

**THE IMPACT OF THE NATIONAL CREDIT ACT ON
RESIDENTIAL MORTGAGE LENDING IN SOUTH AFRICA**

by

Catherine Boonzaaier

submitted in accordance with the requirements
for the degree of

MASTER OF COMMERCE

in the subject

BUSINESS MANAGEMENT

at the

University of South Africa

Supervisor: Prof. J Chisasa
Co-supervisor: Prof D Makina

February 2016

DECLARATION

Name: Catherine Boonzaaier

Student number: 32774346

Degree: Master of Commerce

The impact of the National Credit Act on residential mortgage lending in South Africa

I declare that the above dissertation/thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



29 February 2016

SIGNATURE

DATE

ACKNOWLEDGEMENTS

- First and foremost, I wish to thank my Heavenly Father for giving me the wisdom, discipline and motivation to complete my master's degree, because without Him this would not been possible. I am also thankful to Professor Joseph Chisasa (supervisor) and Professor Daniel Makina (co-supervisor) for their time, selfless efforts, patience, commitment and expert advice throughout the challenging process of completing this dissertation.
- I also wish to thank Mr Andries Masenge, my statistician, for his valuable inputs and patience during this time of my studies. I wish to express my gratitude to Ms Glenda Buncombe (language practitioner) and Ms Jenny Seagreen (formatting and technical editing) for ensuring that this dissertation complies with the standards required by the university.
- Sincere thanks to Maralise Brits from the SARB and Lightstone Property for the secondary data that was provided for my dissertation.
- To my mother and role model, thank you for always believing in me, encouraging me and motivating me during my studies. Thanks also to my family for their emotional support.
- I wish to thank Unisa, the research committee of Western Cape, and Ms Lekay and Ms van Zyl from the Unisa library.
- Lastly, I wish to thank PARC for granting me research leave to complete my master's and the MDSP grant that paid for my expenses during my studies.

ABSTRACT

The National Credit Act (NCA) was promulgated and implemented on 1 June 2007. The purpose of this research study was to outline the residential mortgage market in South Africa in the context of the NCA and to determine how residential mortgage lending under the new NCA was regulated. The purpose of the NCA was to remove the many unfair practices, inappropriate disclosure and anti-competitive practices from the market and to achieve honesty in the credit market. Low-income groups were held back because they could not gain access to formal finance to build or improve houses or supplement housing subsidies to get bigger houses. This study applied the quantitative research design using time series secondary data. Registered data on monthly residential mortgages was obtained from Lightstone Property for the period January 2001 to August 2011. Secondary data was collected from the BA900 of the SARB to see how many loans were approved and rejected between 2008 and 2014. The statistical analysis techniques used in this study were t-tests, descriptive statistics, trend analysis and correlation analysis. It was found that the NCA had a positive effect on the residential mortgages in SA.

Key terms:

Banks, consumers, credit, credit providers, lending, mortgage, National Credit Act, National Credit Regulator, regulation, residential mortgages

CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
KEY TERMS	iv
LIST OF FIGURES.....	ix
LIST OF TABLES.....	x
ABBREVIATIONS/ACRONYMS.....	xii
CHAPTER 1: BACKGROUND AND CONTEXTUALISATION OF THE STUDY.....	1
1.1 INTRODUCTION	1
1.2 BACKGROUND OF THE NATIONAL CREDIT ACT	1
1.3 HOUSING FINANCING IN SOUTH AFRICA.....	5
1.4 ECONOMIC BACKGROUND OF SOUTH AFRICA.....	11
1.5 PROBLEM STATEMENT	14
1.6 OBJECTIVES OF THE STUDY	15
1.7 RESEARCH METHODOLOGY	15
1.7.1 Quantitative research.....	15
1.7.2 Data collection	16
1.8 STATISTICAL ANALYSIS TECHNIQUES	17
1.9 KEY DEFINITIONS.....	17
1.10 LIMITATIONS OF THE STUDY.....	18
1.11 ETHICAL CONSIDERATIONS	19
1.12 SUMMARY AND CHAPTER OUTLINE	20
CHAPTER 2: MORTGAGE LENDING AND REGULATION: A THEORETICAL PERSPECTIVE.....	21
2.1 INTRODUCTION.....	21
2.2 MORTGAGE LENDING.....	21
2.3 THEORIES OF REGULATION	26
2.3.1 Public interest theory	32
2.3.2 Contracting theory.....	34
2.3.3 Capture theory	34
2.4 SUMMARY	36
CHAPTER 3: INTERNATIONAL PRACTICES ON REGULATION OF MORTGAGE LENDING.....	37
3.1 INTRODUCTION	37
3.2 THE AIMS OF THE NCA AND THE ROLE OF THE NCR.....	37
3.3 INTEREST RATE CAPS.....	39

3.4	CONSUMER PROTECTION THROUGH EDUCATION	40
3.5	EFFECT OF NCA ON OPERATIONS OF COMMERCIAL LENDING INSTITUTIONS	41
3.6	THE SOUTH AFRICAN MODEL AS AN EXAMPLE FOR ALL OF AFRICA	44
3.6.1	Africa.....	45
3.6.2	Nigeria	45
3.7	CREDIT REGULATION: INTERNATIONAL PERSPECTIVE OUTSIDE AFRICA	46
3.7.1	Pillars of credit regulation.....	46
3.7.2	Credit regulation in selected countries	50
3.7.2.1	<i>China</i>	50
3.7.2.2	<i>United Kingdom (UK)</i>	52
3.7.2.3	<i>United States of America (USA)</i>	52
3.7.2.4	<i>Turkey</i>	57
3.7.2.5	<i>European Union (EU)</i>	58
3.8	AN OVERVIEW OF THE BASEL ACCORDS.....	62
3.8.1	Basel II.....	62
3.8.2	Basel III	62
3.9	SUMMARY	65
CHAPTER 4: RESEARCH METHODOLOGY		66
4.1	INTRODUCTION	66
4.2	RESEARCH DESIGN	66
4.3	DATA SOURCES AND COLLECTION	69
4.4	RESEARCH HYPOTHESES	73
4.5	STATISTICAL ANALYSIS TECHNIQUES APPLIED	74
4.5.1	Trend analysis.....	75
4.5.2	Descriptive statistics	76
4.5.2.1	<i>Standard deviation (SD)</i>	77
4.5.2.2	<i>Mean</i>	77
4.5.2.3	<i>Variance</i>	78
4.5.3	Kolmogorov-Smirnov (KS) test for normality	78
4.5.4	Correlation analysis	79
4.5.5	Inferential statistics	81
4.5.6	The t-test.....	82
4.6	RELIABILITY AND VALIDITY.....	84
4.7	SUMMARY	85
CHAPTER 5: EMPIRICAL RESULTS AND DISCUSSION		86
5.1	INTRODUCTION	86
5.2	TREND ANALYSIS.....	86
5.2.1	Number of residential bonds registered	86
5.2.2	Rand value of residential bonds registered	88

5.2.3	Mortgage application acceptance rates (2008 – 2014)	89
5.2.4	Trends in the number of mortgage advances granted	90
5.3	DESCRIPTIVE ANALYSIS	95
5.4	TEST FOR NORMAL DISTRIBUTION	97
5.5	CORRELATION ANALYSIS	97
5.5.1	Pre-NCA period correlation analysis	98
5.5.2	Post-NCA period correlation analysis	99
5.5.2.1	<i>NCA and value of re-advances on residential mortgages granted</i>	103
5.5.2.2	<i>NCA and new residential mortgages</i>	104
5.5.2.3	<i>Value of re-advances on residential mortgages granted and value of new residential mortgage advances granted</i>	104
5.5.2.4	<i>Number of new residential mortgage advances granted and value of new residential mortgage advances granted</i>	104
5.5.2.5	<i>Number of new residential mortgage advances granted and value of re-advances on residential mortgages granted</i>	104
5.5.2.6	<i>Number of re-advances on residential mortgages granted and value of re-advances on residential mortgages granted</i>	105
5.5.2.7	<i>Number of new residential mortgage advances granted and number of re-advances on residential mortgages granted</i>	105
5.5.2.8	<i>Number of re-advances on residential mortgages granted and value of new residential mortgage advances granted</i>	105
5.5.2.9	<i>Number of mortgage advances applied for and number of new residential mortgage advances granted</i>	105
5.5.2.10	<i>Number and value of residential bonds registered using further advances</i>	106
5.6	T-TEST RESULTS	108
5.6.1	Standard deviation	109
5.6.2	Hypothesis 1: The variances for the pre- and post-NCA periods are equal	109
5.6.3	Test for variances between pre- and post-NCA periods	110
5.7	TEST FOR EQUALITY OF VARIANCE	112
5.8	OBJECTIVE 4: NCA AND FURTHER ADVANCES	112
5.9	TEST FOR EQUALITY OF VARIANCE FOR VALUE OF FURTHER ADVANCES FOR PRE- AND POST-NCA PERIODS	114
5.10	SUMMARY	115

CHAPTER 6: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS	116
6.1 INTRODUCTION	116
6.2 SUMMARY OF FINDINGS	117
6.2.1 Relationship between the NCA and residential mortgage financing	117
6.2.2 Relationship between the NCA and acceptance rate of mortgage advances	117
6.2.3 Trends in residential mortgage financing	117
6.2.4 Relationship between the NCA and further advances.....	118
6.3 LIMITATIONS OF THE STUDY	118
6.4 RECOMMENDATIONS	119
6.4.1 Recommendations to banks	119
6.4.2 Recommendations to the NCR	119
6.4.3 Recommendations for future research.....	119
6.5 SUMMARY	119
REFERENCES	120
APPENDIX A: ETHICAL CLEARANCE CERTIFICATE	137

LIST OF FIGURES

Figure 1.1: Annual and six-year moving average growth in real gross value (RGV) in South Africa (1947–2007).....	13
Figure 2.1: Selected housing loans to GDP ratios.....	22
Figure 2.2: Depository and direct lending.....	26
Figure 2.3: Elements of regulation	29
Figure 3.1: Commercial banks and HDA in Turkey (types of institutions – 2009).....	58
Figure 3.2: Funding resources in the EU (2009)	60
Figure 4.1: Types of research designs	68
Figure 5.1: Total number of residential bonds registered	87
Figure 5.2: Total value of residential bonds registered (Rands).....	89
Figure 5.3: Mortgage application acceptance rate	90
Figure 5.4: Number of mortgage advances applied for	91
Figure 5.5: Number of new residential mortgage advances approved	93
Figure 5.6: Value of new residential mortgage advances granted	94
Figure 5.7: Further advances – Total number of residential bonds registered	94
Figure 5.8: Further advances – Value of residential bonds registered (Rands)	95

LIST OF TABLES

Table 1.1:	South African government housing subsidy scheme amounts.....	8
Table 1.2:	BNG elements and objectives	9
Table 2.1:	Basic models of housing finance.....	24
Table 3.1:	Consumer credit law in selected countries.....	49
Table 3.2:	Residential mortgage markets in the EU (2009)	61
Table 5.1:	Key variables in respect of mortgage advances.....	92
Table 5.2:	Bonds issued in the pre- and post-NCA periods	96
Table 5.3:	Total value of residential bonds registered (Rands).....	96
Table 5.4:	Total value of residential bonds registered (includes the confidence intervals).....	97
Table 5.5:	Normality test	97
Table 5.6:	Pre-NCA correlation analysis	99
Table 5.7:	Post-NCA correlation analysis	101
Table 5.8:	Number of mortgage advances applied for and total number of mortgage advances granted	102
Table 5.9:	Correlations.....	103
Table 5.10:	Correlations.....	106
Table 5.11:	Correlations – further advances	107
Table 5.12:	Variances	108
Table 5.13:	Total number of residential bond registered.....	109
Table 5.14:	Equality of variances (further tests for significance).....	109
Table 5.15:	Variances between pre- and post-NCA periods	110
Table 5.16:	Total number of residential bonds registered (includes the confidence intervals)	110
Table 5.17:	Equality of variances	111
Table 5.18:	Variances	112
Table 5.19:	Further advances – number of residential bonds registered; mean scores between pre- and post-NCA	112
Table 5.20:	Confidence intervals for the means and standard deviations.....	112

Table 5.21: Further advances – value of residential bonds registered (Rands)	113
Table 5.22: Further advances confidence intervals for the means and standard deviations	112
Table 5.23: Equality of variances	114
Table 5.24: Variances	114

ABBREVIATIONS/ACRONYMS

Adjustable Rate Mortgages (ARM)

Breaking New Ground (BNG)

Bureau for Financial Analysis (BFA)

Community Reinvestment Act (CRA)

Consumer Credit Act (CCA)

Council for Scientific and Industrial Research (CSIR)

Credit Bureaux (CB)

Department of Housing (DOH)

Department of Trade and Industry (DTI)

European Union (EU)

Federal Home Loan Mortgage Corporation (FHLMC)

Financial Services and Markets Act (FSMA)

Financial Services Authority (FSA)

Gross domestic product (GDP)

Home Mortgage Disclosure Act (HMDA)

Home Owners Loan Corporation (HOLC)

Housing Development Administration (HDA)

Housing provident fund (HPF)

Living Standard Measures (LSM)

Loan-to-value (LTV)

Mortgage Servicing assets (MSAs)

Mortgage-backed securities (MBS)

National Credit Act (NCA)

National Credit Regulator (NCR)

National Housing Forum (NHF)

People's Bank of China (PBOC)

Provincial Housing Boards (PHB)

Qualified Mortgage (QM)

Provincial Member of the Executive Council (MEC)

Reconstruction and Development Programme (RDP)

Reconstruction Finance Corporation (RFC)

South African Reserve Bank (SARB)

United Kingdom (UK)

United States (US)

CHAPTER 1

BACKGROUND AND CONTEXTUALISATION OF THE STUDY

1.1 INTRODUCTION

In this study the focus is on the impact of the National Credit Act (NCA) 34 of 2005 on residential mortgage lending. This chapter provides the background, motivation and purpose for conducting the research. An introductory literature review on the NCA will then be provided, which includes the background of the study, an explanation of housing financing in South Africa and the economy of South Africa, the problem statement and the objectives of the study. Statistical analysis and the research methodology will be discussed, followed by the key definitions, limitations and ethical considerations of the study. The chapter layout will then be presented.

1.2 BACKGROUND OF THE NATIONAL CREDIT ACT

This section deals with the potential problems that might occur with key sections of the NCA, in particular limiting access to credit by the poor (Goodwin-Groen & Kelly-Louw, 2006:43). Before the Act, the granting of credit by financial institutions to consumers was approved without properly investigating whether the consumer would be able to repay the debt or not. In order to address this situation, the NCA was promulgated and implemented on 1 June 2007.

Section 3 of the NCA states (South Africa 2005):

“The purpose of this Act is to promote and advance the social and economic welfare of South Africans, promote a fair, transparent, competitive, sustainable, responsible, efficient, effective and accessible credit market and industry, and to protect consumers” (Goodwin-Groen and Kelly-Louw, 2006:43). The purpose of the Act is to protect the consumers and to create a fair credit market.

According to Masilo (2014:50), the NCA aims to improve the standard of living of consumers by:

- prohibiting certain unfair credit and credit-marketing practices;
- promoting responsible credit granting and use, thus prohibiting reckless credit granting;
- providing for debt reorganisation in cases of over-indebtedness;
- regulating credit information;
- providing for registration of credit bureaux, credit providers and debt counselling;
- establishing national norms and standards relating to consumer credit;
- promoting a consistent enforcement framework relating to consumer credit;
- repealing the Usury Act 73 of 1968 and the Credit Agreements Act 75 of 1980 and to provide for related incidental matters; and
- establishing the National Credit Regulator and the National Consumer Tribunal.

To sum up, the NCA aims to improve fair and non-discriminatory access to and granting of credit and to protect consumers against abuse (De Clercq 2013). Previously there was an imbalance of power between consumers and credit providers because of low education levels, inadequately informed consumers, weak disclosure and deceptive marketing practices (Stoop 2009:366). As a result, many South African consumers entered into unaffordable credit contracts, which led to many social problems (Stoop, 2009:366).

The NCA replaced the Credit Agreements Act 75 of 1980 and the Usury Act 73 of 1968. According to Mould (2008:110),

“some legislation protects consumers, while other legislation has a broader application-field”.

The Usury Act and the Credit Agreements Act put a ceiling on the interest rate charged by credit providers, but this limit was bypassed when credit providers charged extra costs such as credit life assurance, loan application fees, administration fees, club fees and other service charges (Masilo, 2014:48). According to Masilo (2014:48), these Acts did not protect consumers and neither did they provide any regulation in terms of either the credit providers or the credit bureaux and resulted in credit providers giving credit irresponsibly and ultimately

sequestering the consumer (Masilo, 2014:48). The Usury Act was first implemented in 1968 in South Africa during the apartheid era and it excluded financial support to non-whites, especially black people, and raised serious concerns (Whittaker, 2008:570). The Minister of Trade instituted a Usury Act exemption in 1992 that allowed lenders to charge unregulated interest rates on small loans and the purpose was to stimulate growth in lending to micro, small and medium-sized enterprises (Whittaker, 2008:570).

During 1968 the consumer credit market was influenced by a range of political, social and economic changes (Goodwin-Groen & Kelly-Louw, 2006:12). The dysfunctional credit market was based on the following problem areas:

- Fragmented and outdated legislation;
- Ineffective consumer protection, particularly in relation to 85% of the population in low-income groups;
- High cost of credit and, for some areas, lack of access to credit;
- Rising levels of over-indebtedness; and
- Reckless behaviour by credit providers and exploitation of consumers by micro-lenders, intermediaries, debt collectors and debt administrators (Department of Trade and Industry (DTI) 2004b).

Improper legislation, whether the Usury Act, Credit Agreements Act or debt collection procedures in the Magistrates' Courts Act 32 of 1944, and a need for enforcement all added to the improper state of affairs (Goodwin-Groen & Kelly-Louw, 2006:13). The increasing use of credit by low-income groups also added to the need for a closer examination of the credit legislation (Goodwin-Groen & Kelly-Louw, 2006:12). The DTI formed a technical committee to undertake a credit law review in 2004, with the mandate to solve these problems (Goodwin-Groen & Kelly-Louw, 2006:13). The committee recognised the following weaknesses in the credit market (Goodwin-Groen & Kelly-Louw, 2006:14):

- Insufficient rules on disclosing the cost of credit. This means that, through the inclusion of a variety of fees and charges (including excessive credit life assurance), the cost of credit was regularly inflated above the disclosed interest rate.

- An unrealistically low Usury Act cap caused low-income and high-risk clients to be marginalised.
- Weak and incomplete credit bureaux information resulted in bad client selection, ineffectual credit risk management and high bad debts, hugely increasing the cost of credit.
- Poor debt collection and personal insolvency legislation created an incentive for reckless credit provision, and prevented effective rehabilitation of over-indebted consumers.
- Excessive predatory behaviour led to high levels of debt for certain consumers and unmanageable risk to all credit providers.
- Lack of regulation in legislation related to mortgages and property transfers weakened consumers' ability to offer security and locked them into high-cost, unsecured credit.
- Aspects of the Banks Act 94 of 1990 and National Payment System Act 78 of 1998 rules weakened competition in the consumer credit markets.
- There was regulatory uncertainty leading to credit behaviour oriented towards short-term profit taking, and resistance among credit providers to offer longer-term finance.

The Credit Law Committee examined all the previous Acts and concluded that the Usury Act and the Credit Agreements Act should be replaced by a single Act. This led to the National Credit Act (NCA) 34 of 2005 which came into effect on 1 June 2007 (Masilo, 2014:49).

The Credit Agreements Act and Usury Act protected consumers to a certain amount of debt, but when these debts exceeded the ceiling for the relevant legislation's field of application, the extended credit (debt) was no longer considered consumer credit (Mould, 2008:110). The Usury Act allowed money-lenders to charge the middle-to-well-off groups realistic interest rates but higher interest rates were charged for the lower-income groups, meaning that credit was more difficult to access for the lower-income groups than for the middle-to-well-off groups (Mould, 2008:110). The Credit Agreements Act regulated only specific credit agreements linked to moveable goods.

