention when systemic risk does not pause any real systemic threats.[23] In the same vein, systemic risk can be viewed in a horizontal or vertical manner, with the horizontal view concentrating at the occurrence and effects of systemic risk on the financial sector alone.[24] On the other end, the vertical view further extends its focus to the effects of systemic risk on the real economic output and general welfare.[25] Contagion; banking sector currency mismatches, coordination failure by financial firms (multiple equilibria) and widespread panic; common exposure to asset price bubbles; failure or refusal by sovereign states to pay their debt(s) (sovereign default); asset mispricing and inconsistent liquidity provision have been identified as the important types of systemic risks.[26]

3.2 Definition and objectives

Given the way economies are interdependent and interconnected with each other on a global scale as well as due to the occurrence of the economically devastating 2008 Global Financial Crisis, regulators saw it fit to upgrade their regulation game. At some stage the IMF (International Monetary Fund) reported that the banking crises costs have over the past 15 years exceeded the Gross Domestic Product by 10%.[27] One of the key lessons taken by financial regulators from the financial crisis was that in as much as financial stability is underpinned by stable prices, price stability alone is not enough.[28] Monetary policy proved to have a less direct impact on counteracting systemic risks such as excessive leverage.[29] On the other end, microprudential policy also proved not to be sufficient enough. This is because

[20] *Ibid*.
[21] *Ibid* 13–14.
[22] *Ibid*.
[23] *Ibid*.
[24] *Ibid*.
[25] *Ibid*.
[26] *Ibid* 17–18.
[27] Https://www.resbank.co.za/Financial%20Stability/Pages/Rationale-for-a-financial-stability-focus.aspx (accessed 30 June 2018).
[28] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 13-14.
[29] *Ibid*. Regulators saw that an accommodative monetary policy can actually promote excessive borrowing, risk taking by financial institutions and that utilising high interests to fight shocks during a financial crisis can be less effective.

some of the key systemic risks that caused the Global Financial Crisis emanated within the financial system yet microprudential policy views systemic risks as exogenous.[30] Meaning, there was need for regulatory and supervisory intervention, need to revive the long neglected financial stability focus and consequently the need for an additional policy, "a macroprudential finish to the standard microprudential instruments"[31] to effectively counter global financial vulnerabilities. Thus, from 2010 to 2011 members of the Basel Committee on Banking Supervision (the G-20 countries) met and came up with a regulatory framework called Basel III which incorporates macroprudential policy.[32] These countries as the major and key participants on global financial markets agreed to implement this upgraded policy as the basis for the revived financial stability goal both at a domestic and international level.[33]

In 2011 the FSB (Financial Stability Board), BIS (Bank of International Settlements) and the IMF provided an impressive definition of macroprudential policy.[34] They stipulated that macroprudential policy is a policy that fundamentally makes use of calibrated prudential instruments to curb or reduce systemic or system-wide financial risk to limit the occurrence of disruptions in the provision of key financial services that come with dire consequences for the real economy.[35] The policy is firstly designed to identify and address sources of contagion and spillover risks that may endanger the functioning of the whole financial system.[36] According to the above mentioned three international standard setting bodies, these sources of risks include linkages and interdependencies, risk concentrations and common exposures to markets, products and institutions.[37] Secondly, the policy makes use of prudential instruments to dampen the build-up of financial imbalances, and to build defence

[30] I Van der Merwe "Macroprudential Policy: A Conceptual Framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 42-44. Microprudential policy follows a bottom-up approach where prudential tools are directed towards the risk posed to individual institutions and the instability of an individual institution is depicted as irrelevant to the instability of the financial system.

[31] D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 1. Such as capital and liquidity requirements.

[32] Basel Committee. "Report to G20 Leaders on Basel III implementation." *Basel, Switzerland: Bank for International Settlements* (2012) 1-3.

[33] *Ibid*.

[34] I Van der Merwe "Macroprudential Policy: A Conceptual Framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 24. GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 40–41.

[35] *Ibid* 24.

[36] *Ibid*.

[37] *Ibid*. For instance, when too many big financial institutions are dealing at the same risky market, heavily invest in the same financial product, institution or lend money to one specific industry that might be at the verge of collapsing.

mechanisms that react with swiftness and effectiveness to match the speed and sharpness of subsequent downswings and their effects on the economy.[38] Put differently, macroprudential policy has two broad objectives which are to increase the resilience of the financial system to economic downswings and systemic shocks, and to "lean against" the financial cycle in order to reduce or contain the built-up of risks in the financial system as well as to reduce the probability that a financial crisis will occur.[39]

Further, macroprudential policy is tailored around two dimensions, one being the dimension that focuses on the distribution of risk in the financial system at a specific point in time and the second one focusing on how risk evolves over time (financial system pro-cyclicality).[40] The first dimension utilises tools targeted at imposing rigorous standards on Global Systemically Important Financial Institutions (G-SIFIs) since they pose larger risks to the financial system, whilst the second dimension makes use of tools that are aimed at creating the overall general resilience of the financial system.[41] Thus, given the pervasive nature of some systemic risks, macroprudential policy is a forward-looking crisis management policy whose aim is to create a financial system that is on a continuous basis strong enough to absorb any systemic risks as well as keep up with any financial system dynamics that could potentially create systemic risks.[42]

Moreover, macroprudential policy is a top-down oriented policy that views systemic risk as endogenous.[43] Macroprudentialists believe that the collective behaviour of financial institutions can have dire effects on the financial system and that all prudential measures and actions taken should be aimed at fighting systemic threats posed to the whole financial system and not just limited to individual financial institutions.[44] The policy also keeps an eye on the way financial institutions, markets, infrastructure and the real economy interact with

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[38] *Ibid*.

[39] *Ibid* 7.

[40] L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 9. Most risks that macroprudential policy was designed for fall into four broad categories. These are systemic liquidity risk; risks emanating from large and volatile capital flows such as foreign currency lending; excessive leverage and the resultant deleveraging generated risk as well as risks created by rapid credit growth together with credit-driven asset price inflation.

[41] L Linde "The changing roles of central banks" Fourth future banking summit, Economist Conference February 2013 3–4.

[42] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 7.

[43] S Mollentze and U Kamlana "Macroprudential policy and the twin peaks (1)" *Claudio Borio, BIS,* (2012) 2. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 42–44.

[44] *Ibid*.

each other.[45] In as much as macroprudential policy targets systemic risk breeding grounds such as maturity mismatches, interconnectedness, leverage and liquidity,[46] it is cognisant of the fact that these risks can also emerge in huge non-banking institutions, the shadow banking sector as well as asset markets and the non-financial sector.[47] It is also very crucial to note that macroprudential policy has three key sub-frameworks which are the institutional, operational and analytical framework.[48] The institutional framework speaks to the architecture of the policy and this includes matters of governance, accountability, transparency, communication and coordination with other macroeconomic policies.[49] The operational framework relates to the use and effectiveness of operational tools that have been developed to help manage and prevent any risks from developing into systemic risks.[50] The analytical framework identifies, observes and weigh any risks that have the potential of becoming systemic.[51] Below, I briefly expound on the institutional framework and from there, the operational and later the analytical framework of macroprudential policy.

3.3 Institutional framework

Since financial stability has always been a mandate of central banks, the revamped macroprudential policy was entrusted with the FSC which is housed in the Financial Stability Department of the SARB and had long been established in 2000.[52] All that had to be done upon adopting the upgraded macroprudential policy was to restructure the FSC in accordance with the enhanced mandate.[53] To facilitate effective coordination of policies and communication between committees, there is overlapping membership between the FSC and the MPC and different committees will have to conclude memoranda of understanding with

[45] *Ibid*.
[46] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 14–15.
[47] 14–15. See also S Claessens, SR Ghosh & R Mihet "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 6, who mention that macroprudential policy will keep an eye on any threat to the financial system including threats from monetary policy decisions and all the subordinate elements that make up the whole financial stability framework such as any threats from accounting changes, fiscal policy as well as regulatory changes.
[48] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 5.
[49] *Ibid* 29-30.
[50] *Ibid*.
[51] *Ibid*.
[52] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 5.
[53] See also https://www.resbank.co.za/Financial%20Stability/Domestic/Pages/Mandate.aspx (accessed 30 June 2018).

each other.[54] The FSC committee also has senior SARB officials from various expertise backgrounds.[55] Meetings are held every quarter or every second month and in line with the transparency principle,[56] the FSC issues press statements of its meetings. It is very important to note that the FSC works hand in hand with the FSOC and its briefer the FSCF which bodies were subsequently established in terms of the FSRA.[57]

Recommendations have been put forward concerning the macroprudential policy institutional framework. It has been suggested that the committee which conducts macroprudential policy should be small, having five members, namely a macroeconomist, microeconomist, financial engineer, a research accountant and a practitioner.[58] Reason being, having such a small team would promote objectivity and independence of judgement.[59] The more the numbers,

[54] S 27 of the FSRA. See also G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29-46 29–42, who note that at the Sveriges Riksbank (the central bank of Sweden) the monetary policy committee is the one that deals with financial stability and this might create workload problems or blurriness between the two policies.

[55] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 5.

[56] *Ibid* 2. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 46, who stipulates that according to the International Monetary Fund's code of good practices on transparency, three things underly transparency and these can be adopted by supervisors and regulators for any policy. Firstly, the roles, responsibilities and objectives of each supervisor or regulator must be made clear, disclosed to the public and incorporated into legislation. Included under this first obligation is all the relationships and interlinkages between supervisory and regulatory institutions as well as any agency functions assumed by a central bank on behalf of the government. With the understanding that the FSRA is still new in South Africa, the SARB can be applauded for at least taking the initial crucial baby steps in implementing the first rule of transparency, since it is stated in the FSRA that policy makers should conclude memoranda of understanding. Nonetheless, a lot still needs to be done in future, to ensure that the content of those memorandums is clearly defined and publicised. The second rule entails that the institutional and instrumental framework of each policy should be clearly disclosed. Meaning, the structure or composition of each decision-making body and its decisions, the policy tools and their targets should be made known to the public. Regarding this second transparency principle, the FSC will be issuing press statements of its decisions in a timely manner after its quarterly meetings. Moreover, the SARB has made a handful publications where it explains in detail macroprudential policy and its instrumental framework. However, information on the toolkit needs to be made available on the SARB website and more clarity pertaining to the structure of the FSC needs to be given. Unlike with monetary policy, the website does not go into thorough detail of who the members of the FSC are and how many they are. It just mentions that it comprises of some MPC members and key SARB officials. The third rule is a build-up of the second one and it dictates that more information on policies should be made known to the public. For instance, developments in the financial system and the rationale behind all the decisions made by the supervisors and regulators. Meaning, the FSC will have to explain to the public their decision for taking a certain stance or choosing one stance over the other.

[57] See S 20–25 of the FSRA for detailed information on the function, membership and any other crucial aspects pertaining to the FSOC and the FSCF.

[58] G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 870.

[59] *Ibid*. See also M Eslava "Central bankers in government appointed committees"(2010) 94.5–6 *Journal of Public Economics* 363–379 368. See further A Sibert "A systemic risk warning system" (2010) *London: Birkbeck ePrints* 3–4, who mentions that the European Systemic Risk Board is way too big comprising of 61 bureaucrats who are fully employed elsewhere, which is a perfect recipe for inefficiency and reduced accountability.

the more the human resources but this comes at the cost of motivational loss which is crucial for an efficient committee.[60] More so, the expertise diversity in the above stated team will facilitate the dictating of different types of systemic risks.[61] It has also been put forward that government officials and members of international boards should not sit on the committee as the fear of losing their government or international board membership position may cripple their independent thinking.[62] The same goes for supervisors and regulators who are most likely to be distracted by their focus regulatory sectors which may impair their objectivity and make them more susceptible to repeating the same mistakes they made prior to the Global Financial Crisis, mistakes which are more likely to be noticed by independent observers than the wrongdoers themselves.[63] It is also important that the committee be treated with high regard and popularised so that the members may become aware that their career is intrinsically linked to their performance and the public eye is on them.[64] Salaries for the committee members should also be lucrative to attract the highly qualified and their portfolio in the committee should be their sole employment to avoid any form of distraction.[65]

3.4 Operational Framework

Limiting the development of systemic risks over time or across financial markets and institutions, is the fundamental aim of macroprudential tools.[66] It is interesting to note that these tools are not “out of the blue” tools. They are mostly calibrated prudential tools,[67] with a few having been also borrowed from other public policies such as monetary,[68] fiscal,

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[60] A Sibert "A systemic risk warning system" (2010) *London: Birkbeck ePrints* 3–4.

[61] *Ibid*. For instance, a macroeconomist might dictate risk in massive securitisation whilst a microeconomist will possibly interpret the reduced loan-monitoring incentive as risky.

[62] *Ibid*.

[63] *Ibid*.

[64] *Ibid*.

[65] *Ibid*.

[66] L Cheng Hoon et al "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 4.

[67] I Van der Merwe “Macroprudential policy: a conceptual framework” draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 44–49. Many have questioned the effectiveness of using for the whole financial system tools that are mircroprudential in nature and are meant for individual institutions. The advanced argument is mainly based on the fact that some of those microprudential tools for instance, debt-to-income and loan-to-value contributed to the Global Financial Crisis. Meaning, the same mistakes can not be repeated hence, the need for designing and introducing more unique macroprudential tools. On the other end, it has been argued that since most of the macroprudential tools are calibrated mircoprudetial tools, there might not even be any need to establish a whole new institutional framework or designing new macroprudential tools. The macroprudential policy can thus be conducted by the PA. The rationale being, where systemic risks are less threatening, the PA will follow a market-oriented approach based on market methods to allow for the adjustment of risk provisions and positions by market participants. By so doing all resource allocation related inefficiencies will be easily reduced and managed by the PA.

[68] E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 10. For instance, reserve requirements and lending restraints.

administrative and foreign exchange.[69] Before I give brief descriptions of each tool it is important to note that macroprudential tools are at three phases generally classified into four different categories.[70] The first phase is the expansionary phase (during an economic upswing) where the focus of specific macroprudential tools is to enhance the resilience of the financial system to systemic risks.[71] The second phase is the contractionary phase (when an economic downturn is threatening) characterised by credit crunch and fire sales and where specific tools are utilised to dampen the cycle.[72] The third phase, is the contagion or propagation phase where through SIFIs and interconnectedness, the effects of the downswing start to spread across the financial system and the aim of the chosen tools will be to dispel the gestation of the cycle.[73]

Moving on to categories under which tools are classified, the first category is credit-related or asset-side tools which are designed to restrict excessive borrowing.[74] During the

[69] *Ibid*.

[70] *Ibid*. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 51, who notes that there are many different preferred ways of classifying macroprudentials tools. The first general approach states that tools can be categorised under three groups. The first group being of those tools that are designed to constrain the overall lender behaviour such as cyclical capital buffer and leverage requirements. The next group targets the overall borrower behaviour and the common tools are capital controls, loan-to-debt and debt-to-income ratios. The last group is comprised of tools that are meant to restrict cross-border capital flow, and these include capital controls and foreign exchange intervention. The second approach to classification divides between tools that have an impact or influence of the balance sheets of financial institutions; tools that impacts the terms and conditions of loans and other various transactions and lastly tools that impacts market structures. The third method of classification can also be based on the key agencies that generally control the specified macroprudential tools. For instance, some tools are borrowed tools that are generally used by the PA and others Monetary Policy Authorities. Others also prefer to classify tools according to those that are cyclical versus those that are structural in nature. G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 29–30, state that cyclical tools such as the countercyclical buffer change over time and can be adjusted accordingly depending on the nature of financial imbalance that would have risen. When the economy is doing well the buffer can be increased since lenders and borrowers can behave recklessly. Structural tools do not change over time and are implemented once off having a long-term goal of creating a sound a financial system. Nonetheless, structural and cyclical tools are generally difficult to distinguish such that any tool from either group can be used to fight cyclical or structural risks. Some have come up with a classification based on tools that are new and those that simply old recalibrated tools. See further L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011, who advance that tools can also be classified based on their target risk (cyclical or structural). He mentions that credit-related tools such as loan-to-value and debt-to-income ratio caps target credit growth generated risks or asset price inflation. Tools such as liquidity mismatch limits and levies on non-core liabilities can be used to fight systemic liquidity risk. Capital-related instruments can also be used to fight risks that arise from excessive leverage.

[71] Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 6 and 26.

[72] *Ibid*.

[73] *Ibid*.

[74] *Ibid*. See also E Cerutti, C Stijn & L Luc "The use and effectiveness of macroprudential policies: New evidence" (2017) 28 *Journal of Financial Stability* 203–224 205, who note that these borrower-based

expansionary phase these include time varying caps on Debt-to-Income, Loan-to-Income and Loan-to-value ratios; foreign currency lending caps; limits on margins and haircuts; credit growth ceilings as well as rules and limits on sectoral lending.[75] Within the contractionary phase these include specific loan-to-value adjustments, margins or haircuts and under the contagion phase some of the tools are various asset composition restrictions.[76] The second classification category is liquidity-related tools which place restrictions on financial sector balance sheets.[77] During the expansionary phase these include time varying caps on forex/net open currency positions mismatch; interest rate mismatches as well as reserve requirements.[78] When the contractionary phase occurs liquidity limits like coverage and net stable funding ratios are utilised whilst the contagion phase is tackled by placing specific limits on institutions' balance sheet or bilateral financial exposures.[79]

The third classification category is the capital-related or buffer-based category where during the expansionary phase tools include countercyclical capital requirements; time varying general dynamic provisioning; leverage and profit distribution restrictions.[80] The same tools are used during a contractionary phase except for leverage and profit distribution restriction and for the contagion phase systemic risk-linked capital surcharges are used.[81] Under the fourth category falls any macroprudential tools that cannot be classified under the first three above mentioned categories.[82] These include levies, taxation and institutional infrastructure.[83] During the expansionary phase levies or tax can be imposed on targeted assets and/or liabilities; accounting rules can be enforced on the market and changes can be made to market discipline, governance and compensation rules.[84] In the contractionary phase, levies or taxes can also be imposed on non-core liabilities and rules can be made

instruments are mainly utilised in advanced economies whilst foreign exchange instruments are used more rigorously in emerging economies.

[75] Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 26. See also South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 15–16.

[76] *Ibid*.

[77] *Ibid*.

[78] *Ibid*.

[79] *Ibid*. See para 3.4.4 below for a detailed explanation on coverage and net stable funding ratios.

[80] *Ibid*. See para 3.4.5 below for a detailed explanation on countercyclical capital requirements; para 3.4.7 for dynamic provisioning and para 3.4.6 for leverage restrictions.

[81] Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 26.

[82] *Ibid*.

[83] *Ibid*.

[84] *Ibid*.

regarding standardized products (for instance securities) provided over the counter.[85] Safety nets can also be created by the SARB and treasury liquidity as well as fiscal support may be requested.[86] The contagion phase will be dealt with using taxes or levies that may vary due to the influence of externalities such as size and network, whilst institutional frameworks like central counterparty clearing (CCPs) can be put in place.[87] There can also be requests from supervisors that certain varying information be disclosed.[88] Below, I briefly describe of some the key macroprudential instruments.

3.4.1 Loan-to-value (mortgage cap), Loan-to-income and Debt service-to-income caps

These three tools can be introduced where there is excess leverage which leads to excessive lending and hence, potential risk that systemic risk might occur because of loosening lending standards.[89] The Loan-to-Value (LTV) ratio cap places a limit on the amount of mortgage credit against a specified portion of the target property's market value.[90] The whole point of the LTV ratio cap is to ensure that banks are resilient by increasing the collateral guarantee which prevents banks from suffering loses in the event of a default.[91] The Loan-to-Income (LTI) ratio cap on the other end restricts credit extension beyond the borrower's disposable income, meaning it imposes credit assessments to ensure that borrowers are given what they can afford to pay back.[92] Similar to the LTI cap, the Debt-to-Income (DTI) ratio cap restricts the size of interest payments and extent of loan deferral against a household's disposable income which in turn prevents households from becoming overindebted.[93] During economic

[85] *Ibid*. Over the counter instruments are less regulated as opposed to instruments on an exchange market which is more centralised and heavily regulated. Meaning, instruments from the exchange market are usually safe and less risky.

[86] *Ibid*. See also http://www.businessdictionary.com/definition/safety-net.html (accessed 10 May 2018), which defines a safety net as measures put in place to protect financial services consumers, especially bank customers from losses. These measures include deposit insurance and the quick access by commercial banks to short-term liquidity from central banks at a discounted rate.

[87] *Ibid*. See also https://en.wikipedia.org/wiki/Central_counterparty_clearing (accessed 30 June 2018) where it is explained that CCPs are heavily regulated financial institutions that manages the credit risks that comes with transactions derivatives, options, securities and forex exchange. They also provide clearing services to parties involved in trading the above listed instruments.

[88] *Ibid*.

[89] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 20.

[90] *Ibid*. See also G Guibourg et al "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 32–34 who states that the lower the mortgage cap percentage the less a household will have to spent on housing and this curbs excessive spending. Nonetheless, rising asset price can counteract the function of mortgage caps.

[91] *Ibid*.

[92] *Ibid*.

[93] G Guibourg et al "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 32–34.

upswings the LTV, LTI and DTI ratios can be tightened and loosened during downswings because lenders and borrowers are less excited.[94]

3.4.2 Market margins and haircuts

A margin is defined as the collateral that an investor in financial instruments must deposit with the counterparty (who can be a broker) to cater for the credit risk that the investor pauses to such as counterparty.[95] A haircut refers to the difference between the actual market value of a loan collateral and the value ascribed to the collateral at the time of extending the loan.[96] Haircuts reflect the amount of risk attached to the collateral, for instance the risk of abruptly losing value.[97] Meaning, the higher the haircut, the higher the risk associated with that collateral.[98] These two instruments are used to place limits on secured financing and derivative transactions that can be concluded in funding markets during boom periods to avoid excessive contracting.[99] The tools enhance funding markets resilience and help to reduce the potential development of systemic risks that emanate from margin spikes which are associated with high volatility in funding markets.[100]

3.4.3 Reserve Requirements (RR)

This a tool used to reduce excessive credit growth that can be fuelled by capital inflow.[101] It helps protect the financial system from liquidity risks.[102] With the unremunerated RR tool, the SARB can request capital importers such as banks to deposit with it a fraction of the capital sum where no interest will be paid by the SARB to the bank.[103] Hence, the RR will act as a

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[94] *Ibid*. See also E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 11-14, who state that regulators have to tighten the ratios because market participants have a tendency of relaxing them to beat their competitors during economic upswings yet this creates asset bubbles that later cause turmoil in financial systems when they burst. See further J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 46-53, who also mention that during periods where monetary policy is be constrained, LTV and DTI ratio caps can be useful in complementing other banking supervision instruments. They further stipulate that in general supervisors and regulators are more familiar with the LTV ratio cap that the DTI one.

[95] Https://en.wikipedia.org/wiki/Margin_(finance) (accessed 10 May 2018).

[96] Https://en.wikipedia.org/wiki/Haircut_(finance) (accessed 10 May 2018).