The NCA applies to credit granted to natural persons by banks, retailers, micro-lenders and all other credit providers. The main purpose of the NCA is to promote a fair, competitive, accessible and equitable credit market.

1.3 HOUSING FINANCING IN SOUTH AFRICA

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control” (Le Roux, 2011:6; United Nations 1948).

In general, people want security and for their basic needs to be provided for.

The importance of housing as a vital need and as a component of the economy cannot be over-emphasised. It is predicted that on average, between 15% and 40% of household monthly expenditure is spent on housing and housing services (Okpala, 2012:182). According to Kajimo-Shakantu and Evans (2006: 24), housing also represents about 2% to 10% of the gross domestic product (GDP) in some developing countries. For that reason it is important to understand the operation of and potential for housing finance (Kajimo-Shakantu & Evans, 2006:23).

Le Roux (2011:14) states that the South African White Paper 1994 is built around seven strategies:

- i) Stabilising the housing environment;
- ii) Mobilising housing credit;
- iii) Subsidies;
- iv) Supporting the People’s Housing Process;
- v) Rationalising institutional capacities;
- vi) Facilitating the speedy release and servicing of land;
- vii) Co-ordinating state investment in development.

The white paper 1994 gives a background of the housing system in the past. Housing in South Africa has a long history of government interference, charac-

terised by the post-apartheid drive towards private ownership via public provision (Lemanski, 2012:337). South Africa's housing landscape was deeply influenced by apartheid, and that is why the present cannot be fully understood without grasping the past (Lemanski, 2012:337). The first democratic election in South Africa was in 1994 and the newly instituted government inherited a backlog of 1.2 to 2.5 million houses. This inherited backlog was the product of the history of apartheid, unemployment and poverty (Pillay & Naude, 2006:873).

After 1994, the ANC government promised to build 1 million houses for low-income households. Providing housing for the poor was its main concern (Lemanski, 2012:337). The ANC government used the subsidy scheme to support the development of black entrepreneurs and did not want to depend on the old apartheid construction (Gilbert, 2004:23). The government involved the banks to finance low-income groups when it realised that it lacked the capacity to finance the ambitious subsidised housing scheme (Gilbert, 2004:23).

Between 1994 and 1997 the demand for houses increased from 2.5 million to 3 million households (Pillay and Naude 2006:873). Banks provided home loans to low- and moderate-income groups of South Africa (Pillay & Naude, 2006:873). In 1994 an approximately 20% of the new lending was not performing and banks stopped lending (Porteous, 2005:34). During this time South African housing finance was in a mess and banks experienced defaults on home loans because of political boycotts and social disobedience of the past. The default rate was estimated to be 15% and worth R10 billion in 1994 (Pillay & Naude, 2006:873).

In 1994, 34 000 properties were owned by the banks and the state-owned mortgage lender, Khayaletu Home Loans, as a consequence of non-performing loans. This caused lenders to withdraw from the low- and moderate-income groups (Pillay & Naude, 2006:873). Subsequent to 1994, the new government started a plan to persuade commercial banks to offer financing to low- and moderate-income groups despite high defaults. This plan involved campaigns to persuade people to pay off their bonds, and policies that encouraged the introduction of government subsidies to deliver housing on scale (Pillay & Naude, 2006:873). Housing on scale entailed the programmes carried out by the three

layers of government that mass produced housing via housing subsidies. This was the beginning of the capital subsidy scheme to assist the low-income market. The Provincial Housing Boards (PHB) initially managed the subsidy scheme and in 2000 the government made the Provincial Member of the Executive Council (MEC) responsible for the subsidy allocation (Pillay & Naude, 2006:873).

One million subsidies were allocated from 1995–2001. People who earned less than R1 500 per month received 90%, people who earned R1 501 – R2 500 per month received 8% and those who earned less than R3 500 per month received the outstanding balance (Council for Scientific and Industrial Research (CSIR), 2000:18). The housing policy of South Africa states that in order to offer a satisfactory standard of housing to low-income households who earn less than R3 500 per month, affordable housing financing is needed (Tomlinson, 2007: 77). While early houses were as small as 25 m², subsidy houses were a minimum of 30 m² after 1998 and were known as Reconstruction and Development Programme (RDP) houses (Lemanski, 2012:337).

Since the late 1980s, South Africa has sought ways to extend housing finance to low-income households. During this period housing finance institutions looked for ways of supporting borrowers in the low-income market, including risk mitigation and acting as guarantors and as wholesale providers (Tomlinson, 2007:78). The majority of the low-income group depended on the subsidies from the government. During 1992, a new non-racial housing policy was formulated and created by a multi-party body, the National Housing Forum (NHF) (Tomlinson, 2002:8). According to Tomlinson (2002:8), fierce debates followed on whether housing should be delivered by the state or the market; whether the standard of the house should be four-roomed houses or progressive and how to draw the financial institutions back which had previously been forced out due to bond boycotts and the wildly fluctuating economy in South Africa. During the apartheid government, white South Africans received abundant resources and economic opportunities, including housing services, while other groups were denied these opportunities (Freeman, 2008:697).

Since the end of apartheid in 1994, the main objective of the NHF has been the provision of credit for low-income groups by increasing engagement with banks in the high-risk low-income housing finance sector (Freybote and Karoly 2008: 185). The house policy was drafted in 1992 to 1993 to draw financial institutions back into the developing black housing market (Tomlinson, 2007:78). A once-off paid capital subsidy was also part of the policy, which involved R3 500 per month to all households with an income less than this amount (Department of Housing (DOH) 2004) as described in Table 1.1. In 1994 this increased to R12 500, but over time the subsidy increased to R31 879 as described in Table 1.1 (Tomlinson, 2007:78).

Table 1.1: South African government housing subsidy scheme amounts

Monthly household income	Subsidy amounts: 2005
R0 – R1 500	R31 879
R1 500 – R3 500	R29 400 plus own contribution R2 479

Source: Adapted from Tomlinson (2007)

According to Kajimo-Shakantu and Evans (2006:24), studies proved that due to the declining value of subsidies together with the lack of end-users funding, the private sector developers cut costs by building smaller units on cheaper peripheral land. It must be kept in mind that a subsidy is inefficient when assisting people in a housing shortage, but in its defence, it was never intended to be the only housing instrument (Kajimo-Shakantu & Evans, 2006:24). The 2004 Breaking New Ground (BNG) programme was announced, due to the failure of the national housing subsidy scheme to solve South Africa's housing shortage (Lemanski, 2012:339). BNG encourages property ownership as a poverty-alleviating asset for wealth creation and empowerment by seeking to produce settlements that are viable, unlike the previous RDP, which concentrated on mass delivery of an end product (i.e. a house) (Lemanski 2012:339). BNG consists of nine elements or programmatic interventions and seven objectives, as depicted in Table 1.2, and they are a combination of substance, procedure and outcomes, outputs and inputs (Rust 2006:10). BNG can be understood to set out the ends to be attained, the means to reach them and the instruments to be

utilised in the process (Rust, 2006:10). Financial institutions were encouraged to re-enter the low-income market and a number of institutions were established.

Table 1.2: BNG elements and objectives

BNG elements	BNG objectives
Supporting the entire residential property market	Accelerate the delivery of housing as a key strategy for poverty alleviation
Moving from housing to sustainable human settlements	Utilise the provision of housing as a major job creation strategy
Using existing and new housing instruments	Ensure that property can be accessed by all as an asset for wealth creation and empowerment
Adjusting institutional arrangements within Government	Leverage growth in the economy
Building institutions and capacity	Combat crime, promote social cohesion and improve quality of life for the poor
Defining financial arrangements	Support the functioning of the entire single residential property market to reduce duality within the sector, by breaking the barriers between the first economy residential property boom and the second economy slump.
Creating jobs and housing	Utilise housing as an instrument for the development of sustainable human settlements, in support of spatial restructuring.
Building information, communication and awareness	
Establishing systems for monitoring and evaluation	

Source: Rust (2006:10)

The housing subsidy programme received some mixed comments. Gilbert (2004) discusses the issue of subsidies and says that capital housing subsidies have reduced problems in financing houses in Chile and perhaps South Africa. Governments intervene in housing markets due to the negative externalities caused by conflict between the objectives of the borrowers and investors (Flanagan, 2012:507). The main housing objective in developed countries says Flanagan (2012:507), is to give every citizen the opportunity of a decent, well-

built home at an affordable price, in environmentally sustainable communities where they want to live and work. In other words, borrowers that want to buy a decent mortgage must be able to afford it and not default on their payments. Branco, Meljer and Visscher (2012:613) emphasise that houses should be safe, usable, healthy and comfortable for their tenants and visitors.

Flanagan (2012:507) explains that the main objective for mortgage investors is: “All mortgage investors should expect to earn a predictable and sustainable return over the term of the mortgage with all risks equitable and fairly divided”. This means that lenders or investors want to earn returns on their investments and the risks must be divided fairly amongst them.

Most low-income groups experience barriers in accessing financing to meet their housing needs (Kajimo-Shakantu & Evans 2006:24). There is a difference between the demand requirements of poor households and the supply requirements of the formal finance sector (Kajimo-Shakantu & Evans 2006: 24). For instance, loan size, period of loan repayment, consistency of the principal repayments, the language used for writing loan conditions and an acceptable form of security must be considered (Kajimo-Shakantu & Evans 2006:24). Section 63 of the NCA states that a consumer has the right to receive any document in terms of this Act in an official language that the consumer can read or understand (Mould, 2008:115). It is fair to presume that when the consumer signs the credit agreement, in this case a home loan agreement, provided that the necessary information was supplied by the credit provider, the agreement is understood by the consumer (Mould, 2008:115).

According to Le Roux (2011:15), nearly 70% of South African households do not have access to housing credit via the formal banking sector. For government to help this section of the population, numerous programmes have been developed (Le Roux, 2011:15). In general, there are two main areas of focus: households with a joint income of less than R3 500 per month (nearly 40% of the affected group) and the remaining 30% of the affected group, who have a combined household income of more than R3 500 per month. These groups have access to housing credit through the formal banking sector (Le Roux 2011:15).

Housing finance in South Africa is largely determined by two factors: cost of funding and the risk of lending in the different markets (Pillay and Naude 2006:883). Low-income groups are held back because they cannot gain access to formal finance to build or improve houses or supplement housing subsidies to get bigger houses (Kajimo-Shakantu & Evans, 2006:26). Le Roux (2011:5) defines low-income housing (in the South African context) as housing for people whose combined monthly household incomes are below R3 500 per month. The majority of the low-income households in South Africa are dependent on the government for housing subsidies, but the value of the subsidy declines and there is a complicated approval and pay-out mechanism (Kajimo-Shakantu & Evans, 2006:26). Banks are reluctant to operate in the low-income group housing market, and this unwillingness worsens the housing shortage problem in the country (Kajimo-Shakantu & Evans, 2006:26).

Pillay and Naude (2006) and Kajimo-Shakantu and Evans (2006) came to the conclusion that the banks are reluctant to finance houses in the low-income households. This contributes to the housing shortage in the country. From the above discussion it is clear that housing is not simply a matter of *'bricks and mortar'*, but a very complicated issue informed by many different factors beyond the influence of the individual or the government (Le Roux 2011:28).

1.4 ECONOMIC BACKGROUND OF SOUTH AFRICA

The private sector credit industry cannot be separated from the South African economy; neither can the effect of the NCA be investigated without taking into account the effect of unemployment, inflation, interest rates, etc. (Luttig, 2010:4). The year 1994 marked South Africa's first non-racial democratic government. The new South African government inherited an economy with problems which included high unemployment, a fiscal shortage of more than 7% of GDP and high inflation above 10% per annum (Hodge, 2009:488). There was a breakthrough after 2000; inflation met its target of 3 – 6% per annum for more than three years in a row in 2007 and South Africa saw its first budget surplus in the same year (Hodge, 2009:488). Since 2000, South Africa has undergone a significant consumption-driven economic growth with an average of 4% annually.

This can be credited mainly to low inflation, a stronger rand and increased real disposable household income (Freybote & Karoly, 2008:180).

In 2006 the South African Reserve Bank (SARB), the lead regulator for the South African banking sector, increased the interest rate by 200 basis points due to higher food and oil prices and a weaker rand (Freybote & Karoly, 2008:180). As of 2014, inflation was about 5.5%, the repo rate was 5% and the prime rate at which banks lent to the public was 9.5% (SARB 2014). In 2007 South Africa achieved a GDP growth rate of more or less 5% for the fourth year in succession, and this sustained strength in consumer demand was reinforced by higher levels of employment, higher real incomes and household balance sheets that improved (Luttig, 2010:9).

South Africa has over 47 million people with an annual growth rate of 1.4% in 2008; 61% of this total comprised the urban population (Makina, 2012:410). Economic growth increased in 2008, in spite of the recession caused by various factors, including the increases in interest rates by the SARB, inflation and the lack of confidence of consumers and business, all indirectly from the foreign credit crisis (Hodge, 2009:488). Regardless of the positive economic growth, unemployment rate still increased in the early 1990s. The unemployment rate increased between 1995 and 2003, from 17 – 28% and from 29 – 42% (based on the narrow definition of unemployment), and from 29 – 42% (based on the broad definition of unemployment) (Hodge, 2009:489). Consequently, South Africa now has one of the highest rates of unemployment in the world, even as per the official narrow (but potentially misleading) definition (Hodge, 2009:489).

The six-year moving average growth trend is portrayed in Figure 1.1 from 1947–2007. The figure depicts the high levels of growth in the 1950s and 1960s, declining afterwards from the early 1970s, hitting rock bottom in the early 1990s, before recovering from this historic low (Hodge, 2009:489). The average growth rate in the 1990s was not much different from that of the 1980s (1.4% to 2.1%) and the economy grew on average by 0.1% per annum from 1990–1994 and by 2.6% per annum from 1995–1999 (Hodge, 2009:490).

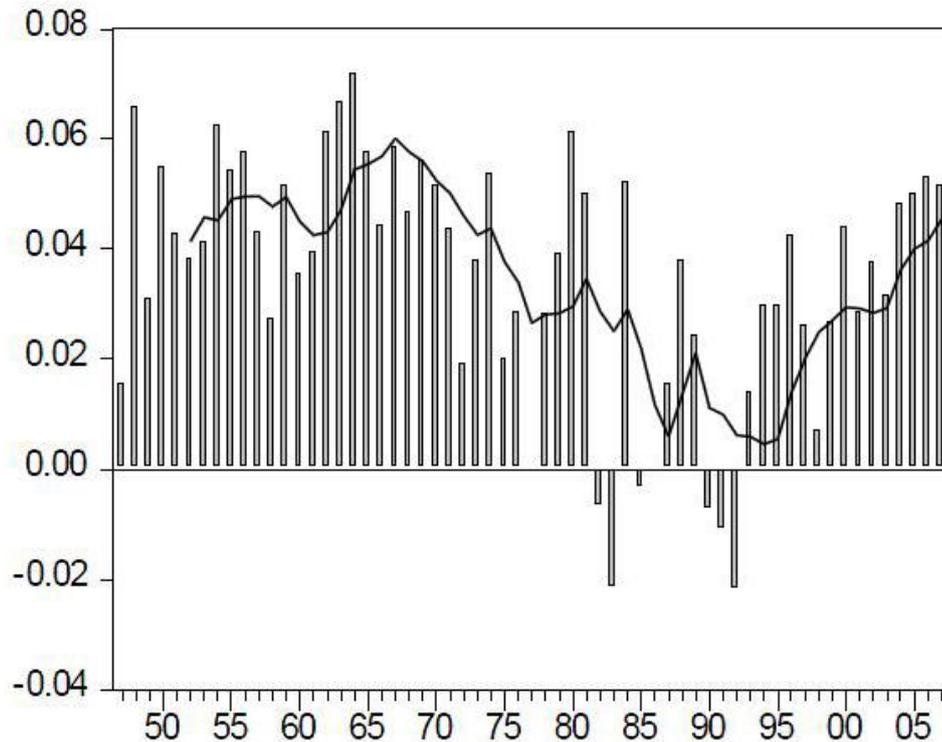


Figure 1.1: Annual and six-year moving average growth in real gross value (RGV) in South Africa (1947–2007)
 Source: Adapted from Hodge (2009:49)

In 2008, the inflation rate was closer to 10% and there was an increase in living expenses (Luttig, 2010:15). In spite of higher than normal wage settlements, the average increase was lower than the average CPI, lowering households' disposable income (Luttig, 2010:15). The sub-prime mortgage crisis of 2008 in the United States of America (USA) affected the mortgage market of the world. South Africa survived the crisis due to SARB's strict regulations and controls. The SARB is the lead regulator for the South African banking sector.

South Africa (SA) is a peripheral player, which means that the country's well-being depends on its exports. It is the largest producer of mineral commodities, including platinum, gold and chromium (Freeman, 2008:702). Even though the country escaped the global recession of 2008, the eurozone debt crisis can harm SA because SA is the European Union's largest trading partner in Africa (Moss, 2011). The crisis occurred because Europe took on too much debt and this led to downgrading by the rating agencies. The eurozone challenges could be controlled as long as they are limited to small economies (Greece, Ireland

and Portugal), whose individual GDP is less than 3% of the eurozone total (Steinbock, 2013:109). In 2011, Spain and Italy joined the gallery and they account for 30% of regional GDP, which is too big for their economies to fail (Steinbock, 2013:109). Europe is SA's second largest trading partner (Moss, 2011) and this could put a damper on the economic growth.

1.5 PROBLEM STATEMENT

The purpose of this research was to determine whether mortgage lending is better or worse off since the implementation of the NCA. In terms of the NCA, mortgage lending to an individual should be undertaken after carrying out due diligence on a prospective client. It can be argued that the due diligence required of banks by the NCA does disadvantage some mortgage finance applicants in several respects. Firstly, the fact that an individual's creditworthiness is assessed on current income does not take into account the individual's future income and the long-term nature of mortgage finance. In essence, it is contrary to the life cycle theory of consumption as propagated by Modigliani and Brumberg (1954; 1980). Secondly, the assessment of creditworthiness is based entirely on regular verifiable sources of income. It does not take into account informal sources of income (e.g. remittances) that sometimes may be dominant in low-income groups (Modigliani & Brumberg, 1954). The result is that the NCA could actually work against the low-income segment of the population, the very segment which authorities sought to protect. Thirdly, the NCA is based on an individualistic society and not a communal society as is present in the low-income segment of the population of South Africa. In a communal society, an individual's creditworthiness may be group-based, something that banks do not take into account in their assessment. An individual who seeks a mortgage loan is not independent, but could be representing many family members who will live in the same household and assist in the repayment of the loan. It can thus be hypothesised that the NCA has negative effects on residential mortgage financing of the low-income segment of the population.

Since the Act came into effect on 1 June 2007, it is not known what its impact has been on residential mortgage lending in South Africa. This study investi-

gated how the NCA has impacted on residential mortgage lending. It focused on residential mortgages which are regulated by the Act. It should be noted that commercial and farm mortgages are not regulated by the NCA.

The impact of the NCA on mortgage lending in general was discernible from trends of mortgage lending prior to and post-implementation of the Act. This was gleaned from an empirical analysis of volumes of mortgages granted over several years.

1.6 OBJECTIVES OF THE STUDY

This study aimed to investigate the impact that the NCA has had on residential mortgage applications through banks over the period 2001–2011. The following secondary objectives were formulated:

- i) To determine if the NCA has had a positive or negative impact on residential mortgage financing in South Africa.
- ii) To determine whether implementation of the NCA affected the acceptance rates of total mortgage lending.
- iii) To examine the trend of residential mortgages after the implementation of the NCA.
- iv) To determine the effect of the implementation of the NCA on further advances on mortgages in South Africa.

1.7 RESEARCH METHODOLOGY

1.7.1 Quantitative research

Since the date of the implementation of the NCA is known, the applications before and after implementation could be analysed using the t-test. T-tests are used to assess the significance of individual b-coefficients, and particularly testing the null hypothesis that the regression coefficient is zero (Tustin, Ligthelm, Martins & Van Wyk, 2005:657). In order to minimise the effects of confounding factors such as external shocks that cannot be fully controlled, the time series of monthly approved, residential mortgage applications in the year prior to implementation of the NCA were compared with the time series of

monthly approved applications from 2008. The reason for using data from 2008 is that prior to 2008 there might be variances and discrepancies in the data, as some definitions changed between the old DI900 and new BA900 forms and there were also some differences between the accounts included/not included by the banks prior to 2008. DI900 was replaced by BA900. BA900 comprises of data on individual banks, institutional level as well as aggregated total and must be merged with the balance sheet that banks and mutual banks submit for bank supervision (SARB, 2016).