[97] *Ibid*.

[98] *Ibid*.

[99] South African Reserve Bank, Financial Stability Department “A new macroprudential policy framework for South Africa” November 2016 20.

[100] *Ibid*.

[101] L Cheng Hoon et al "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 49.

[102] *Ibid*.

[103] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 46–54.

levy or tax on capital inflow. A similar deposit requirement can be imposed on non-deposit liabilities to increase the cost of non-deposit funding on banks with the aim of curbing the rapid increase of such liabilities during economic booms.[104] The RR tools also has a Basel III liquidity requirement characteristic in that during times of financial distress, banks can access the funds they would have deposited with the central bank.[105] Nonetheless, the disadvantage of this tool is that it is only applicable to banks and not the rest of financial institutions yet the majority of them also use non-core liabilities.[106]

3.4.4 Liquidity coverage and net stable funding ratios

These time-varying liquidity buffers are new macroprudential tools.[107] Liquidity refers to the availability of cash or assets that are easily convertible to cash to enable financial institutions such as banks fulfil their short-term obligations.[108] The higher the liquidity the more the institution will be protected against short-term liquidity disruptions.[109] Thus, the goal of the liquidity coverage ratio is to increase banks' short-term resilience to liquidity risks by imposing a requirement that banks hold enough unencumbered high-quality liquid assets that can in the event of a crisis be easily convertible to cash to ensure that the banks can meet all their liquid obligations for 30 days.[110] Put differently, banks will be required to hold liquidity which is equivalent to or greater than their net cash outflow minus projected cash inflows that at least have a 100% coverage over a 30-day stress period.[111] The liquidity coverage ratio can be raised beyond the Basel III requirement to ensure that banks are even more resilient.[112] The net stable funding ratio ensures that banks hold a stable funding profile in relation to their assets and off-balance-sheet activities as required by Basel III.[113] The ratio puts a limit on the amount of long-term funding that a bank can hold against its liquid assets to ensure that banks do not heavily rely on funding from core (usually illiquid) assets.[114] This is because

[104] *Ibid*.
[105] *Ibid*.
[106] *Ibid*.
[107] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 20–21.
[108] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[109] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[110] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[111] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[112] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[113] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).
[114] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).

heavy reliance on illiquid assets can reduce their quick response to liquidity and solvency crisis.[115]

3.4.5 Capital requirements

In terms of the minimum capital requirement, banks are required to hold a certain amount of share equity which will act as buffer against unexpected losses during financial distress periods.[116] The larger the share equity the bank has the lesser the reliance on state guarantees and liquidity injections.[117] In addition to the minimum capital requirement banks will also have to hold a countercyclical capital buffer and a conservation buffer (new instruments).[118] The countercyclical capital buffer (hereafter CCB) is additional capital calculated in a percentage, aimed at cushioning and increasing the resilience of financial institutions during economic downswings.[119] The CCB is calculated by dividing total capital by the risk weighted assets of the bank, meaning the riskier the assets the more capital the financial institution should hold. Basel III set the CCB at 8% but the SARB added 2% so in South Africa the CCB is pegged at 10%.[120] The conservation buffer can be utilised when there is a threatening build-up of risk in the financial system and it is pegged at 2.5%.[121] Sectoral capital requirements will also be introduced as a new tool that is designed to impose as additional capital requirement for banks that extend credit to a specific sector that will at the moment of assessment be considered risky.[122] For instance, risk weights may be increased for banks that lend too much to the commercial real-estate.[123] Capital requirements are procyclical in nature since they generally lean against credit or business cycles meaning,

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[115] Https://www.investopedia.com/terms/l/liquidity-coverage-ratio.asp (accessed 30 June 2018).

[116] G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 30–32.

[117] *Ibid*.

[118] *Ibid*. See also E Lee "Basel III and its new capital requirements, as distinguished from basel II" (2014) 131 *Banking LJ* 27–69.

[119] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 18. See also L Linde "The changing roles of central banks" Fourth future banking summit, Economist Conference February 2013 2–3.

[120] P Burra "Implementing the countercyclical buffer in South Africa: Practical considerations" (2015) 18 *SAJEMS NS* 105-127 107.

[121] *Ibid*.

[122] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 18–19.

[123] *Ibid*.

they can be increased when there is excessive credit growth and accordingly reduced when there is credit contraction. [124]

3.4.6 Maximum Leverage ratio requirement

This is a capital requirement complementary tool in which a bank's equity is weighed against its overall lending.[125] Thus, unlike capital requirements it is not affected by the extent of risk that is posed by different assets.[126] As a new add-on to the microprudential one, maximum leverage ratios can be used when excessive leverage is seen as a potential threat to financial stability.[127] During credit cycle upswings, banks have a tendency of increasing their leverage by increasingly borrowing so that they can buy more assets and increase their equity return.[128] Thus, during upswings, the leverage ratio can be tightened and loosened when there is a downswing.[129] The leverage ratio percentage that was set by the Basel Committee is 3% and it is obtained by dividing the financial institution's tier 1 assets with its total consolidated assets.[130] The higher the leverage ratio the more the institution will be able to withstand financial shocks.[131] In South Africa the ratio should be 4%.

3.4.7 Forward-looking dynamic provisioning

This tool is very similar to the countercyclical capital buffer in that it requires banks to build up a shock absorbing buffer during loan advancements through certain provisions.[132] The only difference is that with forward-looking dynamic provisioning the provision reflects on the income statement as reduced profit and this in turn impact the bank's capital.[133] Meaning, in addition to provisions imposed by accounting standards, banks will be required to hold additional provisions that will be used to cover expected losses.[134] This is because banks

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[124] E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 11–14. See also J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 46–53.

[125] G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 30–32.

[126] *Ibid*.

[127] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 19.

[128] *Ibid*.

[129] *Ibid*.

[130] Https://www.investopedia.com/terms/t/tier-1-leverage-ratio.asp (accessed 30 June 2018).

[131] Https://www.investopedia.com/terms/t/tier-1-leverage-ratio.asp (accessed 30 June 2018).

[132] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 46–53.

[133] *Ibid*.

[134] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 19. See also L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper*

tend to underestimate risk or their potential losses during upswings.[135] In the past, provisions would be taken once the risk of reduced payment prospects materialise and not when it was still building-up.[136] However, forward-looking dynamic provisioning is procyclical in nature thus, banks are encouraged to resort to their average past performance during a business cycle to detect losses before they materialise.[137]

3.4.8 Levy on non-core liabilities

This tool can be equated to a corrective tax imposed on financial market participants to reduce the risk of under-pricing that can lead to excessive asset growth and risk that emanates from banks' interconnectedness.[138] A good example is a levy that can be charged in the banking sector on short-term foreign exchange-denominated liabilities whose rate is pegged at 20 basis points.[139] This levy is very effective during economic booms as non-core liabilities are larger, hence the levy acts as an automatic stabilizer even if tax rates continuously remain constant.[140] Although more of a financial stability tool than a capital control tool, the levy can reduce the vulnerability of emerging markets to unexpected reversals in capital flows as a result of deleveraging by banks.[141] On as side note, the levy money can be used to build a market stabilization fund.[142]

3.4.9 Restrictions on foreign currency lending

Economic booms are usually characterised by positive interest rates and currency appreciation which fuels foreign-currency funding.[143] However, there is a great risk that if there are currency mismatches and suddenly a currency depreciation is experienced, there might be increased defaults on the part of borrowers who do not earn foreign exchange.[144] To counteract these potential foreign currency funding associated risks, different measures

October 2011 72, who note that central banks are also allowed to impose an additional countercyclical provision to cater for unexpected losses.

[135] *Ibid*.

[136] E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 11–14.

[137] *Ibid*.

[138] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 46–53.

[139] *Ibid*.

[140] *Ibid*.

[141] *Ibid*.

[142] *Ibid*.

[143] E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 11–14.

[144] *Ibid*.

can be introduced. These include exposure limiting measures such as Debt-to-Income ratios which relate to forex loans or a total ban on forex lending.[145] Measures aimed at creating buffers against currency depreciation periods such as LTV ratios against the value of the forex; capital requirements and very high provisions can be imposed against forex lending.[146]

3.5 Analytical framework

Whether macroprudential tools are effective or not, mainly depends on the analysis of different types of shocks and not necessarily the size of the concerned financial sector.[147] Meaning, different types of risks will have to be fought using different types of tools.[148] In many countries the choice of tools is influenced by many factors such as the country's level of economic and financial development,[149] the country's susceptibility to certain types of shocks and sometimes the exchange rate regime.[150] It is through an analysis of the state financial system that regulators can discern whether to "lean against" the risks or just take a

[145] *Ibid*.

[146] *Ibid*.

[147] L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 4. See also https://www.investopedia.com/terms/m/macroprudential-analysis.asp (accessed 30 July 2018).

[148] 4. See also P Angelini, S Neri & F Panetta "Monetary and macroprudential policies" (2012) *ECB Working Paper* No. 1449 21–23.

[149] See Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 6–8, who make very interesting contributions that in some systems measures that target all financial institutions can work only if their external funding is sourced from a regulated industry. For instance, in most advanced economies these measures might not work because deposit-like claims are generally not regulated the same way as bank deposits. This creates room for more shadow banking activities meaning, regulators in such economies have to do something about this shadow banking growing industry as it is already becoming a leeway for the avoidance of some macroprudential instruments by many financial institutions. In bureaucratic states where many banks are state-owned there might be great compliance with macroprudential policy as an eye will be kept on these banks. However, in some countries, state-owned banks suffer from poor resource allocation meaning, they cannot afford to comply with certain instruments which in turn renders those instruments non-effective. In states where there is a heavy foreign bank presence, certain tools that are meant at addressing capital flows cannot be dodged by those banks. The use of macroprudential tools can also be affected by the availability and effectiveness of other macroeconomic policies. Countries with a pegged exchange rate find it difficult to use monetary policy to impact their financial cycle thus, they have to engage certain macroprudential tools. The same goes for overindebted countries, they might have not flexibly able to make use of countercyclical fiscal policy before they engage some macroprudential instruments. Industrialised economies such as the United States and the European Union have a large spectrum of tools available to pick from to mitigate or fight systemic risks. For instance, they make use of forward-looking stress tests which are a brilliant substitution or complement for macroprudential tools.

[150] *Ibid*. In general countries that have fixed, or managed exchange rates utilise macroprudential instruments more. They use credit-related and liquidity-based instruments to fight credit growth and external funding risks that emanates from capital inflows which are a result of the fixed exchange rate guarantee which gives financial institutions the incentive to source external funds. Functional constrains such as limited knowledge on macroprudential policy toolkit, lack of information and expertise in supervisors can also lead to tools being implemented on an ad-hoc or experimental basis.

more passive stance and simply increase buffers in the system.[151] In South Africa we follow a middle ground approach, so the FSC can rely on rules and sometimes their discretion, in implementing the policy.[152] In so doing they are guided by three main principles which are efficiency, effectiveness and transparency.[153] Speaking of efficiency, it is always important for the regulators to do a cost-benefit analysis as well as balancing the trade-off between the development of a financial crisis and the mismatching of tools and risks.[154] Macroprudential instruments are generally costly but refraining from using the instruments can even be costlier.[155] Thus, to try and reduce costs, timing is very crucial.[156] If the use of certain tools is delayed not only will the tools have little time to deal with the risk, but such a delay might also

[151] D Quint & P Rabanal "Monetary and macroprudential policy in an estimated DSGE model of the Euro Area" Discussion Paper, School of Business & Economics: Economics, No. 2014/5 2–3. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 54–55, who states that it has been suggested that the existing range of mircroprudential tools be used for the resilience of the financial system whilst the new tools should be utilised when there is risk building-up in the system.

[152] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 16–17. See also E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 10, who note that calibrating tools on the basis of discretionary measures is better than relying on build-in stabilizers (set rules) because with discretionary measures the tools are not too hard to design, and they can be adjusted accordingly to suit the threatening financial imbalance. However, build-in stabilisers usually leave less room for error, they guarantee consistency and the concerned macroprudential policy agency does not have to after short time periods continuously justify why they opted for certain instruments since they would have done that *ex ante* once off in the beginning. Discretionary measures include early warnings about the accumulation of risk in the financial system, increasing supervisory pressure/tightening up things and quantitatively adjusting certain macroprudential tools. Build-in stabilisers include tools such as risk management practices and minimum capital requirements. See further I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 57–60, who makes a very convincing argument that sticking to set rules will help in minimising the creation of erroneous precedents. Nonetheless, because some of the toolkit instruments are still a foreign phenomenon to most regulators and unlike inflation, systemic risks are not easy to measure. Meaning, when systemic risk of an unfamiliar nature manifests, regulators will in the meanwhile have to use their discretion in a very prudent manner to create rules that are robust and guarantee some form of consistency and certainty when implemented.

[153] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 16.

[154] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 57–60. This is because the principle of efficiency is intertwined with the concept unintended consequences and dire effects avoidance.

[155] *Ibid*. See also Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 3-5, who note that macroprudential instruments can be costly in the sense that they can negatively impact resource allocation through clogging the financial system machine for efficient financial sector development.

[156] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 57–62. See also South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 14–15, who says macroprudential agencies should be able to swiftly identify the vulnerability of their financial systems or to dictate the root cause of threatening risks, their magnitude and possible impact to the financial system.

cause a deterioration in financial conditions.[157] The same also goes for immature deactivation of tools and unnecessary prolonged use of tools.[158] It is also cost-effective to combine different tools that belong to the same family for instance, LTV and DTI ratios which both fall under credit-related tools.[159] Although it comes with increased regulatory burdens and administrative costs, combining tools guarantees more effectiveness as the risk its tackled from different angles.[160]

Moving on, effectiveness can be achieved when the transmission mechanism of individual macroprudential tools is known.[161] In deciding which tools to implement when, the FSC can rely on information from other countries that have some bit of experience in implementing the revamped macroprudential policy. For instance, it has been established that borrower-based instruments are very efficient during expansionary periods and buffer-based instruments are not efficient in contractionary phases.[162] Still based on experience, some countries have been able to identify some key indicators that might be very helpful in determining the appropriate tool to use when a specific systemic risk is threatening. Different classes of indicators have over a long period been developed for use in quantifying financial instability. These are balance sheet and market indicators;[163] early warning indicators;[164] Vector Autoregression

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[157] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 60–62. See also L EO Svensson "The relation between monetary policy and financial policy" (2012) 8.S1 *International Journal of Central Banking* s 293–295 294, who notes that otherwise if a financial crisis occurs regulators will be forced to resort to expensive instruments such as liquidity injections, lender of last resort and taking special resolutions for SIFIs.

[158] *Ibid*. See also Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 3–5, who state that if macroprudential tools are not relaxed in time, they can cause an economic downturn. See further R Havemann "Counter-Cyclical Capital Buffers and Interest-Rate Policy as Complements–The Experience of South Africa" *Economic Research Southern Africa Working Paper Series* 476 (2014) 9.

[159] L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 13.

[160] *Ibid*.

[161] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 14–15. As mentioned earlier, it is very important to study the phase of the financial cycle at a given time because some instruments produce the best results during upswings and the worst if activated during downswings. A good example is buffer-based instruments.

[162] Claessens S, Ghosh SR & Mihet R "Macro-prudential policies to mitigate financial system vulnerabilities" *International Monetary Fund Working Paper* August 2014 3–5.

[163] G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 858-860. Most of these indicators were developed by the International Monetary Fund and included amongst them is the backward-looking dynamic loss provisioning. The indicators are usually based on CDSs, equity and other various derivatives. In as much as individuals try to make their loan loss provisioning forward looking, they only identify the vulnerability of those institutions and not the whole financial system.

[164] *Ibid*. All along these have been used to predict events that are very imminent. Meaning, they were not very reliable, and they were also failing to highlight the interplay between the financial sector and the real economy. However, recently early warning indicators have proved so useful in informing macroprudential policy decisions since they are not based on asset and credit markets where excessive credit and asset price growth is a signal for the build-up of a serious financial imbalance which can cause great disruption on

Models indicators and macro stress tests.[165] In simpler terms different potential indictors have been identified that trigger the use of specific macroprudential tools. Indicators like rent-to-rent ratios, real estate prices, sectoral concentration results, bank-specific credit growth and the ratio of total credit to the Gross Domestic Product can trigger the use of capital-based instruments such as countercyclical capital buffer and sectoral capital requirements as well as dynamic provisions.[166] The use of asset-based instruments such as LTV and DTI ratios can be triggered by indicators such as the ratio of banks total assets to their equity, price-to-rent ratios, mortgage credit growth and household vulnerabilities indicators.[167] The ratio of liquid assets to total assets or short-term liabilities, loan-to-deposit and loans/long-term assets long-term funding ratios can invoke the use of liquidity-based instruments such as liquidity coverage and net stable funding ratios as well as countercyclical liquidity requirements.[168] Instruments such as market margins and haircuts can be called to duty by indicators such as shadow banking leverage and liquidity premiums.[169]

3.6 Recommendations

South Africa unlike most of its Asian counterparts is fairly progressive in terms of providing in various pieces of legislation such as the FSRA more clarity regarding the SARB's extended financial stability mandate.[170] It has clearly set the objectives of each supervisor and regulator and this really helps as it clears all the confusion regarding the macroprudential agency's

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the market. The indicators now also view risk as endogenous and can dictate on a longer horizon of about 3 to 4 years.

[165] *Ibid*. Vector Autoregression Models (hereafter VARs) are empirical models that are so effective in both forecasting and tracing the transmission of shocks throughout the economy or financial system. Stress tests pretty much have the same function as VARs. However, they sometimes fail to dictate that small shocks can have dire effects on the system and although they are forward-looking, they failed to dictate risks that caused the Global Financial Crisis way before they materialised into a systemic event that swept the global financial market in 2008. G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 858-860, note that this could be attributed to stress drivers dictating wrong risks and not timely capturing the ones that were going to be the root causes of the crisis.

[166] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 15–17. J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 43.

[167] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 17.

[168] *Ibid*.

[169] *Ibid*.

[170] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 24. See also D Beau, C Laurent & M Benoit "Macro-prudential policy and the conduct of monetary policy" (2012) No. 8 *Directorate General Economics and International Relations* Occasional papers 18-19, who mention that setting clear boundaries, powers and objectives for each policy agency can also be useful when trying to prevent the dilution of policy primary objectives as well as preventing one policy agency from interfering with the functions of the other.

duties and functions.[171] Nonetheless, more light still needs to be shed in legislation or policy documents such as memoranda of understanding, regarding the overlaps between macroprudential policy and other macroeconomics policy.[172] In line with the principle of transparency, policy instruments must also be briefly described in a very simplified manner on the SARB website and Financial Stability Reviews must include a clear and informative report on financial stability indicators and warnings as these help market participants to align expectations with that of supervisors and regulators.[173] Otherwise bankers will not pay much attention to those reviews, they will simply stick to the monetary policy reports that they are used to, yet the main goal is to create financial stability awareness amongst all, especially key financial market participants. Concerning independence, the macroprudential agency must be granted enough independence to shield it from the most common threat of political interference.[174]

3.7 Conclusion

As highlighted above, macroprudential policy is quite comprehensive and complex and what makes it interesting is the fact that it borrows and recalibrates instruments from other policies such as microprudential policy. This chapter explained the concepts of systemic risk and financial stability since these two are intrinsically linked to macroprudential policy. This chapter also established that in essence macroprudential policy is forward-looking, it aims at reducing the probability of another financial crisis and creating a resilient financial system which will be able to function smoothly even if a crisis is threatening. Under the institutional framework it was mentioned that the FSC shall closely work together with the FSOC and the FSCF to promote and maintain financial stability in South Africa. Crucial to the implementation of macroprudential policy is its toolkit. Besides calibrated microprudential tools such as the capital adequacy requirement, this chapter also discussed the newly introduced (by Basel III) tools such the counter cyclical capital buffer requirement as well as

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[171] J Bagyenda & CA Abuka "Challenges in Implementing Macroprudential Policy in Africa" *Africa Finance Forum Blog* (26.05.2014) 1.

[172] *Ibid*. See chapter 4 para 4.2 and 4.3 for a discussion of the possible areas of conflict and overlaps between monetary and macroprudential policy.

[173] *Ibid*. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 61-62.

[174] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 15-20, state that politicians have a tendency of interfering with anything that prevents them from gaining or interferes with their popularity and future votes. This is especially because some macroprudential agencies will have to engage tools that restrict excess credit supply credit, the very same credit bubble that politicians and financial institutions will be benefiting from.

the capital conservation buffer. As discussed above, the whole point behind these additional capital requirements is to make our financial institutions and system more resilient to financial vulnerabilities. In line with the analytical framework one of the important factors that was raised, is timing. It will be very important for macroprudential policy agents to know when to activate and deactivate certain instruments without being counterproductive or causing disruptions in the financial system. Nonetheless, one must also keep in mind that implementing the revamped macroprudential policy is a learning curve which is going to be explored on an experimental basis. Hence, we have to be patient with our policy agents bearing in mind that things can only get better with time and experience.

Chapter 4: The interaction between macroprudential policy and monetary policy

"While monetary policy is still powerful, it is true that at the current setting, the impact of any interest rate reduction is less than it would be if rates were at historically normal levels. That is the case in a number of economies. In this environment, it is particularly important that all policies – monetary, fiscal and macroprudential – be working in a complementary way." – Stephen Poloz

4.1 Setting the scene

Llewellyn in one of his articles points out that one of the key things that a supervisor must factor-in when establishing a regulatory framework is how the concerned policy is going to interact with other macroeconomic and public policies.[1] This speaks to the question of whether the policy in question can be coordinated with other policies, if not then why and if the answer is in the affirmative, the way such coordination is going to be achieved. There has been a huge ongoing debate since the announcement of the revamped macroprudential framework in Basel III, with one group arguing that the upgraded policy is a type 1 policy that aims at anchoring other policies whilst the other group is of the view that it is a type 2 distinct stand-alone policy that should not be coordinated with other policies.[2] Since supervisors all along have held the erroneous belief that price stability equals financial stability, the huge debate has been centred on the interaction between macroprudential policy and monetary policy. Moreover, before the Global Financial Crisis each policy would stick to its instruments and objectives however, after the Crisis it became clear that macroeconomic and public policies had some interlinkages, trade-offs and the spill-over effects from the implementation of one policy could have effects on other policies.[3] But before I explore this huge debate and

[1] DT Llewellyn "Institutional structure of financial regulation and supervision: the basic issues" In *World Bank seminar Aligning Supervisory Structures with Country Needs, Washington DC* held from 6–7 June 2006 1–45 11.

[2] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 33. See also S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" Pretoria paper prepared for the conference "Monetary Policy and Financial Stability in the Post-crisis Era" hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November 2010 9.

[3] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 157–159. See also H Rey "Dilemma not trilemma: the global financial cycle and monetary policy independence" No. w21162 *National Bureau of Economic Research* 2015 22–23.

put my proposed solution on the table, I first highlight important issues that one should keep in mind when exploring this interaction debate.