Using a t-test for comparison, testing proceeded with the analysis of the time series of monthly mortgage applications data under the following assumptions:

- The data is quantitative and plausibly normally distributed, or at least amenable to application of the Central Limit Theorem.
- The samples of pre- and post-NCA mortgage data come from distributions that may differ in their mean value, but not in the standard deviation.
- The mortgage data pre- and post-NCA is independent of each other.

The latter assumption is the most important as it enables observations of pre-NCA mortgage data to be separated from those post-NCA. The t-test for independent samples and descriptive statistics were therefore used for analysis. Trend analysis was also used for analysis.

1.7.2 Data collection

Registered data on monthly residential mortgages was obtained from Lightstone Property for the period January 2001 to August 2011. Secondary data was collected from the BA900 of the SARB to see how many loans were approved and rejected between 2008 and 2014. The target group was banks in South Africa. The weakness of using secondary data (i.e. information is collected for purposes other than the study) was not applicable in this study as banks need to comply with the NCA and the compliance information is exactly what was needed for the purpose of the study.

1.8 STATISTICAL ANALYSIS TECHNIQUES

The following statistical analysis techniques were used for each of the objectives above:

Objective 1: T-test (comparison of means), descriptive statistics, correlation analysis and trend analysis

Objective 2: Trend analysis using mortgage number and value

Objective 3: Trend analysis using mortgage number and value

Objective 4: T-test (comparison of means), descriptive statistics, correlation analysis and trend analysis

1.9 KEY DEFINITIONS

Consumers can be defined as those who buy, obtain and use all kinds of goods and services (Khuzwayo, 2013:8).

According to Khuzwayo (2013:10), credit is a trade practice to which goods or services are supplied to a receiver, and where the parties agree that the receiver is allowed to pay for the goods or services at a future date.

Credit agreement can be defined as a credit facility, where a credit provider agrees to supply goods and services or to pay certain amounts to the consumers or on the behalf of consumers (Mlandu, 2007:5).

A credit provider with regard to a credit agreement to which the Act applies means the party responsible for the provision of goods or services under a discount transaction, an instalment agreement or an incidental credit agreement (Stander, 2012:12).

According to Le Roux (2011:3), housing can be described as a broad term that includes houses, flats and other housing typologies, as well as infrastructure and can include the whole residential neighbourhood, including public spaces.

A home loan means a loan or advance by a financial institution to a person for purposes of constructing, purchasing, renovating or improving in any way such

person's home, with the security of a registered mortgage bond or any other form of accepted security (Home Loan and Mortgage Disclosure Act 63 of 2000).

A financial institution is any bank or mutual bank registered as such under the Banks Act 94 of 1990, or the Mutual Banks Act 124 of 1993, or any other registered financial institution whose business is, in full or in part, either the acceptance of deposits from the general public, the advance of credit to persons or both such acceptance and advance, with the security of a registered mortgage bond or any other form of accepted security, for the purpose of providing home loans (Home Loan and Mortgage Disclosure Act 63 of 2000).

According to Luttig (2010:3), over-indebtedness is when individuals are not able to pay all their debts in a timely manner, which leads to feelings of panic, stress and being overcome by the number and extent of these overdue debts.

Regulation is generally defined as a set of enforceable rules that limit or direct the actions of market participants and as a result modify the outcomes of these actions (Davids, 2008:17).

A mortgage bond can be defined as an agreement between borrower and lender, binding upon third parties once it is registered against the title of the property that upon default the lender will be entitled to have the property sold in satisfaction of the outstanding debt (Brits, 2012:39).

The NCA is a new piece of consumer legislation aimed specifically at regulating the consumer credit market, and was implemented in full force during 2007 (Brits, 2012:4).

1.10 LIMITATIONS OF THE STUDY

Limitations of the study can be explained as factors that may have an impact on the interpretation of the findings or on the generalisability of the results (Moaisi, 2013:65). This study depended on the availability of time series data on mortgage lending in South Africa. Moreover, such data ideally had to be stratified in terms of Living Standard Measures (LSM) of clients to evaluate the impact on

the most vulnerable group in the population. However, mortgage data collected by the SARB is publicly available in aggregate format. Due to confidentiality issues, providers of mortgage finance were not helpful.

Another major limitation of the study is that the trend of mortgage lending cannot only be explained by the NCA. There are a number of factors or rather intervening factors other than the NCA that could have affected mortgage lending. The challenge was to separate the effect of such factors from those of the NCA. These factors could be the increase in interest rates and inflation. The financial crisis in the USA and Europe could also have played a role.

A limitation of this study is that data was only available from 2001, restricting the number of observations to 51 on either side of the window period. As a consequence of this limitation, the periods 2001–2005 and 2007–2011 were considered for the analysis. Another limitation of the study is that from 2001 to 2007, the SARB only had data on total mortgages applied for and approved. However, data were available for total mortgages applied for and approved from January 2008. The data from the Reserve Bank data source (Basel I Form DI910) did not have the residential figures for January 2001 – December 2007. This is the reason why only total mortgages approved from January 2008 to January 2014 were considered.

1.11 ETHICAL CONSIDERATIONS

Tustin *et al.* (2005:42) define ethics as “what is believed to be acceptable (good) or unacceptable (bad) in human behaviour”. Cooper and Schindler (2014:45) define ethics as “the norms or standards of behaviour that guide moral choices about our behaviour and our relationships with others”. Business ethics are “a sub-set of the values kept by society as a whole and are largely determined by family, educational and religious institutions” (Tustin *et al.*, 2005:42). Research ethics link to questions about how the research topic is formulated and clarified, how the research is designed and access gained, how data is collected, processed, analysed and stored, and the research is written up in a moral and responsible manner (Saunders, Lewis & Thornhill, 2009:418).

Cooper and Schindler (2014:45) identify several ethical considerations at the research design stage:

- The rights of the participant or subject must be protected.
- The sponsor must receive ethically conducted and reported research.
- Ethical standards must be followed when designing research.
- The safety of the researcher and team must be protected.
- The research team must follow the design.

Secondary data was obtained from the SARB and from Lightstone Property. Ethical clearance for the study was obtained from the Research Ethics Review Committee of the University of South Africa (Unisa). This study conformed to the generally accepted norms and values as stipulated in the Unisa Research Ethics Policy document.

1.12 SUMMARY AND CHAPTER OUTLINE

In this chapter the background of the NCA was discussed, followed by the research problem and questions. The rest of the chapters are set out as follows:

- Chapter 2 contains a review of literature relevant to the study. Such literature relates to the theory of regulation in general and in particular the theory that pertains to the regulation of consumer credit.
- In Chapter 3 the literature regarding the regulation of mortgage finance is reviewed and international practices in this regard are examined.
- In Chapter 4 the methodology used to investigate the research objectives is described. This includes the nature of data collected and research techniques applied. In addition, limitations of the methodology used are discussed.
- Chapter 5 presents the results and their interpretations. The impact of the NCA on mortgage lending is discussed in this chapter and findings are compared to the predictions of theory and literature.
- Finally, Chapter 6 presents the conclusions of the study and policy implications of the results are discussed.

CHAPTER 2

MORTGAGE LENDING AND REGULATION: A THEORETICAL PERSPECTIVE

2.1 INTRODUCTION

This chapter provides an overview of mortgage lending and the theories of regulation.

2.2 MORTGAGE LENDING

We live in a rapidly globalising world and our domestic economy is increasingly interdependent on the economies of other nations; this interdependence has provided great benefits to the world (Feldman, 2013:405). New challenges have appeared at the same time, including a severe strain on the capacity of US agencies to regulate. In response to these pressures, regulators have turned their attention outward and often participate with their foreign counterparts to complement regulatory standards (Feldman, 2013:405).

Housing finance brings together complex multi-sector issues that are directed by frequently changing local features, for example the regulatory environment, political system, legal environment, culture and economic makeup (Chiquier & Lea, 2009). Although a mortgage market displays similarities across countries, it does differ from country to country due to differences in legal systems, cultural backgrounds and market infrastructure (Laferrère & Le Blanc, 2012:434). The penetration of housing finance has improved radically in developed economies since 1993 and residential mortgage markets represent between 50% and 100% of the gross domestic product (GDP) in the US, European countries, Japan and Australia (Chiquier & Lea, 2009). Housing finance is also developing in more emerging markets, although at different speeds and with different outcomes across countries (see Figure 2.1). It has also reached significant levels in a few middle-income countries (the Republic of Korea, South Africa, Malaysia, Chile, Baltic countries), with residential mortgage debt amounting to 20–35% of GDP over the last 20 years (Chiquier & Lea, 2009).

Housing finance over the past five years has also made inroads in quite a few other “latecomer” countries such as China, India, Thailand, Mexico, most of the new European Union (EU) countries, Morocco, Jordan and lately in many more countries, including Brazil, Turkey, Peru, Kazakhstan and the Ukraine where mortgage markets stand at 6–17% of the GDP (Chiquier & Lea, 2009). Improvement is also detected in a few lower-income economies, including Indonesia, Egypt, Ghana, Pakistan, Senegal, Uganda, Mali, Mongolia and Bangladesh, but not on a large-enough scale to address some of the chronic housing issues they face (Chiquier & Lea, 2009). Housing finance remains available only to the middle and upper levels of the salaried income-distribution structure of households in most emerging economies, as depicted in Figure 2.1 (Chiquier & Lea, 2009).

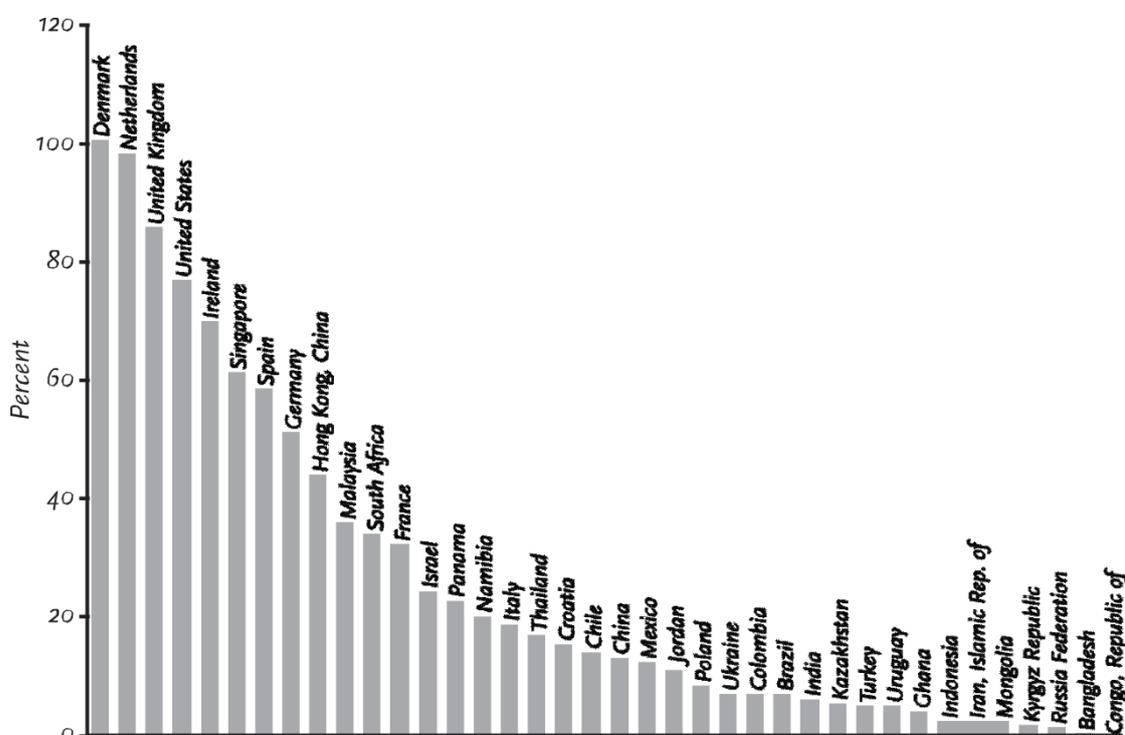


Figure 2.1: Selected housing loans to GDP ratios
 Source: Chiquier and Lea (2009)

According to the Financial Services Authority (FSA) of the United Kingdom (UK) (Lunde, Scanlon & Whitehead 2011:41),

“our policy approach to date has been underpinned by a view that mortgage consumers will act rationally to protect their own interests. We believe that we need to change that approach, recognise the behavioural biases of consumers and be more interventionist to help protect consumers from themselves”

This means that mortgage consumers must act more responsibly in order to make more informed decisions when it comes to their finances. It will also be to the consumers' advantage to undergo consumer education. This regulatory division has been criticised generally for being a result of regulatory history instead of rational policy (Nield, 2010:612). FSA regulation brings together the supervision of secured credit and the regulation of the financial institutions that primarily offer credit, particularly building societies and banks (Nield, 2010:612).

According to Cummings (2008:96), the FSA has four statutory objectives:

- Market confidence – to maintain confidence in the financial system;
- Public awareness – to promote public understanding of the financial system;
- Consumer protection – to secure a suitable degree of protection for consumers;
- The reduction of financial crime – to lessen the extent to which it is feasible for a business to be used for a purpose linked with financial crime.

All these are supported by a set of principles of good regulation. This high level of regulatory inspection brings with it benefits, including consumer protection, but also strict penalties (Cummings, 2008:97). This means that all those in responsible positions in organisations must understand their regulatory responsibilities and seek to fulfil them completely (Cummings, 2008:97).

There are a number of different models for housing finance systems and in practice the majority are centred on the banking system, either directly or indirectly (Boleat, 2003:4). Kajimo-Shakantu and Evans (2006:24) identify four basic models of housing finance, as shown in Table 2.1. Each model gives typical examples and a brief description of the housing finance. Most low-income groups experience barriers in accessing financing to meet their housing needs (Kajimo-Shakantu & Evans, 2006:24). There is a difference between the demand requirements of poor households and the supply requirements of the formal finance sector (Kajimo-Shakantu & Evans, 2006:24). For instance, loan size, period of loan repayment, consistency of the principal repayments, the language used for writing loan conditions and an acceptable form of security must be considered (Kajimo-Shakantu & Evans, 2006:24). Mortgage lending is

simply a special type of bank lending and it would be foolish to regard it as separate from the housing finance system because in most countries banks are the most important lenders (Boleat, 2003:4). Credit Agricole is the largest lender in France, the savings banks are the biggest lenders in Germany and in America the commercial banks, directly and indirectly, are amongst the largest lenders (Boleat, 2003:4).

Table 2.1: Basic models of housing finance

Model	Revolving credit system	Specialised housing finance institutions	Public financing	Mortgage financing
Typical examples	Rotating savings system and credit associations	Building societies	Organisations and parastatals	Commercial banks
Brief description	Common among the low-income group in developing countries, often supported by donor agencies. Use personal daily savings to create a 'revolving fund'.	Common in the UK (and in its former colonies). Though operate like banks, they mostly specialise in property. Use savings deposited by the public to provide home loans.	Common in centrally planned economies where public agencies direct finances to housing programmes based on public funds.	Common, but highly constrained in developing countries. Use customers' short-term savings (deposits) to lend for housing development on long-term basis (typically 10–30-year mortgages).

Source: Adapted from Kajimo-Shakantu and Evans (2006:24)

The consumer is seen by the neo-classical model of market regulation as a rational actor capable of making responsible borrowing decisions best suited to their needs, assisted by the provision of relevant, accurate and timely comparative information (Nield, 2010:616). Lenders need to provide prescribed information to the mortgagor before and during the course of the mortgage transaction, this is one of the fundamental principles underpinning the regulation of the home mortgage market, whether under the Financial Services and Markets Act 2000 (FSMA) or the Consumer Credit Act 1974 (CCA) (Nield, 2010:616).

Since 2007, housing and finance markets have experienced one of the greatest periods of instability in modern history (Lunde, Scanlon & Whitehead *et al.*, 2011:23). The boom in house prices was followed by a bust, the enormous

growth in the availability of mortgages was reversed and mortgage terms became more limited (Lunde *et al.*, 2011:23). The sub-prime mortgage crisis was a failure of responsibility at each level: borrowers, investors, lenders, investment banks, appraisers, rating agencies and the regulators (Schmudde, 2009:725). The problems were mainly serious in countries where high percentages of households had mortgages, where the amount of mortgage credit had increased and/or where debt levels were high (Lunde *et al.*, 2011:25). The consequences of the credit crunch shook the faith in the discipline of the market and its regulation, on principles of responsible lending and responsible borrowing (Nield, 2010:632).

Promoting fair lending practices amongst financial institutions that provide home loans is the objective of South Africa's Home Loan and Mortgage Disclosure Act (Itzikowitz, 2000:620). The Disclosure Act, which is based primarily on the US Home Mortgage Disclosure Act (HMDA) and to a minor extent on the Community Reinvestment Act (CRA), states that financial institutions that provide home loans should release their lending information in their financial statements and reports but does not force them to do so (Itzikowitz, 2000:620). The CRA, which was approved in 1977, stated that all banking institutions should be evaluated to see if they were meeting the credit needs of their local community satisfactorily; the Act did not anticipate that institutions would make high-risk loans (Schmudde, 2009:727). Some lenders display irresponsible decision-making, by not executing sufficient checks on the borrower's ability to repay and by promoting high-risk mortgages (Nield, 2010:632). Effective measures to entail greater confidence in financial markets are being implemented and regulators have tightened their grip (Nield, 2010:632).

The traditional and still main mechanism for formal sector finance of housing in many countries is the retail depository institution where an institution gathers savings from households and enterprises and makes loans to homebuyers in this system (Figure 2.2) (Chiquier & Lea, 2009). By taking savings from non-homebuyers, depository institutions can enter a wider pool of funds than via dedicated savings, including a stable stack of deposits at a reasonably cheap funding cost, as depicted in Figure 2.2 (Chiquier & Lea, 2009).

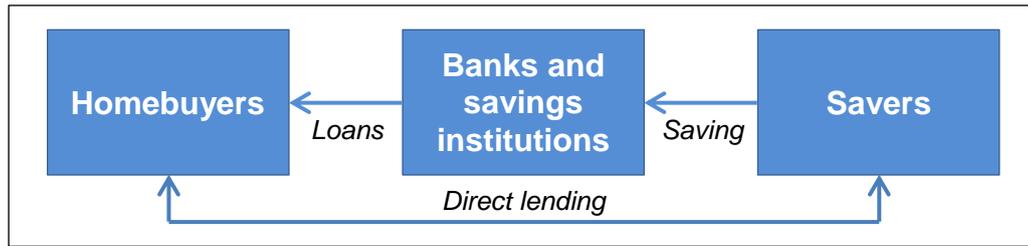


Figure 2.2: Depository and direct lending

Source: Chiquier and Lea (2009)

2.3 THEORIES OF REGULATION

The regulation approach was created in the mid-1970s by a group of French economists who were concerned about analysing the regulation of the economy in its widest sense (Goodwin, 2012:22). They determined that capitalist growth depends on economic and extra economic factors (Goodwin, 2012:22). Pieterse (2009:28) defines the term “regulation” as a general term including:

- regulation (the establishment of specific rules of behaviour);
- monitoring (observing whether the rules are obeyed);
- supervision (the more general observation of the behaviour of financial firms);
- enforcement (ensuring that the rules are obeyed).

James (2009:185) points out that regulation involves “the analysis of the way in which transformations of social relations create new economic and non-economic forms, organised in structures that reproduce a determining structure, the mode of production”. The focus of regulation theory is on the medium- and long-term workings of the capitalist system and how the system keeps long periods of relative stability through a unique outlook on the relationship between the capitalist system and the structures it operates in (Cocks, 2009:457). Regulation theory emphasises the variability and discrepancy of capitalism, and sees it as a social and economic system that is assessed as a social and economic system and this is where the link to housing appears (Goodwin, 2012:22).