4.2 Key takeaways

Firstly, in as much as it is not very certain whether macroprudential policy will be able to counteract financial imbalances without the help of monetary policy, one thing that became certain after the Global Financial Crisis is that, as has been pointed out numerous times, price stability alone does not guarantee financial stability.[4] Initially South Africa's 1996 Growth, Employment and Redistribution document,[5] stipulated that one of the main objectives of monetary policy was going to continue being financial stability but after the Crisis this document had to be revised.[6] The 2008 Financial Crisis proved that monetary policy is less direct when it comes to specific risks such as excessive leverage and trying to utilise interest rate adjustments to fight such vulnerabilities can even cause more volatility within the system.[7] Financial conditions that had little to do with monetary policy had caused the Crisis.[8] Hence, the need to extend the central bank's toolkit beyond interest rate and search for a more direct regulatory approach to fighting financial vulnerabilities.[9]

Secondly, a question has been raised whether the urge to achieve financial stability creates a second primary objective for the SARB. Around 1990 when the East Asian Financial Crisis occurred many central banks made financial stability an implicit secondary objective.[10] But upon the occurrence of the 2008 Global Financial Crisis central banks took the issue of

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[4] G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 39–40. See also D Quint & P Rabanal "Monetary and macroprudential policy in an estimated DSGE model of the Euro Area" Discussion Paper, School of Business & Economics: Economics, No. 2014/5 2–3. See further J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 8–11.

[5] Republic of South Africa (1996) *Growth, Employment and Redistribution - a Macroeconomic Strategy*, Department of Finance. Pretoria: Government Printer.

[6] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 20. D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 1.

[7] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 13. See also S Mollentze and U Kamlana "Macroprudential policy and the twin peaks (1)" *Claudio Borio, BIS,* (2012) 1.

[8] L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop "Towards a new framework for monetary policy? Lessons from the crisis", organized by the Netherlands Bank, Amsterdam, 21 September 2009 4–5.

[9] R Havemann "Counter-Cyclical Capital Buffers and Interest-Rate Policy as Complements–The Experience of South Africa" *Economic Research Southern Africa Working Paper Series* 476 (2014) 3.

[10] H Nel "Expanded mandate of central banks: ASTD Conference 2014 Speaker" *HR Future* 3.Mar 2016 26–28 26–28.

financial stability more serious.[11] For instance, South Africa incorporated in its key financial sector legislation, the FRSA which introduced the South African Twin Peaks Model, that SARB will be entrusted with the primary responsibility for promoting and maintaining financial stability in the country.[12] However, despite all these recent developments, one must not lose track of the fact that financial stability is simply an expanded mandate of the SARB.[13] The financial stability gospel does not create a new mandate for the SARB, it is simply a natural second objective of many central banks.[14] In as much as the upgraded macroprudential policy and financial stability have gained so much momentum and have become so prominent, the primary and formal goal of most central banks, including the SARB, remains the promotion and maintenance of price stability.[15] Monetary policy is still very important and it is not going to be thrown away or replaced by macroprudential policy. According to Van der Merwe the fact that central banks must now also place much emphasis on achieving and maintaining financial stability implies the broadening of their primary goal and merely points to their function as bank supervisors.[16]

Nonetheless, it is also important to note that other scholars like Gertruida Van Niekerk are of the view that the financial stability mandate created a second primary objective for the SARB.[17] Meaning, as confirmed by a recent (was effective from 1 April 2018) amendment to section 3 of the SARB Act, the SARB now has two primary objectives which are price stability (new section 3(1) of the SARB Act) and financial stability (new section 3(2) of the SARB Act).[18] She argues that the legislator did not change the wording to section 3 of the SARB Act, it was left reading “Primary objective” which means both mandates create two primary objectives for the SARB.[19] Given that monetary policy remains an important policy although it cannot on its own achieve financial stability, it is still generally agreed that it does affect financial stability in one way or another. Therefore, before I venture into the huge interaction

[11] *Ibid*.
[12] S 7(2) of the FSRA. See also GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 44.
[13] H Nel "Expanded mandate of central banks: ASTD Conference 2014 Speaker" *HR Future* 3.Mar 2016 26–28 26–28.
[14] Marcus G "The importance of a robust financial system for growth in the South African economy" *Auditing SA* Summer (2003) 5–8 7. Financial stability does not create a dual mandate situation for the SARB.
[15] I Van der Merwe “Macroprudential policy: a conceptual framework” draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 5.
[16] H Nel & K Lekalake "Monetary policy transparency in South Africa" (2004) 72.2 *South African Journal of Economics* 349–364 354.
[17] GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 104.
[18] *Ibid*.
[19] *Ibid*.

debate it is crucial that I briefly highlight the manner in which monetary policy affects financial stability because the development of the interaction debate also stems from this factor.

4.3 Monetary policy and financial stability

The relationship between monetary policy and financial stability can be approached from two angles. The first angle investigates how the monetary policy stance at a given period can promote financial stability or create systemic risks whilst the second scrutinises whether monetary policy can be used to address certain financial vulnerabilities.[20] Financial stability can be promoted through the anchoring of inflation expectations which discourages too much speculation about future asset returns by investors.[21] This in turn also reduces the moral hazard of excessive risk taking by financial markets participants.[22] On the other end, there is also growing literature and evidence that proves that when interest rates are kept low for a prolonged period, commercial banks' balance sheets are impacted, net interest margins increase and consequently the value of financial institutions which in turn increases their leverage ratios meaning, they can take on more risk (moral hazard).[23] Further, spikes in asset value is usually experienced and borrowers become more able to pay off their debts.[24] Because an increase in collateral value means increased lending, borrowing also becomes cheaper and many households take on exorbitant debts thereby creating an asset bubble in the real estate market.[25] Investors on the other end will also start engaging in high risk business ventures in the search of high yields/returns.[26] However, the minute monetary policy is tightened, interest rates spike and the same goes for debt-servicing costs meaning many

[20] Cecchetti SG "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 160. See also GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 23–24. See further G Guibourg *et al* "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 29–30.

[21] J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 501–503.

[22] *Ibid*.

[23] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 15–20.

[24] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 160–163.

[25] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 15–20. See also SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 160–163.

[26] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 160–163.

default rates also increase and the end result can sometimes be financial instability.[27] Prolonged low interest rates also cause the depreciation of currency, the end result being increased foreign-currency based debt.[28] Therefore, although on a short-term basis monetary policy transmission mechanism can be utilised to stabilise the economy during periods of distress,[29] an accommodative monetary policy is an endogenous risk that can actually weaken the resilience of the financial system thus, becoming a potential threat to financial stability.[30]

Given that monetary policy does somehow affect financial stability, can either promote or disrupt it, the second question that led to the development of the interaction debate is whether monetary policy should be used to achieve financial stability.[31] In other words whether it should work hand in hand (be coordinated or cooperate) with macroprudential policy in "leaning against" financial imbalances for instance, through tightening the policy during boom periods or whether that job should be completely left to macroprudential policy meaning, monetary policy will only be used to assist with cleaning the mess when an economic crises occurs.[32] Below I discuss the two major viewpoints on the interaction topic.

4.4 Deconstructing the interaction debate: the pro-coordination standpoint

Pro-coordination activists believe that macroprudential policy is a type 1 policy that can work together with other policies in achieving financial stability. They believe that expecting macroprudential policy to pursue financial stability alone is equivalent to giving the policy a heavy burden that it cannot bear alone.[33] They are for the view that monetary policy and

[27] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 112.
[28] *Ibid*.
[29] *Ibid*. See also A Janine & J Muellbauer "Review of monetary policy in South Africa since 1994"(2007) 16.5 *Journal of African Economies* 705–744 8.
[30] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 112–114.
[31] *Ibid* 115–116.
[32] G Chortareas, V Logothetis, G Magkonis & KM Zekente "The effect of banking supervision on central bank preferences: Evidence from panel data" (2016) 140 *Economics Letters* 11–13 2. See also PR Agénor, K Alper & LP da Silva "Capital regulation, monetary policy and financial stability" (2013) 9.3 *International Journal of Central Banking* 193–238 216.
[33] G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 868–869. Pro-coordination activists buy into a theory that is used for interaction between monetary policy and fiscal policy. The theory is called the Stackelberg game whereby macroprudential policy and monetary policy will work as good substitutes, each internalising the objective of the other. Meaning, since monetary policy will be used more frequently for stabilisation purposes, there will be a reduced need to activate macroprudential instruments because interest rates will be also mindful of financial stability.

macroprudential policy are interdependent and can be coordinated with one another,[34] the stand point that the currently SARB subscribes to,[35] as well as central banks like the Bank of England.[36] Firstly, the reasoning behind this stance is that both policies are meant for managing countercyclical risks although monetary policy must primarily focus on price stability and macroprudential policy on financial stability.[37] The policies both have one ultimate goal which is to ensure that the economy is stable in the interest of sustainable long-term growth.[38] Secondly, their argument is based on the fact that monetary policy and macroprudential policy interact in so many ways. They believe if high resource utilisation can overheat the economy and threaten financial stability, monetary policy can simply do the opposite to assist macroprudential policy in counteracting the build-up of financial imbalances such as credit and asset bubbles.[39] They buy into the idea that this can be achieved using

[34] J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 20-21, are of the view that the dichotomy between monetary and macroprudential policy is fallacious. They believe since the policies are intrinsically linked, their coordination will make pursuing price, output and financial stability much easier. See also M Shirakawa "Central banking: before, during, and after the crisis" (2013) 9.1 *International Journal of Central Banking* 373–387 375–376, who advances that the Tinbergen's rule and Mundell's assignment principle which states that price stability should only be assigned to monetary policy and financial stability only to macroprudential policy would have been a viable option only if the two policies' targets, price stability and financial stability were independent from each other but that is not the case here.

[35] South African Reserve Bank, Financial Stability Department "A new macroprudential policy framework for South Africa" November 2016 8. See also M Edey "Macroprudential supervision and the role of central banks" *Regional Policy Forum on Financial Stability and Macroprudential Supervision* Beijing 28 September 2012 3, who advances that coordination through cross membership between policy agencies helps with the effective flow of information and South Africa is already in the right track since some the MPC members also have sits on the FSC, the two policy agencies will be meeting regularly, and they will conclude memoranda of understanding together. See further H Nel "Expanded mandate of central banks: ASTD Conference 2014 Speaker" *HR Future* 3.Mar 2016 26–28 28.

[36] D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 8-9, mentions that in England there is overlapping membership between the Financial Policy Committee (hereafter FPC) which takes care of financial stability and the MPC which takes care of price stability. The same way the FPC has a secondary objective of economic growth is the same way pro-coordination activists in South Africa believe our (the South African) MPC can also be given a secondary objective of financial stability. To facilitate coordination of policies in England, the FPC and MPC regularly meet and are briefed together on matters of common interests such as issues concerning the housing market. For example, between 2010 and 2012 the FPC made sure that its activation of the capital requirements tools would not end up reducing the availability of credit for house-market participants. Later, when the MPC wanted to raise interest rates very high they had to notify the FPC to keep an eye on them (the MPC) and alert them the minute their monetary policy stance starts to threaten financial stability. See also D Beau, C Laurent & M Benoit "Macro-prudential policy and the conduct of monetary policy" (2012) No. 8 *Directorate General Economics and International Relations* Occasional papers 15–17.

[37] S Claessens "An overview of macroprudential policy tools" (2014) No. 14–214 *International Monetary Fund* 8-10.

[38] D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 2.

[39] G Guibourg et al "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 39–40. See also PR Agénor, K Alper & LP da Silva "Capital regulation, monetary policy and financial stability" (2013) 9.3 *International Journal of Central Banking* 193–238 216–217.

the interest rates to lean against such financial imbalances.[40] Pro-coordination supporters agree that macroprudential and monetary policy complement each other. Monetary policy is a demand management or stabilisation policy which ensures that overall demand in the economy is kept at normal levels.[41] Thus, the policy is short-term oriented because it is quite easier to adjust demand levels for a short time by playing around with interest rates.[42] On the other end, macroprudential policy is a structural policy which has a more long-term goal and addresses deeper and long-lasting economic problems.[43] For stabilisation policies to flourish there must be good structural policies in place that promote competition and economic growth which sometimes leads to reduced prices, one of the main aims of stabilisation policies like monetary policy.[44] Similarly, the implementation of structural policies is usually more successful when stabilisation policies have removed macroeconomic imbalances like inflation and government deficits.[45] Further, a well-functioning macroprudential policy creates buffers that greatly assist monetary policy in the face of adverse shocks.[46] In line with Hans

[40] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 115–116, states that high interest rates are less costly and can be utilised to lean against the build-up of financial imbalances and that even if monetary policy is primarily designed for price stability, macroprudential instruments alone cannot counteract the build-up of systemic risks. See also P Angelini, S Neri & F Panetta "Monetary and macroprudential policies" (2012) *ECB Working Paper* No. 1449 21–23, who mention that flexible inflation targeting allows interest rates to deviate from the set target if it is in the interests of financial stability. He also further notes that the Global Financial Crisis proved that prices cannot be stable when there is a crisis meaning, it is impossible to aim for stable prices without first guaranteeing a stable financial system.

[41] K Abdel-Kader "What Are Structural Policies?" *Finance & Development* March 2013 46-47. See also I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 38–39, notes that macroeconomic policies aim at fighting cyclical or time-dimension systemic risks such as endogenous financial imbalances.

[42] *Ibid*.

[43] *Ibid*.

[44] *Ibid*. See also D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 2–3, who notes that when there a highly accommodative monetary policy that poses risk to stability, macroprudential policy ensures that the financial system is resilient enough and continues to provide financial services irrespective of the unwinding prices. See also L EO Svensson "Flexible inflation targeting: lessons from the financial crisis" at the workshop "Towards a new framework for monetary policy? Lessons from the crisis", organized by the Netherlands Bank, Amsterdam, 21 September 2009 2–3, who mentions that reduced financial stability impacts monetary policy efficiency and messes up with its transmission mechanism.

[45] Ibid. The tightening up of financial regulation during downswings can reduce the incentive amongst borrowers to borrow and spent and consequently the overall demand which may also temper with inflation. Hence, to maintain inflation within the set target monetary policy can intervene by being accommodative. See also S Claessens "An overview of macroprudential policy tools" (2014) No. 14–214 *International Monetary Fund* 8-10, who describes monetary policy as that policy that can be so useful in lending a hand to macroprudential policy and filling in all of the cracks created by macroprudential policy implementation. See further S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" Pretoria paper prepared for the conference "Monetary Policy and Financial Stability in the Post-crisis Era" hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November 2010 11, who advances that for instance, interest rates can penetrate and greatly influence the behaviour of the non-banking financial intermediary sector which is usually not heavily regulated like banks.

[46] J Bagyenda & CA Abuka "Challenges in Implementing Macroprudential Policy in Africa" *Africa Finance Forum Blog* (26.05.2014) 2.

et al's argument,[47] an efficient macroprudential policy is also able to ward-off the spill-over effects of monetary policy meaning, in such instances, monetary policy can freely pursue its primary objective of price stability.[48] Hence, according to pro-coordination subscribers, the two polices complement each other very well and can be effectively coordinated with each other.

More so, some countries in Eastern Europe, Asia and Latin America have combined macroprudential tools with monetary tools when credit cycles and business cycles coincide thereby threatening to cause excess credit growth and to overheat the economy.[49] In such instances, macroprudential policy assumes the complementary role (to monetary policy) and acts as a long-term plan to contain excess demand as well as the build-up of systemic risks with in the financial system.[50] In fact, some macroprudential instruments which aim at mitigating business cycle risk, are actually borrowed from the monetary policy toolkit.[51] Coordinating the two policies sometimes also comes with economic benefits for the country including the general society.[52] If supply shocks produce cyclical fluctuations, there might be increased policy rate and CCB fluctuations when policies are not coordinated.[53]

[47] F Hans, R Bamber, D Llewellyn & T Store "Financial regulation in South Africa" (2001) In *South Africa: SA Financial Sector Forum* 1–189 6.

[48] J Bagyenda & CA Abuka "Challenges in Implementing Macroprudential Policy in Africa" *Africa Finance Forum Blog* (26.05.2014) 2. See also DF Unsal "Capital flows and financial stability: monetary policy and macroprudential responses" (2013) 9.1 *International Journal of Central Banking* 233–285 254–257.

[49] L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 14–15.

[50] *Ibid*.

[51] I Van der Merwe "Macroprudential policy: a conceptual framework" draft chapter on *Macroprudential policy framework* (2013) LLD thesis University of the Free State 49–50. For example, reserve requirements.

[52] L Cheng Hoon et al "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 24, use the Keynesian DSGE model to demonstrate that although the two policies should retain primary goals, it is more favourable to have them complement each other. The model simulations prove that using macroprudential policy alone creates an additional premium which makes borrowing very costly and using interest rates alone as suggested by the Taylor rule is not as effective as allowing macroprudential policy to complement monetary policy, especially just after a shock has been experienced. According to the model simulations, a large deadweight/welfare loss (the cost of an inefficient market to the society) of 31.5 is experienced when macroprudential instruments only are engaged after a shock whilst interest rates are kept stagnant, the loss goes down to 2.5 when the Taylor rule alone is followed and drops all the way to 1.3 when the two policies are coordinated.

[53] G Guibourg et al "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29-46 42. PR Agénor, K Alper & LP da Silva "Capital regulation, monetary policy and financial stability" (2013) 9.3 *International Journal of Central Banking* 193–238 220–222, who stipulate that combining the two policies can be optimal because countercyclical regulation can ward-off the market destabilisation caused by raising interest rates very high whilst inflation is depressed.

Furthermore, monetary policy instruments like interest rates and macroprudential policy instruments like the capital requirement can be full substitutes.[54] For example, when interest rates are increased inflation and output (production of goods) decreases whilst loan and lending rates go up.[55] The same goes for an increase in capital requirements which leads to reduced loan supply, since banks will have to deposit with the central bank some of the funds they would have used to provide loans.[56] Thus, in those jurisdictions where interest rates are fixed, capital requirements can be relied on for stabilising inflation and output and where capital requirements are fixed, interest rates can be used instead.[57] Both instruments can be utilised at the same time provided they are perfectly adjusted to their respective optima.[58] However, there is general consensus that loss is reduced when interest rates are used for demand shocks and capital requirements more for supply shocks.[59] That is why there will be need for the different policy agencies to coordinate policies, draft memoranda of understanding and meet regularly to discuss which agency will take the first move when certain shocks surface up. Therefore, given all the ways in which monetary policy interacts with macroprudential policy, pro-coordination supporters like the SARB agree that financial stability should be integrated with central banks' traditional goal of price stability.[60] Hence, the argument that financial stability should become an explicit secondary objective of monetary policy and that monetary policy should take explicit account of the build-up of financial imbalances such as credit and asset bubbles.[61]

4.5 Deconstructing the interaction debate: the anti-coordination standpoint

This group does not disagree with the fact that monetary policy does somehow affect financial stability and interacts with macroprudential policy. Their stance is that monetary policy tools are too blunt to effectively address systemic risks.[62] Anti-coordination activists subscribe to the concept of "effective market classification" which states that a policy should be paired

[54] S Cecchetti & M Kohler "On the equivalence of capital adequacy and monetary policy" Pretoria paper prepared for the conference "Monetary Policy and Financial Stability in the Post-crisis Era" hosted in Pretoria by the South African Reserve Bank (SARB) from 4th to 5th November 2010 5–7.
[55] *Ibid*.
[56] *Ibid*.
[57] *Ibid*. See also S Claessens "An overview of macroprudential policy tools" (2014) No. 14–214 *International Monetary Fund* 8-10.
[58] *Ibid*.
[59] *Ibid*.
[60] J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 501–503.
[61] *Ibid*.
[62] L Cheng Hoon et al "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 30.

with targets on which it has the most influence.[63] Meaning, as the former SARB governor Dr Gerhardus de Kock once proposed, monetary policy should not be given many objectives, it should only focus on price stability, an objective for which it is naturally designed to pursue.[64] They argue that macroprudential tools are more flexible and can be simply sector-tailored to minimise the cost of policy intervention.[65] This group is of the view that using monetary policy to "lean against the winds" (winds refer to financial imbalances) is not efficient because financial imbalances such as asset prices are too asymmetrical for the policy to be "leaning against".[66] Still on the same note, they believe that whether conventional or unconventional, short-term monetary policy stances hardly have any effect on systemic risks.[67] Meaning, monetary policy should stick to and be fully in charge of price stability whilst financial stability is left to macroprudential policy.[68] Unlike pro-coordination supporters, this group is convinced that it is more effective and efficient to use tools with a narrow focus to solve specific problems as these tools are best designed to address the concerned risks without creating numerous

[63] D Beau, C Laurent & M Benoit "Macro-prudential policy and the conduct of monetary policy" (2012) No. 8 *Directorate General Economics and International Relations* Occasional papers 3. See also J Hahm, FS Mishkin, HS Shin & K Shin *Macroprudential policies in open emerging economies* Working paper 17780 National Bereau of Economic Research (2012) 15–20, who advance that expecting monetary policy to stabilise the economy and the financial sector at the same time amounts to imposing a heavy burden on monetary policy when there is a whole policy that is specifically designed to stabilise the financial sector. Meaning, macroprudential policy should be the first line of defence against credit bubbles.

[64] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 13. However, this does not mean the monetary policy agency cannot be warned when monetary policy conduct is causing serious threats to financial stability.

[65] 13. For instance, capital risk weights, foreign currency lending, LTV and DTI ratio caps can be used to address systemic risks that rise in specific sectors without causing too much disruptions to economic activities.

[66] V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 115–116.

[67] SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 168.

[68] D Quint & P Rabanal "Monetary and macroprudential policy in an estimated DSGE model of the Euro Area" Discussion Paper, School of Business & Economics: Economics, No. 2014/5 29. See also SG Cecchetti "On the separation of monetary and prudential policy: How much of the precrisis consensus remains?" (2016) 66 *Journal of International Money and Finance* 157–169 159–160. See further G Chortareas, V Logothetis, G Magkonis & KM Zekente "The effect of banking supervision on central bank preferences: Evidence from panel data" (2016) 140 *Economics Letters* 11–13 6, who mention that statistics has it that central banks which separate monetary policy and macroprudential policy are more inflation averse that those that combine the two.

unintended consequences.[69] To them, it is more unlikely that macroprudential instruments can be a perfect substitute to interest rates in managing overall demand.[70]

Adding on, supporters of the anti-coordination stance argue that in as much as macroprudential policy and monetary policy both have the long-term goal of a sustainable economic growth, they achieve this goal via distinct routes.[71] Macroprudential policy aims at achieving sustainable growth through targeting financial cycle trail risks and externalities that develop over a long period and whose contagion and spillover effect can be costly to the whole economy.[72] Unlike macroprudential policy, monetary policy places its focus on business cycles and risk generated within the broad macroeconomic spectrum and not necessarily specific financial markets.[73] Moreover, because systemic risks usually develop over a long period of time, macroprudential tools are also designed to work slowly with longer lags such that their impact can only be felt after long period.[74] Meaning, although the two policies somehow interact, implying each policy agency needs to have a deep understanding of how the other policy works,[75] it is most unlikely that memoranda of understanding will be drafted that much.[76] This is because the FSC is less likely to meet and activate macroprudential instruments more frequently like the MPC which can take policy actions about eight times in a year.[77]

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[69] J Bagyenda & CA Abuka "Challenges in Implementing Macroprudential Policy in Africa" *Africa Finance Forum Blog* (26.05.2014) 2. See also G Guibourg et al "Macroprudential policy–effects on the economy and the interaction with monetary policy"(2015) 2 *Sveriges Riksbank Economic Review* 29–46 40–42, who provide that a study done proved that mortgage caps are more efficient in counteracting housing market/sector financial imbalances than monetary policy. The study proves that Growth Domestic Product/output only falls by 0.7% when mortgage caps are used, and 2% when the capital requirement is utilised as compared to 7% when monetary policy is used. Using monetary policy to address credit gap upswings can cause serious volatility and deviation from the target inflation and output gap. Meaning, the broader and less direct the front is (like monetary policy in this instance) the less effective the tool is in addressing sector-related imbalances and the more disruptive it becomes to the whole economy. Monetary policy can however be utilised in assisting macroprudential instruments when there is a general build-up of risks in the whole system. For example, it can be used to back-up the CCB tool when a general spike in lending is being experienced throughout the system and not necessarily a specific sector only.