Economic theory claims that regulators will try to maximise some objective function by implementing regulatory policies whereby certain interest groups will gain (Beard, Kaserman & Mayo, 2003:593). Even though regulators might not

care openly about the welfare of producers or consumers, the benefits and costs forced on sellers and buyers by regulation form the foundation of regulator rewards (Beard *et al.*, 2003:593). Even though the economic theory of regulation is given some level of discretion over the regulatory decisions made, regulatory commissions will implement policies that maximise their utility rather than some index of overall social welfare (Beard *et al.*, 2003:593).

The difference between economic and social regulation is that economic regulation comprises structural and conduct regulation. Structural regulation is used for regulating market structure, whereas conduct regulation is used to regulate behaviour in the market (Den Hertog, 1999:234). Social regulation focuses on the environment, labour conditions, consumer protection and labour (Den Hertog, 1999:234). This explains the linkage to housing, because different housing systems are linked in different ways to processes of production and consumption within a broad economic system like capitalism (Goodwin, 2012:22).

According to Rethel (2012:124), the focus was on debt in the global financial crisis of 2008. It alerted us to the struggles faced by advanced economies, be these in the form of the difficulties caused by rapidly increasing levels of household debt, known as sub-prime loans in the USA, extended to riskier borrowers with poor credit records and little capacity to repay, or the current distress of the eurozone (Rethel, 2012:124). Attention was drawn to the heterogeneous and developing nature of debt itself, at least in those countries that were overwhelmed in the crisis. Emerging market debt, by contrast, is still largely seen as a huge phenomenon and not a lot of attention has been paid to better understand its complexities (Rethel, 2012:124). Until the late 1980s, government debt dominated the emerging market debt and the publicly guaranteed debt of state-owned enterprises, normally in the form of bank loans (Rethel, 2012:126). This is no longer the case because privatisation led to the replacement of public debt by private corporate debt (Rethel, 2012:126). Access to credit has increasingly come to be seen as a public good over the last decades. With the active assistance of donor governments and the international financial institutions, especially the World Bank, credit has been aimed at low-income classes in developing market economies through microfinance schemes (Rethel, 2012:138).

Making credit broadly available has become a public policy issue of increasing importance and it has served as a justification for the proliferation of exactly those forms of financial innovation that were at the centre of the global financial crisis (Rethel, 2012:138). The position of individuals has been empowered as their access to credit has been made easier (Rethel, 2012:138).

At first glance, in many emerging market economies the increase in household debt seems to have been more than matched by a boost of asset ownership. However, experience suggests that asset and debt ownership are not equally distributed across the population regarding age, gender and income (Rethel, 2012:138). More attention should be paid to the cyclical nature of house prices, because mortgages are the biggest single component of emerging market household debt (Rethel, 2012:138).

There has been increasing public concern about scholarly attention to consumer debt over the past two decades (Caputo, 2012:8). A rise in borrowing between families in the US was noticed in the 1990s as family debt and assets grew in tandem between 1989 and 1995 (Caputo, 2012:8). US household debt grew from about 60% of GDP in 1990 to nearly 100% in 2008, paralleling increased personal consumption from about \$5.32 trillion (in 2010 dollars) peaking at about \$10.25 trillion (Caputo, 2012:8). From the 2008–2009 recession, a slow recovery triggered by the sub-prime mortgages-related financial crisis kept debt at the forefront of public concern even as interest rates subsequently reached lows not seen since the 1950s (Caputo, 2012:9).

The financial crisis and recession have left a legacy of historically high and rising levels of public indebtedness across the advanced economies and the central discussion across Europe, Japan and the US is now on how to stabilise the rising public debt/GDP ratios, because post-crisis growth remains shaky (Reinhart, Reinhart and Rogoff 2012:69). Public debt overhang and slow growth are surely a simultaneous relationship: countries experiencing a period of slower growth may be more vulnerable to ending up with very high levels of public debt, and once the public debt overhang arises, countries with slower growth are going to take longer to escape it (Reinhart *et al.*, 2012:70).

Several leading banks in the US and Europe suffered from a sharp decline in the value of mortgage-backed securities which caused a broader financial collapse in summer of 2007 (Goodwin, 2012:26). Regulation theory permits us to see the impact of economic and social shifts on the development of housing consumption and production, but also allows us to analyse the contribution that housing and consumption make to these wider economic and social paths (Goodwin, 2012:26).

The responsibility of setting regulations has been moved from municipalities to central governments with the general aim of creating more consistency (Branco *et al.*, 2012:618). Regulation can be defined as the employment of one or more legal instruments for carrying out socio-economic policy objectives (Den Hertog, 2010:3). A characteristic of a legal instrument is when government can force individuals or organisations to abide by the prescribed behaviour under penalty of sanctions (Den Hertog, 2010:3). Corporations may be obliged, for instance, to supply certain goods, to perceive certain prices, to be out of certain markets, to apply particular techniques in the production process or to pay the legal minimum wage (Den Hertog, 2010:3). Regulation can be classified into four elements which are best explained on a spectrum ranging between no regulation and statutory regulation, see Figure 2.3 (Blom, 2012:17). The change in the governance and in the economic environment leads to the need to put into action a regulatory framework. Through analysis of the different formats, the suitable model to implement would be ‘tacit’ self-regulation, as there is no governing or statutory body supporting the mortgage industry (Blom, 2012:17).

No regulation	Self-regulation	Co-regulation	Statutory regulation
No explicit controls on an organisation	Regulations are specified, administered and enforced by the regulated organisations	Regulations are specified, administered and enforced by a combination of the state and regulated entities and the regulated organisation	Regulations are specified, administered and enforced by the state.

Figure 2.3: Elements of regulation

Source: Blom (2012:17)

The theoretical design of effective regulatory mechanisms has been the topic of many papers (Blank & Mayo, 2009:235). South Africa follows a market-oriented approach with regard to the operation of economy, which means minimum interference by the authorities because the market mechanism is to achieve the highest efficiency in resource allocation (Davids, 2008:19). The South African government understands that intervention by the authorities is justified because of market imperfections (Davids, 2008:19).

Credit direction has been used to defeat market failures in some countries and the Community Reinvestment Act of 1977 in the US seeks to prevent denying of services to underserved areas by insisting on banks' minimum requirements to offer financial services (Chiquier & Lea, 2009). This approach in underdeveloped markets is fruitless if the basic environment remains weak, specifically in terms of sufficient funding and effective credit risk management tools (Chiquier & Lea, 2009). Quotas for home lending in Nigeria, e.g. 5–6% of total lending, were prescribed in the early 1980s, but remained useless because of the weaknesses of the lending environment, and despite sanctions provided by the Central Bank, regulation fell out in 1993 (Chiquier & Lea, 2009).

According to Goodwin-Groen and Kelly-Louw (2006:16), the Wallis Report (1997) on the purpose of regulation states as follows:

“The first purpose (of regulation), which applies in all sectors of the economy, is to ensure that markets work efficiently and competitively. Regulation for this purpose includes rules designed to promote adequate disclosure, prevent fraud or other unfair practices and prohibit anti-competitive behaviour such as collusion or monopolisation. This type of regulation does not materially alter or prescribe the nature of products or services, but simply aims to ensure that they are traded in fair and efficient markets.”

This means that regulation must be fair and the markets it's trading in must be efficient and competitive.

Encouraging financial institutions to assist lower-income groups through contractual arrangements can be a more successful approach, which can better take into account lenders' constraints (Chiquier & Lea, 2009). South Africa chose this

path; in 2005 the largest commercial banks signed a memorandum of understanding with the government in which they devoted themselves to offer a certain volume of loans to the low-income market segment over four years in line with the broader 2003 Financial Sector Charter (Chiquier & Lea, 2009).

According to Blank and Mayo (2009:238), the objective of the regulator is the maximisation of political support. The regulator is subjected to interest group pressures from consumers and firms (Blank & Mayo, 2009:236). This pressure results in an objective function for the regulator and includes profits, price and the regulated firm's rate of return (Blank & Mayo, 2009:236). Regulation is certainly not an easy task and the ideal regulator needs to be independent of the government so that ministers are not able to force them to do things which make no viable sense for the lenders, e.g. lending at inefficient interest rates (Boleat, 2003:8). The regulator should not be single-mindedly concerned with protecting the financial health of the institutions they regulate and the easiest way to do this is to prevent them from making any loans (Boleat, 2003:8).

A lot of regulatory bodies are primarily risk managers and they prevent some bad consequences within their field of regulation from affecting the public at large (Buttimer, 2011:15). They seek to identify, quantify and then ultimately handle the risk for which they have responsibility as risk managers (Buttimer, 2011:15). They have limited resources and must place those resources where they will be most useful. Their risk management view either explains risk in a new way and leads the industry, or complements the understanding of risk within the regulated industry (Buttimer, 2011:15). The regulator must be a keen party in the overall objective of developing an effective mortgage market (Boleat, 2003:8).

The administrative state faces a crisis where regulators are charged with supervising complex realms of human action (Weber, 2012:738). The problem of regulator-bounded rationality arises as less of an obstacle to be conquered than a structural obstacle to effective policy (Weber, 2012:738). This problem is nowhere more apparent than in the financial sector, where today as in previous decades, regulators are liable for ensuring systemic financial stability and

supervising individual institutions, regardless of the increasingly complex market environment (Weber, 2012:738).

It is fundamental to recognise that countries vary substantially in their stage of credit market development, profile of credit providers and products, level of credit penetration and regulator capacity (Davel, 2013:2). There are also large differences in credit market development within a country, including a certain population segment (e.g. civil servants or salaried workers) or geographic area (e.g. urban centres) which may be saturated while others still struggle with basic financial access. These factors affect the risk of debt stress as well as the nature of the policy response. An overly restrictive or prescriptive regulatory environment may limit the ability of credit providers to introduce innovative products or delivery channels. This in turn can undermine credit market development and strategies to increase access to finance. Thus, the priority in early-stage markets should be on monitoring early warning indicators and creating enabling infrastructure such as credit bureaux, or removing legislative obstacles to lending (Davel, 2013:2).

Three theories of economic regulation will be discussed. They are welfare theory or public interest theory of regulation linked to Pigou (1938), contracting theory linked to Coase (1960) and lastly Stigler's capture theory (1971).

2.3.1 Public interest theory

Public interest theory can be described as the best possible distribution of resources to individuals and collective goods and services to society (Den Hertog, 2010:5). This means that the distribution of resources by market mechanism is optimal (Den Hertog, 2010:3). The public interest theory of regulation is supported by two assumptions (Shleifer, 2005:440). The first assumption is that unconstrained markets fail due to problems of monopoly or externalities and secondly, governments are kind and competent to rectify these failures in markets through regulation (Shleifer, 2005:440).

This theory of regulation is a guideline for what governments should do and an explanation of what they actually do (Shleifer, 2005:440). The government manages prices with the intention that natural monopolies do not charge too

much; for instance, to avoid accidents such as fires or mass poisonings, they put safety standards in place, regulate pathways to the employer's monopsony power over employees to operate, regulate security issuances so the investors will not be deceived, and so forth (Shleifer, 2005:440). The government must ensure that the market is fair and that no discrepancy takes place.

Public interest theory was known as the Bible of socialist and other left-leaning politicians and is also the basis of modern public economics that has been used to explain the growth of public ownership and regulation in the twentieth century (Shleifer, 2005:440). This theory was also criticised by people, mainly from the Chicago School of Law and Economics, they maintained firstly, that there should be no need for government intervention or regulation because markets and private orderings can look after the failures in the markets. Secondly, where there is a situation where the markets are not functioning well, the conflicts that market participants might have can be addressed through private litigation. Thirdly, regulation would make things even worse if markets and courts cannot solve all problems due to government regulators being incompetent, dishonest and captured (Shleifer, 2005:440). Effective government involvement and market failures are vital to public interest theories, and regulation increases social welfare according to these theories (Den Hertog, 2010:2).

The private interest theories of regulation are related to a number of theories in the field of public choice. They change into theories of political actions, depending on the efficiency of the political process, and social welfare either increases or decreases (Den Hertog, 2010:2). The theory was soon criticised for its Nirwana approach, proposing that theoretically efficient institutions could be seen to efficiently replace or adjust inefficient real-world institutions (Den Hertog, 2010:5). This led to the development of a more serious public interest theory of regulation, which has been variously referred to as the New Haven or progressive school of law and economics (Den Hertog, 2010:5). The transaction costs and information costs of regulation were assumed to be zero in the original theory and by calculating these costs, better public interest theories developed (Den Hertog, 2010:5).

2.3.2 Contracting theory

According to Coase's (1960) contracting theory as cited in Shleifer (2005:441), the courts are relied upon to enforce contracts and common law rules for torts where competition and private orderings have not succeeded in addressing market failures. It involves the assumption of the absence of freely available processed information in the political process and transaction costs (Den Hertog, 1999:235). In the case of faulty information, political entrepreneurs can identify the causes of market failure and report them to those involved (Den Hertog, 1999:235). When transaction costs are present, then regulation can form a more effective solution to market failure than private negotiations between the parties involved (Den Hertog, 1999:235). Torts are often pointed out by advocates of libertarian and laissez-faire viewpoints and leading economists as another way to countervail market forces that may hurt consumers, workers and the public interest (Etzioni, 2009:322). Those hurt by corporations, they argue, can charge them for damages, punishing and thus effectively preventing bad behaviour without recourse to government regulations (Etzioni, 2009:322). Supporters of this view ignore the fact that torts themselves reflect the law, and in this sense are regulated (Etzioni, 2009:322).

2.3.3 Capture theory

In the 1950s and 1960s early versions of capture theory were advanced by political scientists, whose studies of the life cycle of regulatory agencies contested the classic public interest theory of regulation and its assumption of a caring regulator (Etzioni, 2009:319). Traditional regulatory capture theory assumes that regulators understand the markets they regulate and if they did not understand the markets, they would not be able to identify the slack and exploit it (Weber, 2012:657). Political scientists developed capture theory mainly after public interest theory failed through empirical and theoretical research (Den Hertog, 2010:22).

Capture theory is applied in regulatory agencies when private actors, seeking to reduce the cost of compliance, persuade regulators to adjust rules or be lenient in enforcing those rules (Davis, Soule & Thomas, 2010:448). The relationship is

not unfair, since agencies have independent power to manage their political constituencies (Davis *et al.*, 2010:448). Another line of research reasons that capture is more likely to occur when professional norms and beliefs in an agency fail to counter industry influence, yet norms and beliefs offer a counterweight only if they deviate from regulated industries (Davis *et al.*, 2010:448). Capture is more likely to happen when a public agency regulates one or few industries and its professional norms and beliefs are in line with the industry or industries (Davis *et al.*, 2010:449).

Capture theory questioned the assumptions of a kind and capable government and this is the core of Stigler's theory. In 1971, Stigler developed a positive model of regulatory behaviour built on the proposal that regulators will not serve a single social interest, but rather their own and are motivated by political pressure for redeployment (Blank & Mayo 2009:235). Capture theory is made up of two basic propositions. Firstly, is the political process of regulation captured by the industry? Regulation is used to maintain state intervention, because it fails to counter monopoly prices (Shleifer, 2005:441). Secondly, regulators try to promote social welfare, under the influence of organised consumer groups; they seldom succeed and are regarded as incompetent (Shleifer, 2005:441).

This theory is disappointing in a number of ways (Den Hertog, 2010:22). Firstly, there is an inefficient distinction from public interest theory, because capture theory assumes that the public interest underlies the start of regulation (Den Hertog, 2010:22). Secondly, it is not certain why an industry succeeds in subjecting an agency to its interests, but cannot stop it from coming into existence (Den Hertog, 2010:22). Thirdly, regulation often appears to attend to the interests of groups of consumers instead of the interests of the industry (Den Hertog, 2010:22). Fourthly, extensive regulation, such as environmental regulation, regulation of product safety and labour conditions, is opposed by companies because of the negative effect on profitability (Den Hertog, 2010:22). In conclusion, capture theory is more of a hypothesis that lacks theoretical foundation and it does not explain why an industry is able to take over a regulatory agency and why, for instance, consumer groups fail to prevent this take-over (Den Hertog, 2010:22).

2.4 SUMMARY

This chapter covered mortgage lending and theories of regulation. In this chapter mortgage lending was discussed in detail. It emphasised the importance of housing and the role that banks played in financing houses. This was followed by the conceptual framework of the theories of regulation and how credit was regulated. In the next chapter a discussion of the international practices on regulation of mortgage lending will follow.

CHAPTER 3

INTERNATIONAL PRACTICES ON REGULATION OF MORTGAGE LENDING

3.1 INTRODUCTION

In this chapter international practices on the regulation of mortgage lending are discussed. The chapter begins with the aims of the NCA and the role of the National Credit Regulator (NCR) in section 3.2. In section 3.3 the interest rate caps will be discussed, followed by consumer protection through education in section 3.4. The effect of the NCA on commercial lending institutions follows in section 3.5 and the South African model will be considered as an example for Africa in section 3.6. The three types of regulation and international credit regulations around the world are examined in section 3.7, followed by an exploration of the sub-prime crisis in the USA. The chapter concludes with an overview of the Basel Accord in section 3.8.

3.2 THE AIMS OF THE NCA AND THE ROLE OF THE NCR

Although the NCA was approved in March 2005, it was only implemented in June 2007. The NCA applies to credit cards, instalment agreements, overdrafts, leases, mortgages and micro-loans (Chipeta & Mbululu, 2012:216).

At the end of June 2011, the credit industry in South Africa was worth more than R1 trillion (Stander, 2012:9). This is why it is so important that this industry be properly regulated to protect consumers against exploitation and irresponsible credit transactions, but also to protect the rights of the lenders to ensure a feasible credit industry (Stander, 2012:9). The purpose of the NCA is (Whittaker, 2008:561):

“to promote a credit market that is fair, transparent, accessible and responsible. It also aims to promote a market that is competitive and sustainable. It specifically prohibits practices such as reckless lending and automatic increases in credit limits, and regulates interest and fees.”

This means that NCA must ensure a fair and responsible credit market and to prevent irresponsible lending.

The government of South Africa introduced various financial regulations which include the NCA, whose aim is to provide consumer protection and to support the development of an accessible credit market (Otto, 2006:6). The National Credit Regulator (NCR) was instituted by the NCA to regulate the South African credit industry. It is tasked with carrying out education, research, policy development, registration of industry participants, investigation of complaints and enforcing the NCA. Furthermore, the NCR is also tasked with the registration of credit providers, credit bureaux and debt counsellors, and enforcement of compliance with the Act.

The NCA promotes responsible borrowing, discourages reckless credit granting by credit providers and regulates consumer contractual default (Boraine & Van Heerden, 2010:2). Chipeta and Mbululu (2012:216) explain that the NCR was implemented to address the issue of high levels of indebtedness and to ensure that bank-lending procedures are clear and completely understood by the consumer. Some of the regulatory measures enforced by the NCR in terms of the NCA are elaborated on below.

According to Pillay (2009:14), the NCR is the authoritative supervisory body of the NCA and educates and creates awareness of the protection which the Act gives to consumers. Its mandate involves the registration of credit providers and monitoring of socio-economic patterns of consumer credit (Heymans & FinMark Trust 2010:9). The NCR collects data from registered credit providers and credit bureaux through various statutory returns (Heymans & FinMark Trust 2010:9).

The NCR gives advice to the government on policy and legislation and it also functions as an official body which receives and investigates complaints, enforces the Act and takes action against any contravening institutions (Pillay, 2009:14).

The NCA places the following responsibility on the NCR:

To promote and support the development, where the need exists, of a fair, transparent, competitive, sustainable, responsible, efficient, effective and accessible credit market and industry to serve the needs of:

- i) historically disadvantaged persons;
- ii) low-income persons and communities;
- iii) remote, isolated or low density populations and communities

in a manner consistent with the purposes of this Act (Government Gazette 2006). The NCA regulates the granting of credit through the NCR, which assists in the role of a National Consumer Tribunal and as a debt counselling service (Chipeta and Mbululu, 2012:216). To summarise, the NCR must ensure that the credit market is fair, transparent and accessible to the various stakeholders.