[70] Mohanty MS "The transmission of unconventional monetary policy to the emerging markets-An overview" (2014) 3.

[71] D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 3–5.

[72] *Ibid*.

[73] *Ibid*.

[74] *Ibid*. For instance, the impact of activating a CCB can be felt after 12 months.

[75] L EO Svensson "Monetary policy and macroprudential policy:different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2–3, 2015 7

[76] D Kohn "Implementing macroprudential and monetary policies: The case for two committees" *Federal Reserve Bank of Boston 59th Economic Conference: Macroprudential Monetary Policy* 2015 3–5.

[77] *Ibid*.

Further, using monetary policy to fight leverage, asset mispricing and maturity mismatches related systemic risks makes a little impact.[78] Instead, using monetary policy to lean against the build-up of such financial imbalances can cause serious damage to economic targets such as price stability, output and employment as the policy may have to substantially deviate from these targets whilst trying to address financial vulnerabilities it was never primarily designed to fight.[79] Hence, the argument that in as much as increasing the policy rate can penetrate all cracks, it has little impact, hardly gets to the bottom of those cracks and can actually be more costly and counterproductive.[80] Subscribers of the anti-coordination standpoint basically buy into the non-cooperative Nash equilibrium (hereafter Nash) theory in the game theory as opposed to the cooperative equilibrium theory.[81] According to the Nash theory, macroprudential policy and monetary policy are two distinct policies with distinct objectives, tools and agencies.[82] What this means is, the authority responsible for conducting each policy should be fully aware of the other's actions and behaviour but not necessarily implying that the authorities should have joint meetings, form joint objectives and jointly choose or cooperate in choosing tools to activate.[83] They believe the Nash theory makes much sense because firstly, everyone is fully aware that monetary policy does a greater job than macroprudential policy when it comes to maintaining inflation around the set target and macroprudential policy does it better than monetary policy when it comes to promoting and

[78] *Ibid*.

[79] L EO Svensson "A simple cost-benefit analysis of using monetary policy for financial-stability purposes" *Progress and Confusion: The State of Macroeconomic Policy* (2016) 107 1-9, uses the Swedish Riskbank as his case study to prove this. In trying to resolve spiking house prices and debt in June 2010 the bank raised its policy rate from 0.25basis points to 2% in July 2011. This stance caused inflation to fall around 0% way below the expected target and the unemployment rate around 8% way above reasonable expectations. Simulation models designed in relation to the Swedish Riskbank case study highlight that every 1% policy rate increase causes unemployment to rise by 0.5% points whilst only reducing the probability of a financial crisis by 0.02% points. Based on these simulation models, trying to use interest rates to prevent a crisis only reduces future unemployment by 0.001% points. Dropping inflation to around 0% was counterproductive (what they call a "Fisherian" effect) since by 2015 mortgage values had gone up by about 6.5% which would not have been the case had inflation been maintained around the set target which is 2% for Sweden. Meaning, it is safer to let the macroprudential policy do the financial stability job alone because coordinating the policies and giving monetary policy such a secondary objective can only be justified when expected benefits exceed costs which is not the case when monetary policy is tightened as proved by the Swedish example.

[80] *Ibid*.

[81] L EO Svensson "Monetary policy and macroprudential policy:different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2–3, 2015 1–2.

[82] *Ibid*.

[83] *Ibid* 7. The only exception to this rule will only be when a financial crisis has occurred because for the sake of effective crisis management, the policy agencies will have to fully cooperate and coordinate policies. The Nash theory holds that even in periods of crisis management, monetary policy should be used as the last line of defence. See also L EO Svensson "The relation between monetary policy and financial policy" (2012) 8.S1 *International Journal of Central Banking* s 293–295 295, who notes that given the way financial policy is becoming advanced and way new instruments are being introduced, it is very unlikely that monetary policy will have to be used at all, not even as the last line of defence.

maintaining financial stability.[84] Secondly, it will be much easier to hold each policy agency accountable for its own policy decisions when the two policies are fully conducted independently and separately without any form of corporation or coordination of policies.[85] During periods of crisis prevention, the FSC can alert the MPC if their (MPC) conduct is threatening financial stability and it should be solely left to the MPC whether they want to activate any of their instruments to try and reverse the state of affairs or rather choose not to and provide explanations.[86] It should also be the sole business of the FSC to determine whether financial stability is being threatened, and not for the MPC to decide on whether their monetary policy stance is a risk to financial stability.[87] Anti-coordination supporters are of the view that the 2008 Global Financial Crisis was enough evidence that monetary policy can never achieve financial stability thus, there is no need to try and entrust it with financial stability, not even as a secondary objective as that responsibility should be fully left with macroprudential policy.[88] Therefore, the argument that macroprudential policy is a type 2 stand-alone policy.

4.6 Way forward: recommendations

Given the powerful arguments presented by the participants of the interaction debate, the pro-coordination standpoint seems more convincing. I strongly believe that although the two policies have different primary objectives, financial stability is an overridingly important matter, especially after experiencing the devastating effects of the 2008 Global Financial Crisis. Meaning, in as much as every macroeconomic policy should retain its primary objective, financial stability should also form part of its secondary objectives for all the reasons provided above under the pro-coordination standpoint. More so, financial stability is an overarching goal of the SARB hence, every policy agency, regulator and supervisor's baby, such that each one of these authorities must in one way or the other actively support and cooperate with the FSC in promoting and maintaining financial stability in South Africa.

However, because financial stability is such an important matter it should be promoted from the SARB's mission statements and the FSRA to the Constitution, the same way price

[84] L EO Svensson "Monetary policy and macroprudential policy: different and separate" Conference draft, Federal Reserve Bank of Boston's 59th annual conference, Boston Fed on October 2–3, 2015 7.
[85] *Ibid*. To anti-coordination activists, conducting the two policies independently removes all the blurriness and confusion that comes with coordinating two different policies with completely distinct primary objectives.
[86] *Ibid* 9–10.
[87] *Ibid*.
[88] *Ibid* 5.

stability is entrenched in our Constitution, on section 224.[89] Considering that the financial stability is now an explicit objective of the SARB and given that the SARB is a creature of statute and can only operate within the four corners of the Act, another recommendation would have been that it is crucial that the SARB Act be amended to incorporate the financial stability goal but as discussed above, this issue was recently addressed.[90] Again, as mentioned in the previous chapter, more clarity needs to be given *ex ante* in financial sector legislation or memoranda of understanding, concerning the above discussed conflicts and overlaps between macroprudential policy and other public and macroeconomic policies like monetary policy.[91] For example, the two policy agencies could probably agree in their memoranda of understanding that when systemic risk presents itself the MPC will make the first move or the other way around depending on the nature of the concerned risk. The MPC and the FSC can also try and reach an agreement as to the extent of policy coordination. For instance, they could agree in their memoranda of understanding that during periods of financial stability they can partially coordinate polices and when a financial crisis is threatening or has occurred there will be a complete coordination of the two policies.

Since policy agencies will be cooperating with one another, it is also important that the FSC be considerate about other policies when selecting macroprudential instruments to activate. Bearing in mind the way our financial system is highly interconnected, they must be careful enough to pick simple but effective tools that do not disrupt the functions of other policy agencies or cause serious problems on financial markets or in other sectors such as the non-banking sector.[92]

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[89] S Mollentze "Monetary policy in South Africa on the threshold of a new era" (2000) 11.

[90] GG Van Niekerk *A comparative analysis of the role of the central bank in promoting and maintaining financial stability in South Africa* (2018) LLD thesis University of Pretoria 104. See also J De Jager "The South African Reserve Bank: blowing the winds of change (part 2)" (2013) 25 *SA Merc LJ* 492–512 500, who was amongst the scholars who had suggested for the amendment of the SARB Act to incorporate the financial stability mandate.

[91] AJ Godwin & AD Schmulow "Financial Sector Regulation Bill in South Africa, Second Draft: Lessons from Australia" (2015) 132 *SALJ* 756 8–11, argue that South Africa is being too rigid, prescriptive and inflexible by making corporation by policy agencies a statutory duty (see part 5 of the FSRA) and this promotes the bad idea of emphasising more on regulatory structure instead of regulatory performance or outcome. Nonetheless, Godwin and Schmulow's way of thinking can be subjected to criticism because South Africa simply understands that cooperation between policy agencies is so crucial to financial stability that it deserves to be mentioned in their FSRA. After all the FSRA does not in any way prescribe areas in which policy agencies should cooperate, it simply gives provision for the creation of soft law which guarantees or allows for more flexibility. A memoranda of understanding is the soft law in which the involved authorities are more flexible and able to decide on areas of common interest and hence, still achieve regulatory performance.

[92] L Cheng Hoon *et al* "Macroprudential policy: what instruments and how to use them? Lessons from country experiences" *International Monetary Fund Working Paper* October 2011 8 and 29. See also D Masciandaro & D Romelli "Central bankers as supervisors: Do crises matter?" (2018) 52 *European Journal of Political Economy* 120–140 12, who note that although financial stability is very important, monetary policy is till equally

Furthermore, as Llewellyn discusses, making sure that the FSC, FSOC and FSCF are all housed in the SARB building together with all other policy agencies will allow for the effective flow and sharing of information, making coordination of policies and corporation between policy agencies much easier.[93] This will also save money as setting up new infrastructure such as IT systems, at a separate location can be very expensive.[94] More so, there is evidence that financial stability committees flourish when housed within a strongly independent central banks meaning, this will allow the FSC and all financial stability supporting committees to operate independently and be shielded from political/governmental interference.[95] If the budget permits, South Africa just like Australia, could also consider establishing a board of experts whose sole duty is to deal with all the issues pertaining to the coordination of policies and cooperation by policy agencies.[96] In other words, the body will be responsible for coming up with ideas that facilitate effective policy coordination and cooperation. It also very important that the SARB does not, like in the past, become too engrossed in implementing one trending policy at the expense of the other(s). Central banks like the SARB must always keep in mind that one of the key causes of the Global Financial Crisis was overemphasis on one policy, monetary policy and thinking that the objectives of one policy can be fully achieved using another policy that will be trending at the moment. Therefore, they must not make the same previous mistake and concentrate too much on the implementation of macroprudential policy and its financial stability objective whilst neglecting all the other equally important public and macroeconomic policies such as monetary policy.

important and thus, the conducting of macroprudential policy should not hinder the implementation of an optimal monetary policy. See further V Rooplall *Financial stability and macroprudential policy* (2016) MCOM dissertation University of South Africa 110, who mentions that there are high chances of friction between monetary policy and macroprudential policy when asset and credit bubbles are building-up and during economic downturns. It is in such instances where corporation between the two policy agencies is needed in deciding who will make the first move. For instance, if the FSC without communicating with the MPC just decides to raise the CCB during a downturn, this might cause serious disruptions to the economy and greatly interfere with the functions of the MPC. See also E VC Borio & S Ilhyock "What can (macro-) prudential policy do to support monetary policy?" (2007) 16–18.

[93] Llewellyn DT "Institutional structure of financial regulation and supervision: the basic issues" In *World Bank seminar Aligning Supervisory Structures with Country Needs, Washington DC* held from 6–7 June 2006 1–45 23 and 32. See also G Galati & M Richhild "Macroprudential policy–a literature review" (2013) 27.5 *Journal of Economic Surveys* 846–878 870.

[94] *Ibid*.

[95] AJ Godwin & AD Schmulow “Financial Sector Regulation Bill in South Africa, Second Draft: Lessons from Australia” (2015) 132 *SALJ* 756 6–8, who state that the independence of financial stability committees is held with high regard by the Basel Committee because we cannot achieve financial stability in financial systems if politicians interfere with this massive global post-crisis endeavour. See also the Basel Committee Principles on Banking Supervision, principle 2.

[96] *Ibid* 15. In Australia this board is called the Council of Financial Regulators.

For optimal results, it is always desirable to strike a balance in implementing these policies given they all play a unique and important role in our financial system.

4.7 Conclusion

Besides giving an assurance that the trending financial stability goal does not in any way replace the central bankers' favourite child, monetary policy, this chapter managed to examine the huge interaction debate. As highlighted above, this debate emanates from the fact that monetary policy does have an impact on financial stability, the primary objective of macroprudential policy. One of the examples that was mentioned is the way in which an accommodative monetary policy can threaten financial stability through various channels. The major question that this chapter attempted to tackle is whether monetary policy should be coordinated with macroprudential policy given that monetary policy also affects financial stability. As shown above, the pro-coordination team believes monetary policy can indeed assist macroprudential policy by "leaning against" the build-up of financial imbalances. One of the ways monetary policy can assist is by considering financial stability in all its policy stances and making it its secondary goal. The opposing group argues that monetary policy was never designed to fight financial vulnerabilities as proved by the Global Financial Crisis. Meaning, it is unnatural to entrust it with financial stability even as a secondary objective. They believe optimal results are achieved when each policy completely pays attention to what it was naturally designed for. Hence, according to the anti-coordination activists, these two policies cannot cooperate because they are very distinct from each other in terms of their objectives and toolkits.

However, as pointed out above, the arguments presented by the pro-coordination supporters such as South Africa are more convincing, save for the fact that more clarity needs to be provided concerning the conflicts and overlaps between the two policies. As mentioned before, through memoranda of understanding drawn by the policy agencies, the SARB will have to provide extensive detail on how exactly it intends to coordinate these two policies. The suggestion that was provided above is that the two policy agencies could probably agree in their memoranda of understanding that when systemic risk presents itself the MPC will make the first move or the other way around depending on the nature of the prevailing risk. The MPC and the FSC can also try and reach an agreement as to the extent of policy coordination. For instance, it was proposed that they could agree in their memoranda of understanding that during periods of financial stability they can partially coordinate polices

and when a financial crisis is threatening or has occurred they will fully coordinate their respective policies.

Chapter 5: Concluding remarks

"It is important that we note the weaknesses in our financial system, and work toward implementing solutions before the next crisis comes." – Gordon Eade

5.1 General overview

It can be deduced from this dissertation that the 2008 Global Financial Crisis was such a massive economic catastrophe that managed to capture the attention of many central banks including the SARB. It is also clear that this crisis was a turning point in the financial sector regulation world and it brought about heavy emphasis on the long neglected financial stability mandate together with the revamping of regulatory frameworks such as macroprudential policy. However, as discussed in this dissertation, there has been a widespread concern about the way the upgraded macroprudential policy is going to interact with other macroeconomic policies which regulators have been concentrating all their energy on prior to the crisis. For instance, monetary policy. Through a series of four chapters that built on each other, this dissertation reflected on the diverse arguments raised concerning the interaction debate and to determine the best possible way forward. The first chapter discussed the Global Financial Crisis which is the key reason why this whole interaction debate exists. Had it not happened no one would be worrying about how the financial stability policy is going to interact with the price stability policy, simply because there would probably be a continued emphasis on price stability and no one would really care about macroprudential policy. Because it is crucial to understand what the two policies that raised the interaction debate entail, the second chapter was a synopsis of monetary policy followed by a description of macroprudential policy in the third chapter. The fourth chapter which is the gist of this dissertation, investigated the various elements that underlie the interaction debate, the various arguments that have made so far and proposed a potentially useful policy interaction legal framework. Below I provide a summary of each chapter.

5.2 Chapter 1

This chapter discussed in detail the 2008 Global Financial Crisis. Some of the key causes of this event included global macroeconomic imbalances, light touch financial sector regulation, low interest rates and the assignment of inflated credit ratings by credit rating agencies. From the devastating effects of the Crisis such as reduced liquidity, increased public debt and bailouts as well as reduced economic growth, central banks took home many lessons. Some

of the important lessons that they learnt were that policy rate and price stability alone do not guarantee financial stability and that there was need for a holistic approach to financial sector supervision. Central banks tried to fight the Crisis and clean up the mess when the bubble burst by aggressively implementing their monetary policies, but this did not really help. There was an out cry for financial stability meaning, there was need for an additional policy framework with *ex -ante* measures to prevent a build-up of financial imbalances and to promote financial stability at both a domestic and global level. Hence, the G20 central banks met in Basel and came up with the Basel III, a soft law policy document which essentially incorporates the upgraded macroprudential policy. Since South Africa is also a loyal member of the G20, a framework for the revamped macroprudential policy was recently introduced by the SARB. After providing a detailed analysis of the Global Financial Crisis which brought about the introduction of an upgraded macroprudential policy, Chapter One also introduced the research problem. The research problem in essence revolved around the question of how this upgraded macroprudential policy is going to interact or peacefully co-exist with monetary policy, a policy that central bankers have focused on for decades. Before this main question and all other related ones could be addressed, an outline of what these two policies entails first had to be provided and this ushered us into Chapter Two which discussed monetary policy and thereafter chapter three which touched on macroprudential policy.

5.3 Chapter 2

This chapter gave a brief description of our monetary policy. The main objective of monetary policy is price stability as reflected on section 224 of the Constitution which states that the primary role of the SARB is to protect the value of the Rand in the interests of balanced and sustainable economic growth in South Africa. The South African monetary policy is set and implemented by MPC which is housed in the SARB. This committee implements the monetary policy (against supply shocks such as money inflation) within a flexible inflation targeting framework whereby a target range that must be adhered to is set yet there is still enough flexibility to be out of the inflation target range when need arises. The chapter also highlighted that monetary policy just like any other macroeconomic policy, makes use of specific tools in achieving its goals. These tools include the interest rate, forecasting and foreign exchange intervention. It has also been pointed out that the use of these instruments is usually determined by financial indicators such as the consumer price index, credit expansion, asset bubbles and exchange rate. This chapter further discussed the implementation of our monetary policy which is done by the Financial Markets Department

and the point that like many other central banks, the SARB follows a market-orientated approach as opposed to a direct non-monetary-orientated approach when implementing monetary policy. Under the market-orientated approach, the SARB buys and sells financial instruments to influence quantities and prices on financial markets established in South Africa. Chapter Two also reflected on how after certain time lags of implementing the policy rate, by making investigations into the impact of the monetary policy on the economy (monetary policy transmission mechanism), the MPC is able to examine the effectiveness of the monetary policy stance and try to improve in future. In essence what one can gather from chapter two is the fact that South Africa possesses a robust countercyclical monetary policy which has a very swift and powerful transmission mechanism, and this explains why unlike most advanced economies it was not severely affected by the financial crisis. At the end, the chapter also touched on how our monetary policy is currently being aligned with the trending financial stability goal.

5.4 Chapter 3

This chapter provided definitions for the two concepts that are intrinsically linked to macroprudential policy namely financial stability and systemic risk. Very briefly, financial stability was defined as a situation where financial market participants such as financial institutions are able to continuously provide financial products and services without any disruption and even if some disruption occurs there will still be public confidence that those products and services will continuously be provided. Systemic risk was defined as a risk that a systemic event will occur. The chapter defined a systemic event as an event, which can also arise outside the Republic and which causes disruption in the financial system. This disruption basically equates to a situation where there will be financial instability or where financial stability will be threatened. Macroprudential policy was subsequently defined and in short it is a forward-looking policy which follows a top-down approach, views risk as endogenous and aims at increasing the resilience of the financial system to economic downswings and systemic shocks, and “leaning against” the financial cycle in order to reduce or contain the built-up of risks in the financial system as well as to lower the probability that a financial crisis will occur. The chapter then provided a description of the institutional, operational and analytical framework of macroprudential policy. Under the institutional framework it was highlighted that the FSC will work together with the FSOC and its briefer the FSCF, to ensure that financial stability is promoted and maintained in South Africa. Moving on to the operational framework, it was discovered that the macroprudential policy

toolkit has a variety of tools, some which are recalibrated microprudential tools, a few borrowed from other macroeconomic policies and a few newly designed ones. Some of the tools that were discussed include the counter cyclical buffer capital requirement, LTV and DTI caps. Under the analytical framework, it was discussed that the financial stability committees will rely on different indicators such as rent-to-rent ratios, real estate prices, sectoral concentration results, price-to-rent ratios and mortgage credit growth. It was also discussed among other things that timing is very crucial meaning, policy agencies will have to be very careful about when to activate or deactivate a policy instrument. Recommendations were also given, one of them being that macroprudential policy instruments should also be briefly described on the SARB website in a very simplified manner. Having outlined monetary and macroprudential policy the research went on to explore the interaction debate.

5.5 Chapter 4

This chapter first pointed out that the financial stability objective does not imply a new mandate for the SARB or any replacement of monetary policy. It is simply an extended mandate. The chapter highlighted that the interaction debate exists because indeed monetary policy does somehow affect financial stability. However, the main question that the chapter reflected upon is whether it should work hand in hand (be coordinated or cooperate) with macroprudential policy in "leaning against" financial imbalances for instance, through tightening the policy during boom periods or whether that job should be completely left to macroprudential policy meaning, monetary policy will only be used to assist with cleaning up the mess when an economic crisis occurs. In answering this question, the chapter first gave an outline of what the two major opposing standpoints entail together with all the supporting arguments. Under the pro-coordination view was the idea that monetary policy can support macroprudential policy in achieving financial stability because these policies do have significant overlaps. On the other end, anti-coordination activists believe that in as much as there is some form of interaction between the two policies, those overlaps are not of any significance. Basically, this group perceive monetary policy tools as too blunt to effectively address systemic risks meaning, that job should be completely left to macroprudential policy. The chapter then went on to provide reasons as to why the pro-coordination stance that the SARB currently subscribe to is more convincing. At the end chapter four makes various recommendations, one being that more clarity needs to be given *ex -ante* in financial sector legislation or preferably soft law such as memoranda of understanding, concerning the conflicts and overlaps between macroprudential policy and monetary policy. It was

highlighted that the two policy agencies could possibly try and reach an agreement in their memoranda of understanding as to when and under which circumstances should one of the involved policy agencies make the first move.

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