3.3 INTEREST RATE CAPS

Maximum interest rates must be set by the DTI under the Act. The Ministry of Trade and Industry, after consulting with the NCR, sets different maximum interest rates, as well as other non-interest costs of credit for the different types of credit agreements (Kelly-Louw, 2010:35). A high interest rate is one of the main reasons why consumers, especially low-income groups, lose their homes (Kelly-Louw, 2010:35). According to Mould (2008:111), the credit market is described as dysfunctional, underserving historically disadvantaged groups and characterised by insufficient transparency, lack of efficient competition and high cost of credit.

There is currently no protection in the Act for a consumer against various increases in the interest rate pertinent to their credit agreement as long as the rate falls within the range of the prescribed maximums (Kelly-Louw, 2010:33). Prior to the enactment of the NCA, interest rate ceilings were set by politicians or judges. Under the NCA the Minister of Trade and Industry must consult with the NCR before setting the caps for the sub-sectors (Whittaker, 2008:561). Even though the maximum interest rates charged by credit providers are capped, the rates which are not capped and which often vary are all still linked to the Reserve Bank repurchase rate (Kelly-Louw, 2010:33). Commercial banks use

this repurchase rate to establish their prime rate, which is a little more than the repurchase rate, allowing banks to make a profit (Kelly-Louw, 2010:33). The difference between the Reserve Bank repurchase rate and the prime lending rate of the commercial banks is currently 6.75% (South African Reserve Bank 2016).

3.4 CONSUMER PROTECTION THROUGH EDUCATION

The NCA tries to improve consumer protection within the credit market, through enforcement and consumer education (Whittaker, 2008:561). It also tries to protect consumers against reckless lending and over-indebtedness. The Usury Act of 1968 and the Usury Law Exemption Act of 1992 were not efficient in protecting consumers. The NCA requires the regulator to investigate complaints, as well as to educate consumers about their rights under the law (Whittaker, 2008:561). Mould (2008:119) explains that the drafting of a contract between a consumer and a lender must be in plain language, which means that the language must be understandable to both parties and should be clear. There must not be any confusion about the meaning of the contract to the parties. This will add to consumer protection.

Section 63 of the NCA states that a consumer has the right to receive any document in terms of this Act in an official language that the consumer reads or understands (Mould, 2008:115). This is supported by Rencke (2011:9) that consumers have the right to receive any document that is needed in terms of the Act in an official language that they read or understand and the information must be in plain and understandable language. It is fair to presume that when the consumer signs the credit agreement in the case of home loans, provided that the necessary information was supplied by the credit provider, the agreement is understood by the consumer (Mould, 2008:115). Consumer education can be a particularly helpful strategy in relation to the marketing of complex services and in the setting of particular groups of consumers (Pieterse, 2009:73). A lot of educational initiatives have been aimed at young people in formal education environments in the UK (Pieterse, 2009:73).

The credit provider must give a quotation and a statement when the credit agreement is concluded. The reason for the quotation is for the consumer to

compare it with quotations from other credit providers in order to get a better deal (Mould, 2008:115). Section 92 of the NCA lays the responsibility on the credit provider to supply the necessary details of the pre-agreement disclosures to the consumer when they go into a credit agreement (Mould, 2008:115). These details include the amount of the credit provided, the instalments made, interest rate, the initiation fee, deposit needed, credit insurance and the service fee available (Mould, 2008:115).

The purpose of the Act is to ensure that the credit provider informs the consumer what is expected of them when they enter the agreement. For example, the consumer who applied at the financial institution for a loan to buy a home is informed, but the conveyancer is responsible for registering the subsequent bond in the Deeds Office and not the financial institution (Mould, 2008:115). This is because the financial institution will have explained in detail to the conveyancer what the credit agreement entails and the conveyancer must also explain to the consumer what is expected of them in terms of the agreement (Mould, 2008:115). When the consumer understands the details of the agreement and signs it, a valid contract is created.

3.5 EFFECT OF NCA ON OPERATIONS OF COMMERCIAL LENDING INSTITUTIONS

The NCA aims to regulate all types of consumer credit and the whole range of formal sector credit providers, from retailers to micro-lenders to banks (Whittaker, 2008:561). With proper preparation, lending institutions will not have problems with the NCA because the NCA requires credit providers to provide the pre-agreement disclosures in order to inform the consumers exactly what they are entering into, adding to consensus at the eventual finalisation of the credit agreement (Mould, 2008:116). Credit information plays an important role when considering the creditworthiness of borrowers in deciding the cost of credit and making sure that borrowers are not over-indebted (Mtimkulu, 2009:1).

Prior to the NCA, the criteria for banks to extend loans were based on the consumer's debt repayments not exceeding 30% of their gross salary and did not take into account the consumer's other debt obligations (Mlandu, 2007:67).

Lenders are now forced by the Act to assess the consumer's needs holistically, by checking their salary slips other debts and information from credit bureaux on their past repayment and patterns (Mlandu, 2007:67). According to the NCR (2007:1), credit providers must check a consumer's credit record from the credit bureaux before approving an application for credit. Credit providers are expected to provide a quotation to the credit consumer, stipulating the complete details. The quotation is valid for five days, which gives the consumer sufficient time to obtain quotations from competitors (Chipeta & Mbululu, 2012:217). The consumer must give complete and correct details of their debt position; failure to do so gives the provider the right to sue the consumer and vice versa (Chipeta & Mbululu, 2012:216).

The NCA has had a positive impact on South Africa. It has granted the consumers of South Africa more accessible credit, reasonable rates in some cases and protection against unacceptable lending practices (Luttig, 2010:59). According to Hetisani from the NCR, the credit landscape shows that there are 19.97 million credit-active consumers, 53% (10.62 million) of whom were in good standing by the end of December 2012 (NCR, 2013:7). However, this means that 46.8% are not in good standing, or as it is referred to in the industry, have impaired records (NCR, 2013:7). The percentage share of mortgages granted, against total credit granted, decreased from 51.8% in December 2007 to 23.9% in December 2012, while over the same period unsecured credit increased from 7.8% to 24.4% (NCR, 2013:7).

The NCR, in the execution of its duties, removed some reckless lenders from the industry and did a lot to protect consumers from being exploited outside the workings of the Act (Luttig, 2010:59). PricewaterhouseCoopers reported in August 2007 that weeks after the NCA came into effect, South African banks' estimated revenue grew between 10% and 30%, while income growth was expected to rise to 25% for the next three years (Whittaker, 2008:561). To get a home loan approved now by the banks is more difficult than it was in the past (Pillay, 2009:2). South Africa's largest bond originator OOBA (previously MortgageSA), which generates around 75% of all residential bond applications, stated in the Realestateweb article New house price index: prices falling fast, 6

August 2008, that the average home loan decline ratio increased from 39.9% (July 2007) to 51.1% (July 2008) (Pillay, 2009:2). First-time homebuyers found it difficult after banks implemented the NCA (Pillay, 2009:2). OOBA says that the average price of a property bought by first-time buyers declined by 9.1% from R548 784 (July 2007) to R498 570 (July 2008), reflecting that first-time homebuyers were deciding on smaller, more affordable homes (Pillay, 2009:2).

Banks that reacted early to the Act's new provisions gained competitive advantage over their competitors that were not so quick to implement these changes (Pieterse, 2009:54). Capitec Bank Holdings is one of the banks that reacted early to these changes and used technology to keep its costs to a minimum. It extended its micro-lending services to 336 000 new clients from August 2006 to August 2007.

The impact of the NCA was also negative. In spite of the improved lending environment, SA consumers were not able to improve their credit standing as more and more credit-active consumers started skipping payments (Luttig, 2010:59). Even though consumers want a better standard of living, lenders submit to the demand for more credit and continue to price their loan products for the risk associated with the consumer group applying, putting many lenders who borrow to pay other debt in a continuously worse position, making it almost impossible for consumers to escape from the debt trap (Luttig, 2010:60). The steady decline in the number of residential developments along with the parallel implementation of the NCA has affected the residential property market paradoxically (Pillay, 2009:2). Data issued by StatsSA on residential buildings completed reveals that there was a slowdown in the number of residential developments completed over the period 2007 to 2008 (Pillay, 2009:2). The NCA also had a negative impact on the supply and delivery of housing, due to the large housing backlog in South Africa (Pillay, 2009:3). In his meeting with housing MECs from all nine provinces on 25 May 2009, Tokyo Sexwale, then Minister of Human Settlements, indicated that South Africa had a housing backlog of 2.2 million houses (Pillay, 2009:3). Although the NCA has had some positive results, it is still to be seen what will happen in the long term.

3.6 THE SOUTH AFRICAN MODEL AS AN EXAMPLE FOR ALL OF AFRICA

Similar legislation to the NCA was promulgated in other countries. As other countries look to reform their lending practices, they should pay close attention to SA's consumer protection efforts, says Patricia McCoy, a law professor at the University of Connecticut (Chu, 2009). The challenge, she notes, is how to enact similar reforms in countries such as the US, where providing people with choices that forced disclosure, rather than regulation, has long been the norm (Chu, 2009). According to Chu (2009), the NCA offers stronger protection for credit cards, overdrafts and other consumer loans than most developed countries, including the USA. The NCA has been influenced by Canada, Australia and British historical behaviour concerning reckless lending and over-indebtedness (Rossouw, 2008:105). The foundation of the NCA was built on Canadian law to ensure that consumers are protected against reckless lending and over-indebtedness (Rossouw, 2008:105).

The NCA is seen as worthy of analysing because of the occurrence of micro-finance in the country (Whittaker, 2008:561). There has been a change in the parallel banking system of the mid-1990s, which included a bank for the poor and one for the better-off. Countries such as Kenya and Tanzania are undergoing institutional changes in entering the formal financial sector (Whittaker, 2008:561). Kenya uses two national newspapers, the Union and the Standard, to advertise their 42 branches and publish their fees and bank costs. Rashid Ahmed of the Microfinance Regulatory Commission (MFRC) (Whittaker, 2008: 578) states that:

“micro-finance in most African countries is still regarded as separate from the formal financial sector and handled as such. Until an energetic and determined effort is made to integrate micro-finance into the formal banking systems, we'll always be playing catch-up.”

This means that micro-finance must be part of formal banking in African countries.

3.6.1 Africa

Makina (2012:410) has examined whether housing finance differs for each country in terms of sources including funds, mortgage products and the role of the government, and observes that for most African countries housing finance is dominated by state-owned specialised banks. These banks depend on government for direct lending, which plays a key role in fixing the interest rates and providing funds and guarantees (Makina, 2012:410). Households in Africa cling to housing as the best form of saving and it has been found that inflation-adjusted yields on housing are higher than those of financial savings, for example pension, provident funds and bank deposits (Okpala, 2012:182). Generally, the rapid growth in the urban population in Africa has not been matched by increases in sufficient housing for the population, but rather has resulted in a shortage of decent and reasonable urban housing (Okpala, 2012:182).

According to Erbas and Nothaft (2005:215), in the Middle East and North Africa (MEANA) region, mortgage financing is difficult and inadequately distributed for low- and middle-income groups. The reasons for this are the following: Firstly, the low-income group is unable to afford a minimum deposit. Secondly, lenders see this household group as a poor credit risk. Lastly, private mortgage markets cannot gain access to affordable mortgages due to market failures. Mortgage market failure in providing financing for some households reflects high information costs to assess and differentiate credit risk and leads to adverse selection and credit rationing in favour of high-income households by the existing mortgage lending institutions (Erbas & Nothaft, 2005:215). In many developing countries, as well as those in the MEANA region, there is a lack of low- and middle-income housing, but a large supply of high-income housing (Erbas & Nothaft, 2005:215).

3.6.2 Nigeria

In 1992, the National Housing Forum (NHF) was established with the objective of assisting Nigerians in obtaining houses at affordable prices, ensuring a constant supply of loans, and offering long-term loans to mortgage institutions for on-lending to sponsors (Chiquier & Lea, 2009). New legislation has been designed for the NHF, which could partially overcome the shortcomings of the

system in two key aspects (Chiquier & Lea, 2009). Firstly, the fund would be given the structure of a trust and managed by a board of trustees bound to stronger accountability obligations than now (Chiquier & Lea, 2009). Lastly, the relationship between contributors and borrowers would be changed, possibly restraining the reverse subsidisation mechanism: the wage level above which salaried workers would have to contribute would increase to seven times the minimum wage, and the NHF would be allowed to lend to non-contributing, low-income households (Chiquier & Lea, 2009). Interest rates by the law would be set beneath the market level for both savings and lending, giving new legal comfort to a still potentially regressive subsidisation scheme (Chiquier & Lea, 2009).

3.7 CREDIT REGULATION: INTERNATIONAL PERSPECTIVE OUTSIDE AFRICA

3.7.1 Pillars of credit regulation

There are three types of regulation to protect credit customers in selected countries (France, Germany, Switzerland, UK, US and SA) within their developed financial sectors and each is included in the NCA (Goodwin-Groen & Kelly-Louw 2006:19–22) (see Table 3.1). They are also described as the three pillars.

- *The first pillar* – Lenders may be required to keep within the limits of the client's credit redemption capacities. This pillar is implemented by the Swiss Bundesgesetz uber den Konsumentenkredit. This is the federal law for consumer credit, which does not apply to secured credit. It states that the maximum share of the attachable income has to be assessed by checking the consumer's borrowing capacity and their attachable income has to be sufficient to pay back the consumer credit (or if the customer has several consumer loans, all loans) within 36 months.

The NCA requires the lender to, inter alia, assess the client's ability to pay. It also requires the client to provide full financial information to prevent reckless credit (see sections 80–84 of the NCA).

- *The second pillar* – Lenders are obliged to disclose fully all costs of credit arrangements before a client signs a contract. This pillar is implemented by the EU and the US. Directives 87/102/EC and 98/7/EC of the European Parliament and of the Council introduced a specified method of calculating the so-called annual percentage rate of charge (APRC) and this method states the equivalence of loans on the one hand and repayments and charges on the other.

Furthermore, any advertisement or offer displayed on the business premises in which credit or the arrangement of a credit agreement is offered and which includes a rate of interest or any figures relating to the cost of the credit must also include a statement of the APRC.

In the USA the annual percentage rate (APR) is defined by the Federal Truth and Lending Law and can be calculated either by the actuarial method or the United States Rule method. Regardless of which method is applied, discount points, origination points, prepaid interest, loan processing fee, underwriting fee, document preparation fee and private mortgage insurance are included.

The NCA requires comprehensive disclosure of all interest and other fees and charges payable on the principal debt in a percentage and rand value, together with a repayment schedule in the form of a pre-agreement statement and quotation so that the client has time to think about it before committing to the loan (see section 92 of the Act, read with regulations 28 and 29).

Furthermore, the NCA and Regulations have stringent disclosure provisions which, depending on the type of advertisement, must be complied with. For example, when credit providers advertise specific credit products, offer a specific amount of credit to a consumer, or offer to render services on credit, the following information must be disclosed: the instalment amount, number of instalments, total amount of all instalments (including interest, fees and insurance), residual or final amount payable and the interest rate

and other credit costs (see section 76 of the NCA read with regulations 21 and 22).

- *The third pillar* – Caps may be put on the pricing of consumer credit or usury laws may determine that pricing. This pillar is found in Switzerland, France and some of the states in the USA. In Switzerland, for example, the cap is set by the *Bundesrat* (Federal Council). The interest rates that banks have to pay for refinancing have to be considered, but the cap should normally stay below 15% per annum.

In France, the usury rule is set by Article L.313-3 of the *Code de la Consommation* (Consumer Code). It states that a loan is usurious if it is granted at a rate that exceeds, at the time it is granted, the average effective rate applied during the prior quarter of the year by credit institutions for loans of the same nature with identical risk, as defined by the relevant administrative authority after consulting the NCC, by more than a third. Goodwin-Groen and Kelly-Louw (2006) further explain that some states in the USA have interest rate ceilings as well. The State of New York set this rate at 16% per annum by section 5–501 of the General Obligations Law.

Another approach to interest rate caps is used in Germany and the UK. In these countries there are no definite caps, but usury (exorbitant) interest rates are forbidden by law. Normally these usury interest rates are penalised in Germany by court if the APR is twice as high as the prevailing normal rate, and if the loan furthermore has been fixed by abuse of an exigency, inexperience, of lack of judgment or substantial weak will, but even here there is scope for clarification (Goodwin-Groen & Kelly-Louw, 2006:22). The Ministry of Trade and Industry, after consulting with the NCR, sets different maximum interest rates, as well as other non-interest costs of credit for the different types of credit agreements (Kelly-Louw, 2010:35).

Table 3.1: Consumer credit law in selected countries

Country	Pillar I	Pillar II	Pillar III
France		APRC includes all costs and has to be published.	A loan is stated as usury when the rate exceeds the average effective rate of the prior quarter (published by the Bank of France) by one third.
Germany		APRC includes all costs and has to be published.	If the APR is double the market interest rate and there has been abuse of an exigency, inexperience, lack of judgment or substantial weak will, the interest rate is illegal according to court orders.
Switzerland	Attachable income has to be high enough to pay back the credit within 36 months.	APRC includes all costs.	Interest cap usually fixed below 15% per annum.
United Kingdom		APR includes all costs and has to be published.	Usurious credit agreements can be reopened by court.
United States		APRC includes all costs according to the Federal Truth and Lending Law.	Different regulations in every state.
South Africa	National Credit Act requires lender to assess the client's ability to pay.	All costs must be disclosed in terms of the National Credit Act and Regulations.	Regulations provide for maximum rates of interest applicable to seven different types of credit.

Source: Goodwin-Groen and Kelly-Louw (2006:23)

All housing finance institutions in each country are regulated under one or more pieces of national legislation and institutions are obliged to adhere to other countries' regulations for the purpose either of lending or raising funds (Flanagan, 2012:508). Regulation is generally defined as a set of enforceable rules that limit or direct the actions of market participants and as a result modify the outcomes of these actions (Davids, 2008:17). Therefore the market itself, without

the interference of government or involvement of other external forces, may perform regulation (Davids, 2008:17).

3.7.2 Credit regulation in selected countries

3.7.2.1 China

The world's largest public credit register is in China. The Credit Registry Center of the People's Bank of China registered more than 600 million consumers in March 2008, 110 million of whom had an established credit relationship with a bank or other financial institution (Jentzsch, 2008:537). The database on corporations registered more than 13 million companies in 2007, 5.9 million of which had an established credit relationship. This registry was expected to have a significant impact on the economic life of the citizens of China, but also on banking competition, credit market development and banking performance (Jentzsch, 2008:537). The registry is outstanding for several reasons: its sheer size, the volumes of daily inquiries and the underlying 'social credit' approach, which includes bank and non-bank information on individuals and companies (Jentzsch, 2008:537).

The residential mortgage is a new and growing sector of the Chinese capital market and over the last decade, it has become a financial mechanism for flourishing residential housing development and economic growth in China (Deng & Fei, 2012:422). In China there is no law that governs the collection and use of credit-related information (Mtimkulu, 2009:19). This information is mainly spread in government departments. China wants to address corruption where poor and unconnected consumers who have innovative ideas are denied access to funds even though they have good credit records (Mtimkulu, 2009:19).

In the 1990s, the Chinese mortgage market was developed as a by-product and has increased since 1998 (Deng & Fei, 2012:423). The housing system is made up of both the policy-driven housing finance channel and market-oriented housing finance channel. The Housing provident fund (HPF) was introduced in Shanghai in 1991 as a pilot programme and in 1995 it was extended nationwide, in order to start a housing finance system that could carry on the housing policy reform (for example, transform housing from welfare to commodity)

(Chiquier & Lea, 2009). HPF operations are conducted through 320 management centres and the Ministry of Construction and the Ministry of Finance are responsible for managing the scheme at national level, while the People's Bank of China (PBOC) regulates the interest rates (Chiquier & Lea, 2009). Housing committees at local level determine policies with the management centres and commercial banks are hired to handle the deposits, financial management and lending (Chiquier & Lea, 2009:282).

In 1998 the PBOC released regulations for mortgage lending, fixing the lower limit of loans with different maturities, introducing rules on interest rates and opening the possibility for banks to set an interest rate above the lower rate (Jentzch, 2008:539). The regulations determine maturity terms and the eligibility of borrowers and have resulted in a rapid rise of housing finance provision (Jentzch, 2008:539). This has led to several adjustments of lending terms by the PBOC, including raising the minimum interest rate for housing loans of 5 years or more by 0.2% from 5.51% or by requiring individuals to make a 30% deposit, instead of 20% in 2005 (Jentzch, 2008:539). The Euromonitor projected that in 1998 only 1.3% of households had a mortgage; this rate stood at 12.6% in 2006 and was predicted to reach 23.4% of households in 2010 (Jentzch, 2008:539).

China's commercial bank mortgage is different from US mortgage markets (Deng & Fei, 2012:423). Banks in China prefer a collateral system, while most developed countries prefer established credit rating systems (Mtimkulu, 2009: 19). The commercial mortgage in the US market refers to collateralised lending to the property developers or investors (Deng & Fei, 2012:423).

The HPF is a mandatory housing savings scheme in China and employers who are situated in the urban areas are obliged to contribute a certain portion of their salary to the savings and employees are also obliged to do the same (Deng & Fei, 2012:423). The HPF loan is not enough for most households to buy a house; currently homebuyers use both HPF funds and residential mortgage loans (bank loans) to buy commodity housing units from the market (Deng & Fei, 2012:423).

3.7.2.2 *United Kingdom (UK)*

Western European countries, including the UK, have different housing finance systems which consist of a mixture of retail deposits, mortgage bonds and contract systems (Flanagan, 2012:509). The regulation and control of mortgage lending institutions has started in the UK and is presently the responsibility of the Financial Service Authority (FSA) (Flanagan, 2012:509). The Consumer Credit Act 1974 of the UK was replaced by the Consumer Credit Act 2006. Factors including hire purchase agreements in 1982, followed by deregulation of the UK personal financial services marketplace and changes to the rules governing official credit allocation changed borrowing into an acceptable norm of consumers' lives (Ironfield-Smith, Keasey, Summers, Duxbury & Hudson, 2005:133).

Inflation increased during the late 1970s and early 1980s and made buying on credit more preferable than saving for goods. This had a negative effect on saving even after inflation dropped (Ironfield-Smith *et al.*, 2005:133).

Thirty years after the introduction of the Consumer Credit Act there were serious concerns about the rising consumer debt in the UK (unsecured and secured debt totalled £1,066 bn by 31 January 2005) (Ironfield-Smith *et al.*, 2005:133). Between 1994 and 2004 the UK experienced a consumer credit outburst because of the increased availability of unsecured credit and financial institutions that offered unsecured loans to consumers (Rossouw, 2008:25).

A task force was appointed in October 2000 to assist consumers in using credit more responsibly. The 2004 Consumer Credit Act of the UK helps consumers to understand the correct cost of credit in a sensible and clear way, and they must understand this in plain and understandable language (Chipeta & Mbululu, 2012:217). The NCA in South Africa implemented this approach so that credit providers reveal information in the language that the consumer is happy with (Chipeta & Mbululu, 2012:216).

3.7.2.3 *United States of America (USA)*

The USA does not have legislation similar to that of the UK. The deregulation of the USA credit industry in the late 1980s has meant that there has been no

single regulatory body regulating the sector (Pieterse, 2009:36). However, a series of Acts covers many aspects of the industry and these Acts are charged with regulating consumer credit in that country (Pieterse, 2009:36). Since most of the regulatory Acts have been applied in the USA, more attention is given to disclosure, privacy, anti-terrorism, anti-money laundering, fraud prevention and anti-usury lending, and to encouraging credit accessibility to lower income groups. These Acts do not apply equally to all US states because some states have their own consumer credit legislation (Pieterse, 2009:36).

The US housing finance market has had an important impact on other housing finance markets over the last half century due to the key position the country has in world affairs (Flanagan, 2012:508). The vast majority of all home mortgage loans prior to 1980 were made by savings and loans associations, which originated, serviced and held the loans in their portfolios, in what is widely known as an *originate-to-hold model* (Barth, Li, Lu, Phumiwasana & Yago, 2009:5). Home mortgages over time were increasingly securitised (i.e. put into pools and packaged into securities backed by the individual loans) and sold in the secondary market; this process is the *originate-to-distribute model* (Barth *et al.*, 2009:5).

The US government put a series of measures in place to regulate the mortgage system after the crisis of the mortgage system accompanied by the financial crisis of the Great Depression (Levitin & Wachter, 2012:404). Securitisation was made part of the 1934 National Housing Act (Saayman, 2011:1). This Act was created to decrease the dependence of financial institutions on core deposits, but it did not increase the supply of mortgage finance in the US (Saayman, 2011:1). In 1938 the Federal National Mortgage Association (FNMA or Fannie Mae) started to buy and sell federally insured mortgages in an effort to develop a secondary mortgage market, but still less than 5% of all new mortgages were sold in the secondary market in the early 1960s (Saayman, 2011:1). The Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac) started as a government-chartered corporation in 1970, but it turned out to be a private corporation in 1989 (Saayman, 2011:1).

The demand for home finance grew significantly in the US throughout the 1970s because of baby boomers that reached home-buying ages (Saayman, 2011:1). Housing was funded by the thrift industry (US associations, formerly known as savings and loans associations), which borrowed money from depositors at fluctuating rates and lent this money at fixed rates to homebuyers. Questions were raised about the capability of the thrift system to finance the growing demand for mortgages (Saayman, 2011:1). The high unemployment level triggered substantial numbers of foreclosures and payment failures with halving house prices (Flanagan, 2012:508). The US administration supported insolvent lending institutions through the Home Owners Loan Corporation (HOLC) and the Reconstruction Finance Corporation (RFC). In 1934 the Federal Housing Administration (FHA) was formed to support insurance against mortgage default under Roosevelt's administration (Flanagan, 2012:508). The idea behind the FHA was that if government accepted the credit risk, then lenders would extend credit to the less creditworthy borrowers (Levitin & Wachter, 2012:404). The HOLC did short refinancing of troubled mortgages which were restructured into long-term, fully amortised fixed-rate loans (Levitin & Wachter, 2012:404). A finance system which would enable homeowners to attain fully amortising loans was one of President Roosevelt's goals (Buttimer, 2011:14).

The next major housing finance shift took place in the 1970s and 1980s due to oil shocks, the effects of the Vietnam War and changes in monetary policy which accepted money supply instead of interest rate targets (Flanagan, 2012: 508). Congress created another government-sponsored enterprise, Freddie Mac, to compete with Fannie Mae (Buttimer, 2011:15). The federal charter of Freddie Mac is almost identical to that of Fannie Mae and the two companies have always been comparable in both operations and their economics (Buttimer, 2011:15). Freddie Mac became a private corporation in 1989 (Saayman, 2011:1).

The low interest rates from 2001 to the end of 2004 were an important contributing factor to the credit boom and the record homeownership levels, as the Federal Reserve took steps to fight the 2001 recession and prevent deflation (Barth *et al.*, 2009:7). The low interest rate environment had an effect on a lot of homebuyers: they increasingly chose adjustable rate mortgages (ARMs) over fixed-rate mortgages (FRMs) (Barth *et al.*, 2009:7). ARMs held appeal for lend-

ers, as they moved interest rate risk to the borrowers and during the housing boom, a lot of borrowers took that risk in exchange for the low initial payments that made purchasing homes more reasonable (Barth *et al.*, 2009:7). In addition to funding home purchases, mortgage loans also enable borrowers to tap into any equity that is built up in their homes (Barth *et al.*, 2009:7). From only about 5% in 2001, almost 15% of all mortgage originations in 2006 and 2007 were home equity loans (Barth *et al.*, 2009:7). Consumers increasingly came to view their homes as ready sources of credit and some borrowers were using their home equity to manage debt or finance lifestyles they could not pay for unless home prices kept increasing during the housing boom (Barth *et al.*, 2009:7).

Sub-prime crisis in United States of America (USA)

The term credit crunch has been used to describe the decrease of credit supply in response to both (i) a decline in the value of bank capital and, (ii) conditions required by bank supervisors, regulators, or banks themselves that want banks to keep more capital than they previously would have kept (Mizen, 2008:531). The credit crunch had a global impact since international investors were involved. For many, the financial crisis of the US started in 2007 when the Federal Reserve increased interest rates and the housing market suffered a setback and home prices dropped (Stecker, 2009:72).

The sub-prime mortgage market gave access to credit to homeowners and individuals that did not qualify to take part in the conventional market (Ho & Pennington-Cross, 2008:176). Sub-prime mortgages were sold to borrowers with low credit ratings and financial institutions normally charged these borrowers higher than normal risk premiums because they had to carry the risk. The credit crunch was linked to the sub-prime crisis in the US in 2007.

According to Kolb (2011:38), the sub-prime crisis did not happen overnight; it took years and a great deal to lay the foundation for disaster. This foundation was associated with social indicators that were in fact quite promising and assisted in covering the shakiness of the towering debt of mortgage finance (Kolb, 2011:38). The question was why the credit crunch took place and why then. It was due to two developments which took place in the late 1990s and early 2000s. Firstly, the extremely tranquil macro-economic conditions (Great

Moderation) together with a flow of global savings from emerging and oil-exporting countries resulted in reduced macro-economic volatility and lower long-term interest rates. Secondly, an expansion of securitisation in sub-prime mortgage assets formed sophisticated financial assets with relatively high yields and good credit ratings (Mizen, 2008:533).

Duca, Muellbauer and Murphy (2010:204) identify the factors that contributed to the build-up and bursting of the US housing bubble, such as the role of financial innovation, over-optimism about the sub-prime and other innovations, sources of leverage and liquidity during the sub-prime and structured finance, market frictions and house price expectations and the combination of bubble-feeding factors. Kashyap, Rajan and Stein (2008) maintain that the USA was not the highest in terms of price growths, compared to Ireland, Spain, the Netherlands, UK and New Zealand, which had higher housing prices. The US financial system transformed sub-prime mortgages that were historically handled by local bankers into mortgage-backed securities with AAA ratings which were suitable for pension funds, insurance companies and banks around the world (Kashyap *et al.*, 2008). The financial crisis hit a high pitch in the autumn of 2008 when the investment bank Lehman Brothers went bankrupt (Stecker, 2009:74). Merrill Lynch was acquired by Bank of America, AIG received \$80 billion from the federal government and Wachovia agreed to be acquired by Wells Fargo (Stecker, 2009:74). In the midst of all these changes, Congress issued the Emergency Economic Stabilisation Act of 2008 which approved the US Treasury proposal for \$700 billion Troubled Asset Relief Program (TARP) (Stecker, 2009:74).

One can realistically claim that there was a lack of regulation, but given resource constraints it is hard to believe that a better regulatory environment could have been implemented (Buttimer, 2011:26). Financial institutions must take risks to function and regulators must allow them to take these risks (Buttimer, 2011:26). To guarantee no losses is to enforce regulation that stops institutions from taking risk, which will cause the downfall of the market for risk and a major decline in innovation and risk-taking in the world (Buttimer, 2011:27). Mortgage regulations have transformed the housing market from days of stability through a phase of fast-tracking competition to the uncertainty of today's post-crisis

reforms; no matter what regulations are put in place, the market will operate differently (Levitin & Wachter, 2012:408). The government will no longer have sole control over interest rates as they used to have and banks are free to issue many types of mortgages (Levitin & Wachter, 2012:408).

3.7.2.4 Turkey

For a long time, the public sector funded houses in Turkey to people who wanted a first home, but to the banking sector it was not beneficial to provide funds to homeowners since the laws hindered the supply of loans in this area until 1979 (Akçay, 2011:23). It became more attractive to provide financing from 1989 and banks started to work and compete with each other in the market, and lower rates and longer loan terms were granted to homebuyers.

In Turkey the commercial banks control 86.1% of the financial system and they also control the residential credit market (Akçay, 2011:23). The share of commercial banks in the Turkish mortgage market was 89.5% by the end of 2009, whereas the share of the Housing Development Administration (HDA) was 10.5% (see Figure 3.1) (Akçay, 2011:23). The HDA provides loans for housing construction by co-operatives, private companies and municipalities and has been acting both as a property developer and a housing finance institution in the residential mortgage markets (Akçay, 2011:23).

The consumer price index (CPI) and the rate of state sector wage increases has been indexed to the interest rates of the HDA mortgage credits given to builders (co-operative, private construction companies and municipalities) (Akçay, 2011: 23). The principal and interest rates are adjusted twice a year (January and July) in Turkey, whereas the maturity changes from 5 – 11 years, depending on the size of the house (Akçay, 2011:23).

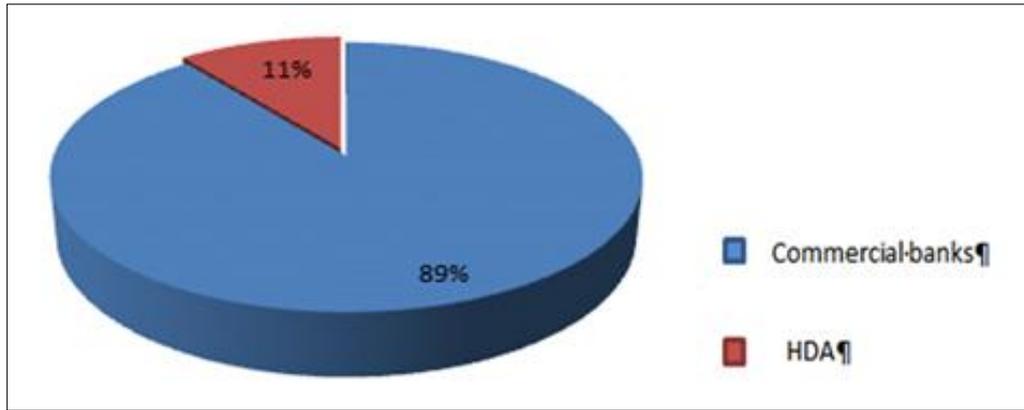


Figure 3.1: Commercial banks and HDA in Turkey (types of institutions – 2009)

Source: Adapted from Akçay (2011:23)

Houses by the HDA are sold with long financing terms (i.e. 10 – 20 years) and sold at beginning of the project, with the rate of state sector wage increases and interest rates indexed to CPI (Akçay, 2011:23). Homebuyers make a deposit of 15 – 25% of the selling price of the house when signing the purchase contract. A new regulation came into effect in February 2007, which was called the Mortgage Law. The law was based on the following objectives (Akçay, 2011:24):

- Creating institutions for financing mortgages;
- Allowing mortgage financing institutions to accept residential mortgages to securitise the loans;
- Allowing new types of institutions (financial leasing companies, financial companies) to accept residential mortgages to securitise loans.

3.7.2.5 *European Union (EU)*

The member states of the EU had until June 2010 to change the guidelines covered in the 2008 EU Consumer Credit Directive into their national laws and to repeal the former Council Directive in this regard (Rencke, 2011:3). Rencke (2011:3) points out that the purpose of the 2008 Directive is to harmonise certain aspects of the laws, regulations and administrative procedures of the member states regarding credit agreements. Excluding a few specific exclusions, the 2008 Directive applies to all credit agreements and the onus is on creditors to check the creditworthiness of a consumer (Rencke, 2011:3). Member states must make sure that creditors provide additional assistance to consumers to help them decide which credit agreement is the most suitable for their financial

situation and needs (Rencke, 2011:4). The relevant pre-contractual information and the essential characteristics of the products proposed should be explained to the consumer in a personalised manner so that the consumer does not misinterpret the effects which it may have on their economic situation (Rencke, 2011:4).

The importance of residential mortgage debts in the EU increased due to the liberalisation efforts made in the financial markets and the decreasing interest rates over the last 10 years (see Table 3.2) (Akçay, 2011:25). At end of 1999, the mortgage debt was €3.1 trillion and increased to €6.1 trillion by the end of 2009. There was an increase in mortgage debt to GDP ratio from 35.6% to 51.9% in 1999 (Akçay, 2011:25). The growth of the mortgage debt was due to the sharp decline in GDP in 2009 (4.2%), which was set off by the sub-prime mortgage crisis in the US (Akçay, 2011:25). The increase in the total mortgage debt imitates the credit dynamics, supported by the decreasing interest rates around the eurozone, to a greater extent, after the use of a single monetary policy (Akçay, 2011:26).

There is no single European mortgage market, and each market is trained by national rules and regulations as well as by a set of shared ideas about the mortgage market (Aalbers, 2012:400). There is an external dynamic which is shaped by both state and non-state regulation and also by international market developments (Aalbers, 2009:399). Initiatives to open markets and the global spread of risk management policies such as credit scoring prepared by ICT devices and applications are all examples of regulation (Aalbers, 2009:399). The Basel II Accord identified the internal rating based method as the new system for measuring solvency from 2007 and it means that providers who apply credit risk management will achieve higher solvency scores from the National or European Central Bank than providers who do not, and they will then need less equity (Aalbers, 2009:400).

There are two credit information system modes in developed countries: the American mode in which the credit databases are invested and led by government-funded organisations (Mtimkulu, 2009:22), and the mode followed in many Western European countries, where the responsibility of setting up public credit

databases is led by the central bank or the bank union (Mtimkulu, 2009:22). According to Mtimkulu (2009:22), governments in European countries intervene through the regulation of credit reporting activities under the data protection laws that cover Credit bureaux (CB) activities, and all transactions associated with the management of data and sharing of information.

Various funding techniques are used in the mortgage markets of the EU member countries and these techniques differ from country to country. Savings deposits (53%) are the most commonly used, 39% of the mortgage credit is funded through capital markets and almost 23% of this is achieved through the issue of mortgage bonds and the rest (16%) through the issue of mortgage-backed securities (MBSs) (Figure 3.2) (Akçay, 2011:27). The mortgage debt total has grown threefold in the last 10 years in the EU and the growth rate loan has been higher than the growth rate of the GDP (Akçay, 2011:27). The driving factors of this strong growth rate have been the procedures carried out to culminate in a single currency since the beginning of the 1990s to meet the needs of the adjustment to financial liberalisation and the dropping of interest rates (Akçay, 2011:27). This has led to more rivalry in the housing markets and has caused the increase in the homebuyers' affordability and resulted in a rising demand for mortgage loans (Akçay, 2011:27). To create one mortgage market is a dream because the European financial landscape will remain one of different national mortgage markets that are similar to each other (Aalbers, 2012:400).

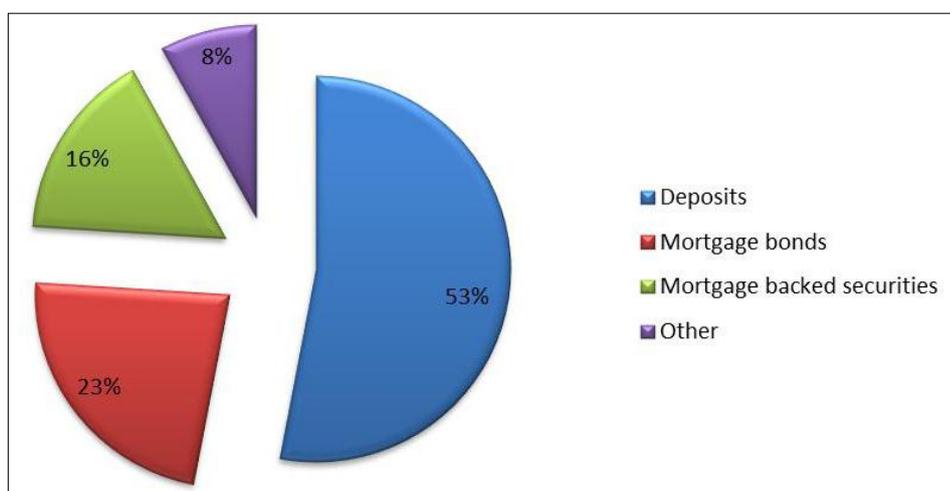


Figure 3.2: Funding resources in the EU (2009)

Source: Adapted Akçay from (2011:23)

Table 3.2: Residential mortgage markets in the EU (2009)

Country	Value of mortgage debt (£ million)	Residential debt to GDP ratio (%)
Australia	72.487	26.2
Belgium	146.329	43.3
Denmark	231.263	103.8
France	737.600	0.4
Finland	71.860	0.6
Germany	1 146.969	47.6
Greece	80.559	33.9
Ireland	147.654	90.3
Italy	330.585	21.7
Luxembourg	15.842	0.4
Netherlands	602.192	105.6
Portugal	110.685	0.7
Spain	678.872	64.6
Sweden	236.062	0.8
UK	1 372.659	87.6
New members		
Bulgaria	4.268	12.6
Czech Republic	16.975	19.4
Estonia	6.111	44.5
Hungary	15.543	16.7
Latvia	6.866	36.6
Lithuania	6.032	22.2
Malta	2.458	0.4
Poland	56.569	18.2
Romania	5.700	4.9
Slovakia	9.226	14.6
South Cyprus	3	61.3
EU-27	6 125.727	51.9
Turkey	19.386	4.6

Source: Adapted from Akçay (2011:25)

3.8 AN OVERVIEW OF THE BASEL ACCORDS

The Basel Accords are some of the most powerful and misinterpreted agreements in international finance (Balin, 2008:1). Basel II comprises minimum capital requirements and a supervisory review process. Basel I and II were drafted in 1988 and 2004, respectively, and lead in a new area of international banking co-operation (Balin, 2008:1).

3.8.1 Basel II

Due to the banking crisis of the 1990s and the criticisms against Basel I, the Basel Committee suggested a new, more comprehensive capital adequacy accord in 1999 (Balin, 2008:6). Basel II is an extension of Basel I and includes factors such as market and operational risk, market-based discipline and surveillance, and regulatory mandates (Balin, 2008:6). The pillar framework of Basel I was kept, it was simply extended under Basel II. Basel II stipulates the internal rating based method as the new system for measuring solvency from 2007, which means that providers will receive higher solvency from the National or European Central Bank if they apply for credit risk management than providers who do not, and therefore less equity is necessary (Aalbers, 2012:400). The use of credit risk management techniques is an example of the globalisation of financial regulation because it encourages more actors to apply similar methods in the credit market (Aalbers, 2012:400). The Basel Accords are tightly connected to the global spread and institutionalisation of credit risk management (Aalbers, 2012:400). Basel I lowered the capital adequacy risk weights for Fannie Mae and Freddie Mac MBSs to 20%, while allowing leverage to increase from 2 to 5 times, making mortgages very profitable and stable long-term investments (Flanagan, 2012:508). According to Calem and Follain (2007:199), Basel II significantly cuts down the regulatory capital requirements for residential mortgages with relatively small amounts of risk.

3.8.2 Basel III

Banks that worry about potential fair lending claims should also worry about the new proposed bank capital rules if they reject granting residential mortgage loans that are not qualified residential mortgage loans (Platt, Ragalevsky &

Mahoney, 2012:1). On 7 June 2012 the Federal Reserve approved for publication three sets of proposed regulations to review the risk-based capital rules for banks to make them consistent with the new international capital standard, commonly known as Basel III, and certain requirements of the Dodd-Frank Act (Platt *et al.*, 2012:1). Basel III can be described as a comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision (BCBS), to strengthen the regulation, supervision and risk management of the banking sector (Van Dyk, 2011:2). Basel III requires banks to hold additional minimum capital and addresses liquidity concerns. It introduces many changes that affect most aspects of banks' balance sheets (Healey, 2013:66). Conservative residential mortgage loans with loan-to-value (LTV) ratios in surplus of 80%, irrespective of the presence of private mortgage insurance, could activate adverse capital requirements if the loans are held for investment and do not fulfil certain regulatory underwriting criteria (Platt *et al.*, 2012:1). Under the implementation of Basel III these loans could run the legal risk of loss under the ability to repay rules, the credit risk of loss under the *risk retention* rules and currently increased capital charges (Platt *et al.*, 2012:1).

Banks had increased their capital ratios relative to the pre-crisis levels as a result of significant market pressures, prior to the new Basel III (Slovik & Cournède, 2011:5). The US banks, the eurozone and Japan increased their common equity ratio on average by 1.3 percentage points and their Tier 1 capital ratio on average by 1.5 percentage points by the end of 2009 (Slovik & Cournède, 2011:5). Effective as of 2015, banks increased their lending spreads on average by approximately 15 basis points in order to meet the Basel III requirements and on average by approximately 50 basis points effective as of 2019 (Slovik & Cournède, 2011:8).

Although the recession caused by the crisis has technically ended, the regulatory reaction has now started (Paskelian & Bell, 2013:8). The Dodd-Frank Wall Street Reform in the US and the Consumer Protection Act (2010) were approved to curb and prevent the financial and regulatory weaknesses that have been accused of triggering the 2008 crisis (Paskelian & Bell 2013:8). The Dodd-Frank Act (2010) was created to address problems and areas of need in

the regulatory framework governing US financial institutions (Paskelian & Bell, 2013:8). The Basel Committee on Banking and Supervision updated its framework and regards Basel III as a global regulatory standard on bank capital adequacy, market liquidity risk and stress testing (Paskelian & Bell, 2013:8).

According to Healey (2013:67), Basel III will have a negative impact on the financial dynamics of mortgage servicing rights, since the capital needed can easily make or exceed 30% versus 8% for most loans. From the viewpoint of bank-owned mortgage bankers, however, the final outcome is a partial win for mortgage lenders and a loss for mortgage servicers (Healey, 2013:66). There had been continued deregulation of financial markets and consequent product innovation in most countries and this provided borrowers with greater choice and allowed lenders to manage their portfolios of assets more actively (Lunde *et al.*, 2008). The degree to which this affected balance sheets even in countries that had not themselves followed the derivative model only became clear when the system failed in late 2008 (Lunde *et al.*, 2008). Initially mortgage lenders were faced with the prospect of holding increasing capital on existing mortgages based on each loan's mortgage category and also as the borrower's LTV ratio (Healey, 2013:66). Capital needed on these categories fluctuated from a low of 35% risk weighting on plain-vanilla loans under 60% LTV to 200% for non-qualified, high-LTV mortgages (Healey, 2013:66). Capital requirements on the industry's \$2.4 trillion of residential mortgages would have increased materially and possibly duplicated the loan-loss reserves. Fortunately, this proposal was withdrawn because it was considered to be dismissed with the upcoming QM standard under the Dodd-Frank Act (Healey, 2013:66). The QM rule, which forbids risky products such as interest-only loans and negative-amortisation loans, came into effect on 10 January 2014 even though the Basel III proposal was withdrawn (Healey, 2013:66). The mortgage servicers did not do well; banks and savings and loans associations that have mortgage servicing assets (MSAs) on their balance sheet will have to keep largely more capital against this asset than they did prior to the Basel III implementation (Healey, 2013:66). According to Bloomberg (2012), Rene van Wyk, South Africa's Pretoria-based Registrar of Banks, said that under Basel III, a global set of banking rules will be implemented over the next six years. The Registrar can apply a counter-cyclical

buffer, which means that lenders would hold extra capital when the Registrar determines that credit growth is too much (Bloomberg, 2012).

3.9 SUMMARY

In order to see what the impact of the NCA had on residential mortgages, one needs to look at the background of the NCA. This chapter covered the NCA and how credit was regulated before the implementation of the NCA. It also gives a detailed discussion on mortgage lending and the banks.

This chapter also covered the roles of the NCA and NCR, followed by the three types of regulation and international regulation outside Africa. The sub-prime crisis in the US was discussed and an overview of the Basel Accords concluded the chapter. The research methodology will be discussed in the next chapter.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

The purpose of this chapter is to explain the research methodology used in this study. According to Talla (2013:61), methodology is a description and analysis of methods chosen, their limitations and resources, their assumptions and consequences. Research methodology ought to be seen as a system through which a researcher is able to collect, analyse and interpret data to reach the aims and objectives of the research (Moaisi, 2013:56).

Research methodology focuses on the process of research and the decisions that the researcher has to take to execute the research project (Khuzwayo, 2013:31):

- Which decisions need to be made as the research progresses?
- Which method(s) and technique(s) for data collection and data analysis should be selected?
- Which factors play a role in the design of the research project?
- What influence does the particular purpose of the research problem have on the selection of methods and technique?
- Which factors play a role in the process of research and how do these factors affect the methodology of the researcher?

Firstly, a description of the research method and research design is given in section 4.2, followed by the data, sources of data and the population in section 4.3. The research hypotheses are set out in section 4.4. Techniques used for data analysis are discussed, namely descriptive and inferential statistics, in section 4.5. Section 4.6 presents tests for reliability and validity of data.

4.2 RESEARCH DESIGN

A research design is the framework, outline or plan for the research project which can be used as a guideline for data collection and analysis (Wiid & Diggines,

2013:55). Cooper and Schindler (2014:148) also define the research design as the blueprint for meeting the objectives and answering the questions. To design something means that the pieces fit together, including the fit between objectives, research approach and research tactics (Aaker, Kumar, Leone & Day, 2013:63). Cooper and Schindler (2014:125) point out that there are numerous definitions of research design and some differ in detail, but together they give the following essentials of a research design:

- It is an activity- and time-based plan.
- The plan is based on the research question.
- It can be used as a guide for selecting sources and types of information.
- It can be used as a framework for stipulating the relationships between the variables of the study.
- Every research activity has a procedural outline.

There are many specific designs and these can be grouped into three main research designs (see Figure 4.1), namely exploratory, descriptive and causal research (Gopaul, 2013:63). An exploratory research study tends towards loose structures with the aim of finding future research tasks and the purpose of all exploration is normally to form hypotheses or questions for further research (Cooper & Schindler, 2014:126). In causal research the researcher investigates whether one variable causes or changes the value of another variable (Tustin *et al.*, 2005:87). The causal research design is most suitable for when the researcher wants to understand which independent variables affect a dependent variable (Gopaul, 2013:64). According to Wiid and Diggines (2013:57), a descriptive study is a statistical method used to recognise patterns or trends in a situation, but not causal relations among its different elements.

This research study is descriptive, under the conclusive design. Conclusive design assists the researcher in studying the research problem in a conclusive manner, and from numerous alternatives from which a possible course of action is selected (Wiid & Diggines, 2013:57). This is essential when the knowledge of a particular market or topic is unclear (Wiid & Diggines, 2013:55). The purpose of descriptive research is to give an accurate picture of some aspect of the

market environment (Aaker *et al.*, 2013:66). Another objective of descriptive research is to answer the who, what, when and how of the topic and it can be either simple or complex (Cooper & Emory, 1995:121). Figure 4.1 below illustrates the three main research designs, namely exploratory, descriptive and causal research (Gopaul 2013:63).

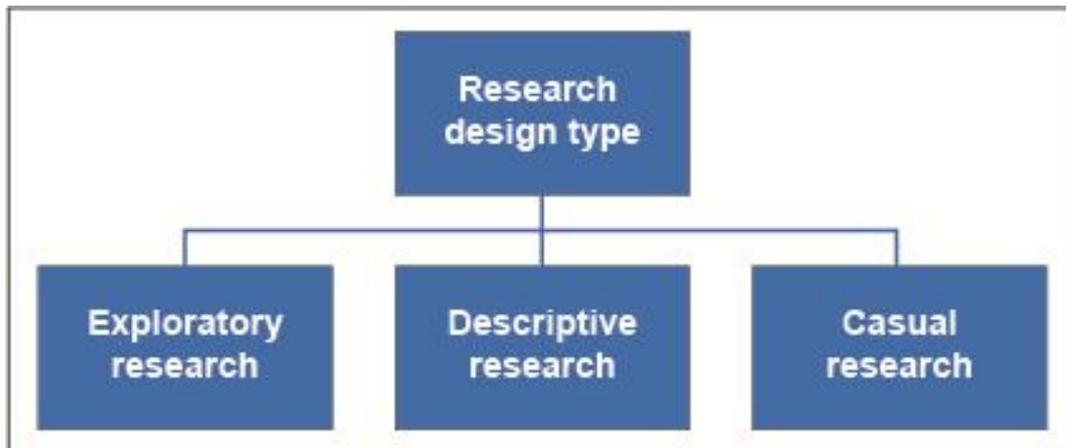


Figure 4.1: Types of research designs
Source: Adapted from Gopaul (2013:63)

There are two types of research methods: qualitative and quantitative. The design of a research study is based on the purpose of the study (Khuzwayo, 2013:33). A quantitative method is likely to be undertaken if descriptive information is required; if the purpose is to generate new ideas, then the qualitative method may be in order (Khuzwayo, 2013:33). Qualitative research is an approach for exploring and understanding the meaning individuals or groups assign to a human or social problem (Creswell, 2014:4). This study applies the quantitative research design using time series secondary data. In quantitative studies, data obtained from the participants is coded, categorised and reduced to numbers so that this data can be manipulated for statistical analysis (Cooper & Schindler, 2014:148).

Luyirika (2010:40–41) identifies the following advantages of quantitative research:

- Quantitative research is objective, controlled, systematic, valid and reliable.
- It identifies the hard facts and numbers related to the issue.

- It uses methods adopted from the physical sciences that are designed to ensure objectivity, generalisability and reliability.
- Quantitative research is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect.

This research is quantitative in nature since it uses numerical data and data analysis procedures, including both graphs and statistics (Dowelani, 2012:36). Numerical data is sometimes named quantifiable and those whose values are measured or calculated numerically as quantities (Saunders *et al.*, 2009:418).

According to Leedy (1993:127), the research design (methodology) involves four questions:

- What data is needed?
- Where is the data collected?
- How will the data be obtained?
- How will the data be interpreted?

These questions are discussed in the sections that follow.

4.3 DATA SOURCES AND COLLECTION

The reason why secondary data is preferred to primary data is the need for accuracy of the data and the comprehensiveness that it offers, as it is put together by experienced researchers specific to an industry (Pillay, 2009:80). Examples of secondary data are publications such as the quarterly reports of the SARB or reports of the Bureau for Financial Analysis (BFA), and electronic information networks.

Primary data is data that has not been collected previously, in other words, it did not exist previously and is collected to solve a specific problem (Wiid & Diggins, 2013:85). Pillay (2009:81) purports that primary data does not have the same comprehensiveness as secondary data, because of the lack of resources on the part of the individual collecting and compiling the data due to limitations on financial means. Incorrect authority levels to approach large corporations, capa-

city limitations on the collection of data in a specified time frame as well as lack of expertise when working in isolation also makes collection of primary data at the required level of completeness and accuracy unreasonable (Pillay, 2009: 81).

Tustin *et al.*, (2005:484) list various reasons for researchers conducting secondary analysis:

- The collection of primary data is very expensive.
- Knowledge is cumulative.
- The results of previous research can be verified, resulting in scientific enquiry progression.
- Data that has been verified by various researchers as being outstanding can be used for in-depth research as well as for research teaching.
- The usage of secondary data permits for time series analysis and comparisons.
- Secondary data analysis methods have been progressing rapidly.
- Secondary data analysis enables the researcher to perform difficult comparative studies, using meta-analytical techniques.

The weakness of using secondary data (information is collected for purposes other than the study) was not applicable in this study, as banks need to comply with the NCA and the compliance information is exactly what was needed for the purpose of the study. Registered data on monthly residential mortgages was obtained from Lightstone Property for the period January 2001 to August 2011. Monthly data was also obtained from the BA900 of the SARB for the same period. The mortgage data that was collected and used was residential mortgage data of households because that is the data that is subject to NCA regulation and applicable to this study.

Total mortgage numbers and values granted for the period January 2008 to January 2014 were collected for this research. The reason for using data from 2008 is that prior to 2008 there might have been variances and discrepancies in the data as some definitions changed between the old DI900 and new BA900 forms. Furthermore, there were also some differences between the accounts

included/not included by the banks prior to 2008. It is only from 2008 that details of residential mortgages applied for and granted were given. Further advance numbers and values were also collected for this research. Registered data on monthly further advances was obtained from Lightstone Property for the period January 2001 to August 2011. A further advance is when a second bond is registered over the property in order to get additional funds (Standard Bank, 2015). It can be used in various ways; the funds from the home loan can be used to improve the property's value by making alterations or additions to the home or for personal use (Standard Bank, 2015).

Total mortgages include commercial, farm and residential mortgages. Commercial mortgage and farm mortgage data was not included. Although the value of these mortgages applied for is reported, the main focus of this study was the number of residential mortgage applications registered and total mortgage advances granted. The values of the residential mortgages and the values of total mortgages approved were also taken into account. When analysing time series data, one is mainly interested in what happens to the variable being studied over time (Chisasa, 2014:85). To predict the future behaviour of this variable is the purpose of the time series (Chisasa, 2014:85).

The following data was collected:

- Total number and rand value of residential mortgages registered;
- Residential mortgages granted after the NCA;
- Total number and rand value of mortgage advances granted, consisting of new residential mortgage advances granted, re-advances on residential mortgages granted and commercial and farm mortgages granted;
- Number and rand value of further advances on residential bonds registered.

When using a quantitative methodology, the researcher seeks data that can be analysed statistically to create quantified results (Mtimkuli, 2009:32). In this study data was analysed for the period before the enactment of the National Credit Act (January 2001 to March 2005) and the results were compared with data for the period June 2007 to August 2011, being the period of the promulgation of the NCA. The purpose of using 2007 as a base year was to minimise the effects

of confounding factors such as external shocks that cannot be fully controlled. In this study, the introduction of the NCA served as a shock appearing in the period under review. Although the NCA was approved in March 2005, it was only implemented on 1 June 2007.

The NCA was implemented to curb reckless lending. Prior to 2007, financial institutions charged consumers ridiculously high interest rates. The South African consumer credit market was controlled by the Usury Act and the Credit Agreements Act before the main provisions of the NCA came into effect on 1 June 2007 (De Clercq, 2013). The main purpose of the Usury Act was disclosure (of credit information to the borrower) and restriction (the maximum, and types of fees and financing rates that could be charged), while the Credit Agreements Act put in place additional regulating measures, for example the term of the agreement and deposits the borrower had to pay as part of the credit purchasing process (De Clercq, 2013).

The previous Minister of Finance, Pravin Gordhan, had meetings with the Banking Association of South Africa (BASA) and members of the banking industry on 27 August 2012 and 19 October 2012 in an attempt to address the problem areas of lending and the increase in overdue consumers (De Clercq 2013). The agreement was made that responsible lending needed to improve, while methods should be implemented to stop households going into a debt spiral (De Clercq, 2013).

Since the date of the implementation of the NCA is known (1 June 2007), the behaviour of applications before and after implementation can be analysed using the t-test in order to minimise the effects of confounding factors such as external shocks, which include the increase of interest rates and inflation. Time series data of monthly approved residential mortgage applications in the year prior to the NCA is compared with time series data of monthly approved applications from 2008–2011.

Population

Population is defined as the total group of people from whom information is required (Wiid & Diggines, 2013:186). Caution must be applied when using the

word population; normally we mean the people who live in a particular place, such as the population of South Africa, but in research the word has a more specific meaning: it means the people you want to reach a conclusion about (Walker, 2010:21). The researcher must be certain what the population is when carrying out a study and always be certain they know exactly who or what they want to make a conclusion about (Walker, 2010:22). The target population for this study was the South African banks that approved residential loans between 1 January 2001 and 31 August 2011. Sampling was not applicable to this study because the analysis covered all the banks. The total population size of the study was 102 banks, comprising 51 banks prior to the NCA and 51 banks after the introduction of the NCA. The banks included all the banks that were registered in terms of the Banks Act for the relevant periods and were legally required to send their DI/BA forms to the SARB. The banks are normally constant, but sometimes banks join or deregister.

4.4 RESEARCH HYPOTHESES

A hypothesis can be defined as a prediction about what will be seen in a piece of research (Walker, 2010:247). Two kinds of hypotheses are used in classical tests of significance, namely the null hypothesis and the alternative hypothesis (Cooper and Emory, 1995:434). The null hypothesis (H_0) is a statement that no difference exists between the parameter and the statistic being compared to it (Cooper and Emory, 1995:434). The alternative hypothesis (H_1) is the hypothesis that is accepted if the null hypothesis is rejected (Croucher, 2010:826).

Two main hypotheses were formulated to guide this study. Both are based on Objectives 1 and 4.

Objective 1

The first objective was to determine the impact of the National Credit Act on residential mortgage financing in South Africa and to draw a comparison between pre- and post-NCA to see if there was a change in residential mortgage lending. From this objective, the following hypotheses were formulated:

- H_0 : The means for the two groups of data sets representing the pre- and post-NCA periods are equal.
- H_a : The means are not equal.

Objective 4

The fourth objective was to determine the effect of the implementation of the NCA on further advances in SA. To this end, the following hypotheses were formulated:

- H_0 : The NCA has no effect on further advances.
- H_a : The NCA has an effect on further advances.

4.5 STATISTICAL ANALYSIS TECHNIQUES APPLIED

This study aimed to investigate the impact that the NCA has had on residential mortgage applications through banks over the period 2001–2011. The following secondary objectives were formulated and how it was analysed:

- To determine if the NCA has had a positive or negative impact on residential mortgage financing in South Africa. T-test (comparison of means), descriptive statistics correlation analysis and trend analysis were used.
- To determine whether implementation of the NCA affected the acceptance rates of total mortgage lending. Trend analysis using number and values were used.
- To examine the trend of residential mortgages after the implementation of the NCA. Trend analysis using number and values were used.
- To determine the effect of the implementation of the NCA on further advances on mortgages in South Africa. t-test (comparison of means) , descriptive statistics correlation analysis and trend analysis were used.

Collected data should be edited, coded and tabulated in order to assist with the processing and analysis (Gopaul, 2013:84). The researcher must later translate the data into meaningful information (Wiid & Diggines, 2013:36). Data analysis can be defined as reducing accumulated data to a manageable size, looking for patterns, developing summaries and applying statistical techniques (Cooper &

Schindler, 2014:86), and Gopaul (2013:84) defines data analysis as the application of reasoning to understand the data that has been gathered. The reason behind data analysis is to understand the various elements of the data, by evaluating the relationships between concepts and identifying any patterns or trends, or to identify themes in the data (Dilotsotlhe, 2013:46). To identify the similarities and differences in the data is another reason for using data analysis (Dilotsotlhe, 2013:46). There are a lot of computer programs available which researchers can use in order to assist in data processing and analysis (Wiid & Diggines, 2013:36).

However, for the purpose of this study, the results were captured and then analysed by means of the Statistical Analysis System (SAS) Enterprise Guide 4.3. The correlation analysis was carried out by using the Statistical Package for Social Science (SPSS). The analysis of data was done using the following techniques:

- Trend analysis;
- Descriptive analysis;
- Normality test;
- Correlation analysis;
- T-test.

Each of these is elaborated on in the sections that follow.

4.5.1 Trend analysis

When an independent variable is measureable, it is often more useful to take into account the overall relation between the treatment group means and the levels of the independent variable, rather than to make comparisons between two means (Myers, Well & Lorch, 2010:271). Such analyses of the function linking the dependent and independent variable are often referred to as trend analysis (Myers *et al.*, 2010:271). The trend may be defined as the long-term underlying growth movement in a time series, and as such it can only be determined if the data is accessible for a substantial time (Croucher, 2010:558). An analysis of the trend of the observations is also vital for studying the progress of events and for an overall review of prevailing conditions (Croucher, 2010:558).

Secondary data, mainly time series secondary data, lends itself to analysis in order to explain trends (Tustin *et al.*, 2005:487).

The data from trend studies can be analysed only in the aggregate form in which they are gathered (Aaker *et al.*, 2013:288). In this study trend analysis was used to evaluate trends of the impact of the NCA on residential mortgage lending for the period 2001–2011. Trend analysis was used for objectives 2, 3 and 4. Visual and statistical exploration (data visualisation) can be used to identify strengths (Cooper & Schindler, 2014:106).

4.5.2 Descriptive statistics

Descriptive statistics were used to analyse the data. They focus on the collection and display of information (Croucher, 2010:226). The purpose of descriptive statistics is to investigate the distribution of scores for each variable and to determine whether the scores on different variables are linked to each other (Dilotsotlhe, 2013:47). The techniques include measures of variability such as the variance and standard deviation, a measure of central tendency and the mean, which can be presented either numerically or visually using graphs (Gopaul, 2013:85). Measures of central tendency are the midpoint in a set of numbers, also called the averages (Walker, 2010:246).

When the purpose of the analysis is simply to describe a set of data, then descriptive statistics are appropriate (Howell, 2009:6). Descriptive statistical analysis of the pre-NCA period, from January 2001 – March 2005 and post-NCA period, from June 2007 – August 2011 was done and also for the whole period without division, 2001–2011. According to Saunders *et al.*, (2009:444), descriptive statistics allow a researcher to describe and compare variables numerically.

Vogt (2007:57) states that descriptive analysis can be used in at least three ways:

- i) Compare it with inferential statistics.
- ii) Compare it to multivariate statistics, namely with statistics that study more than one variable at a time.

- iii) Compare it with approaches to data that try to discover causes, even when this casual work does not lead to attempts to draw inferences about a population from a sample (Vogt, 2007:58).

The following descriptive statistics were used to make a comparison between the period prior to and after the NCA . Data was analysed using the standard deviation, mean and variance. These are explained below.

4.5.2.1 *Standard deviation (SD)*

One way of describing dispersion is through standard deviation. Dispersion describes how the data values are scattered around central tendency and is only possible for numerical data (Saunders *et al.*, 2009:447). SD can be defined as a measure of variability of a group of scores and indicates how much the scores are spread out (high SD) or are grouped together (low SD) (Vogt, 2007: 19).

Standard deviation is calculated as follows:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

Where:

s = standard deviation

\sum = sum of

X = each value in the data set

n-1 = number of values -1

\bar{x} = the mean of a sample of scores

4.5.2.2 *Mean*

The mean is one way of measuring central tendency and it is also the most well-known measure of central tendency. Central tendency describes data for both samples and populations quantitatively, typically to give a general impression of values that could be seen as common, middling or average (Saunders *et al.*, 2009:444). The mean can be defined as the sum of scores divided by the number of scores (Howell, 2009:66).

It can be calculated as follows:

Sample mean	Population mean
$\bar{x} = \frac{\sum x}{n}$	$\mu = \frac{\sum x}{N}$

Where:

$\sum x$ = sum of all data values

N = number of data items in population

n = number of data items in sample

This study used the population mean (μ) because it is the most important parameter of a distribution and information is often needed about the value of μ , or whether or not μ has changed due to external factors must be determined (Steyn, Smit, Du Toit & Strasheim, 1994:420).

4.5.2.3 Variance

Variance is the sum of the squared deviations about the mean divided by the sample size (Howell, 2009: 90). It can be calculated as follows:

$$s^2 = \frac{\sum (X_i - \bar{X})^2}{n}$$

Where:

X_i = each value in the data set

n = number of values

\bar{x} = the mean of a sample of scores

4.5.3 Kolmogorov-Smirnov (KS) Test for normality

The Kolmogorov-Smirnov (KS), a non-parametric test was used to determine if data was normally distributed. The KS is a one-sample test and suitable when the data is at least ordinal and the research situation calls for a comparison of an observed sample distribution with a theoretical distribution (Cooper & Emory, 1995:647). The KS is a test of goodness-of-fit and determines the point at which

the two sets of frequencies deviate the most, that is *the* maximum deviation (D) between the cumulative theoretical frequency distribution and the cumulative observed frequency distribution (Tustin *et al.*, 2005:613). D can be calculated as follows:

$$D = \text{maximum } |F_0(X) - F_T(X)|$$

Where:

$F_0(X)$ = the observed cumulative frequency distribution of a random sample of n observations

X = any possible score

$F_0(X)$ = k/n

k = the number of observations equal to or less than X

$F_T(X)$ = the theoretical frequency distribution under H_0

The Shapiro Wild (w), Cramervon Mises (w-sq), and Aderson Darling (A-sq) tests for normality were conducted in order to confirm results of the Kolmogorov-Smirnov (D) normality test.

4.5.4 Correlation analysis

After observing the trend of the variables, the strength of the association is determined using the correlation coefficient (Chisasa, 2014:85). Correlation deals with the relationship between two variables, and the measure of the degree or strength of this relationship is represented by a correlation coefficient (Howell, 2009:189). Correlation answers questions between numbers 0 and 1; when the answer is close to 0, then the two measurements have a weak relationship, but when it is close to 1, then there is a strong relationship between the two measurements (Walker, 2010:181). The sign of correlation coefficient (+/-) shows the direction and the value is indicative of the strength (Pillay, 2009:75). The Pearson correlation coefficient is a measure of the extent to which two quantitative variables are linearly related and is represented by the symbol r which can vary from -1.0 to +1.0 (Myers *et al.*, 2010:443).

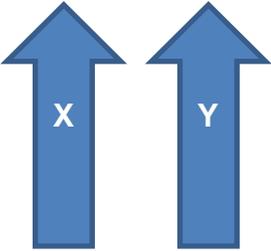
The correlation coefficient r represents:

$$r = \frac{\text{degree to which X \& Y vary together}}{\text{degree to which X \& Y vary separately}}$$

$$r = \frac{\text{covariance of X \& Y}}{\text{variance of X \& Y}}$$

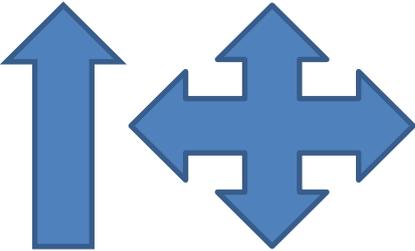
Source: Pillay (2009:75)

Correlation can be positive or negative. When a correlation is positive, it means that when one measure increases, the other tends to increase also (Walker, 2010:184). When $r = 1$, a perfect positive relationship exists and it is proved that $-1 \leq r \leq 1$ (Steyn *et al.*, 1994:491).



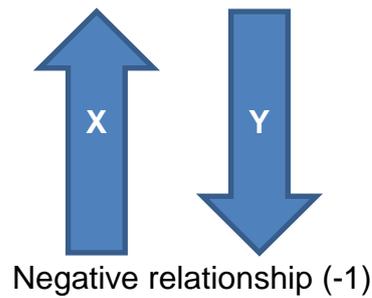
Positive relationship (+1)

A correlation coefficient of 0 suggests that the movements are totally random and an increase by variable X provides no insight into the expected movement of variable Y (Pillay, 2009:76). There is a perfect non-linear relationship between X and Y when $r = 0$ (Steyn *et al.*, 1994:491).



Non-correlation (0)

A correlation coefficient of -1.00 suggests that two variables move in the opposite direction at all times. If variable X increases in value, variable Y would be expected to decrease in value (Pillay, 2009:76). When $r = -1$ a perfect linear relationship exists between X and Y (Steyn *et al.*, 1994:491).



In this study, the relationship between the numbers and values of residential bonds registered and also the values and numbers of further advances registered were determined. The period was from January 2001 – August 2011.

4.5.5 Inferential statistics

Inferential statistics help draw conclusions about a population on the basis of information about samples drawn from it (Vogt, 2007:11). The main purpose of inferential statistics is to draw inferences about parameters from statistics and the corresponding values in the population are known as parameters (Howell, 2009:7). To assist with analysis and interpretation in this study, the data cleaning was performed in a way that made it appropriate for analysis, as recommended by Chisasa (2014:75).

The two general classes of significance tests are parametric and non-parametric tests (Cooper & Schindler, 2014:440). Parametric tests are more powerful because the data comes from interval and ratio measurements, while non-parametric tests are used to test hypotheses with nominal and ordinal data (Cooper & Schindler, 2014:440). Vogt (2007:68) maintains that “the non-parametric tests are applied to techniques that make no assumptions about population parameters and distributions (such as that these are normal)”. “Powerful” means that if there is really a difference between the two groups, a powerful test is likely to see it (Walker, 2010:172). The two most common correlation tests are the Pearson’s product-moment correlation coefficient and Spearman’s rho. The Pearson test is used for the parametric procedure and the Spearman test is used for the non-parametric test (Walker, 2010:195). The Pearson correlation was used for this study.

Often in practice, there are situations in which the parameters of two populations have to be compared (Steyn *et al.*, 1994:428). The t-test was used in this study to compare the effect of the NCA prior to and after its implementation. Cooper and Schindler (2014:440) identify the following principles for parametric tests:

- The observations must be independent, for example the selection of any one case should not influence the chances of any other case of being included in the sample.
- The observations should be taken from normally distributed populations.
- These populations should have the same variances.
- The measurement scales should at least be interval so that arithmetic operations can be used with them.

4.5.6 The t-test

The t-test, which is commonly known as the Student's t-distribution, is used to compare two sets of numbers to see whether or not they are different, even when the sets of numbers are quite small (Walker, 2010:176). There are two types of t-tests that determine if the means of the two subsamples are different; one t-test assumes that the variances of the samples are equal and the other assumes that the variances are not equal. In order to determine which t-test to use, a variance ratio F-test must first be performed. The F-test is determined by two parameters, v_1 and v_2 , which are known as the degrees of freedom (DF) of distribution (Steyn *et al.*, 1994:368). It is assumed that each of the two populations is normally distributed in testing for a difference between two variances when using the F-test (Berenson, Levine & Krehbiel, 2012:394). According to Berenson *et al.*, (2012:394), the F-test is very sensitive to the normality assumption and if boxplots or normal probability plots imply even a slight difference from normality for any of the two populations, the F-test should not be used.

Usually, the validity of the t-test demands that the samples be drawn from normally distributed populations with equal (population) standard deviations. Fortunately, the central limit theorem guarantees the validity of the t-test even if the populations are not normally distributed. Normally, the t-test is robust in

moderate departures from normality so that p-values obtained can be validly interpreted. The pooled-variance t-test can be used to determine whether there is a significant difference between the means of the two populations if it is assumed that the random samples are independently selected from two populations and that the populations are normally distributed and have equal variances (Berenson *et al.*, 2012:366). The pooled-variance t-test can still be used if the sample sizes are large enough (>30 for each sample) even though data is not normally distributed (Berenson *et al.*, 2012:366).

Usually, it is not necessary to perform preliminary tests for normality and equality of variances, as practice has shown that such tests often detect differences too small to affect the t-test. Fortunately, these days statistical software packages enable easy computation of both the equal and unequal variance t-test and comparison if they differ. It should be noted, however, that the unequal variance t-test is less powerful than the equal variance t-test because it uses fewer assumptions.

Should there be sufficient reasons to believe that the conditions for the validity of the independent t-test are violated, the best approach is to transform the data to a scale in which the conditions are satisfied. For percentages, arcsin or log transformation could be used. The Mann-Whitney test (1947) and Wilcoxon's rank sum test (1945) are the two choices when comparing the distributions in two conditions and these conditions comprise different entities (Field, 2013: 219). The Mann-Whitney test is a non-parametric test which is an alternative to the independent-samples t-test and can be used to compare two separate groups, but for some reason a t-test is not possible (Walker, 2010:232). According to Vogt (2007:68), "the awkward term non-parametric is applied to techniques that make no assumptions about population parameters and distributions (such as that these are normal)".

Non-parametric statistics are created for research in which the variables are measured at low levels (nominal and/or ordinal) (Vogt 2007:68). The Wilcoxon test is used where there are two sets of scores to be compared, but these scores come from the same participants (Field, 2013:228). This test checks whether the two samples have identical distributions and whether the differences in the

ranks between the two groups are statistically significant (Dowelani, 2012:47). This test can be more powerful than the t-test in instances where the latter is not suitable, and it has excellent efficiency (Cooper & Schindler, 2014:613). According to Field (2013:219), these tests are both equivalent.

The formula for the t-test is:

$$t = \frac{\bar{X}_T - \bar{X}_C}{\sqrt{\frac{\text{var}_T}{n_T} + \frac{\text{var}_C}{n_C}}}$$

Where:

\bar{X}_T = pre-NCA granted mortgage loan mean

var_T = variance

n_T = number of monthly observations

\bar{X}_C = post-NCA granted mortgage loan mean

var_C = variance

n_C = number of monthly observations

The t-value will be positive if the pre-NCA mean is larger than the post-NCA mean. Once the t-value is computed, the significance level is determined to test whether the ratio is large enough to conclude that the difference between the pre-NCA mean and the post-NCA mean is not likely to have been a chance finding.

4.6 RELIABILITY AND VALIDITY

Reliability and validity are important aspects of all research designs and measurement techniques (Vogt, 2007:113). Goodwin (2010:134) asserts that for any measure to be of value in research, it should be adequately reliable and valid. The reliability and validity assigned to secondary data are functions of the method through which the data was gathered and the source (Saunders *et al.*, 2009:274). The source here is referred to as assessing the authority or reputation (Saunders *et al.*, 2009:274). SARB data is audited by reputable audit firms. “Reliability” refers to consistency of either measurement or design (Vogt,

2007:114). The secondary data that was used in the study was collected from the SARB and was unlikely to have any bias and measurement errors because the data was reliable and credible. In the research, reliability was ensured by stating the literature sources on which the theoretical views were based. Chapter 2 and 3 explained the conceptual framework of mortgage lending, a detailed background of the NCA and credit regulation. The population that was chosen was consistent and representative of the banks in South Africa. Pearson's correlation coefficient was also used as a measurement for reliability.

"Validity" refers to whether an instrument actually measures what it was designed to measure (Field, 2013:12). The validity of the instrument answers questions like "Does the instrument really measure what its designer claims it does?" Flawed research procedures, poor samples and inaccurate measuring instruments that lead to invalid results are common research errors (Phenya, 2011:56). There are two types of validity, namely internal and external validity. Internal validity is when the results that were obtained from the research study are a true reflection of the characteristic being measured and have not been manipulated by interfering factors (Dilotsothe, 2013:51). Gordis (2000:120) defines external validity as how the findings of a given study will be extrapolated to the wider general population. Reliable sources were used where stringent measures were taken to ensure accuracy and validity of the data.

4.7 SUMMARY

In this chapter, the methodology and research design used in the study were discussed. The quantitative research methodology was used as it was appropriate to the objectives of the study and the type of data collected and analysed. Secondary data was used in this study. The population, the selection and the techniques used to collect the data and the manner in which data would be analysed and interpreted were discussed as part of the research design. The measures applicable to test the reliability and validity of the data were also discussed. The next chapter will present the results of the data collected from the research.

CHAPTER 5

EMPIRICAL RESULTS AND DISCUSSION

5.1 INTRODUCTION

The purpose of this chapter is to report on and discuss the results of the data analysis. Data was captured and analysed by means of the Statistical Analysis System (SAS) Enterprise Guide 4.3. Correlation analysis was carried out by using SPSS. The chapter is divided into descriptive and inferential statistics sections.

5.2 TREND ANALYSIS

In this section the activity on the mortgage bond market in South Africa is tracked for the period 2001 to 2011. The analysis uses both volume and rand value time series data for all the objectives. The trend analysis was done using graphs. This is in line with Chisasa and Makina (2012).

5.2.1 Number of residential bonds registered

To determine if the NCA had a positive or negative impact on residential mortgage financing in SA was objective 1. A trend analysis of the number of registered bonds was conducted and the results are shown in Figure 5.1 below. This analysis covers the period before and after the implementation of the NCA. The purpose is to give an overview of the patterns of residential bond registrations in South Africa. Although bond registration was characterised by fluctuations, a general upward trend is observable from January 2001 to July/August 2007. A subsequent downward trend follows for the remaining period under review (August 2007 to June 2011).

A closer look at Figure 5.1 shows that there was a drop in the number of registered bonds between January and April 2001 and a steady increase thereafter. High interest rates and high unemployment could have played a role. In mid-2007 residential bond registrations dropped, coinciding with the implementation of the NCA in 2007. In the aftermath of the implementation of the NCA, a

declining trend experienced in 2008 was driven by the lagged effect of the interest rate cycle, the NCA, stricter criteria by the banks and financial difficulties experienced by consumers, as demonstrated in Table 5.1 (Pillay, 2009: 89).

By the end of 2008, the strict contraction in nominal house price growth triggered real growth to move into negative numbers, which clearly affected the extension of new mortgage loans (Luttig, 2010:20). The contraction in the mortgage market was further helped by the concerns of a recession and the changes in the lending criteria of the four major banks, with all four unwilling to lend anything more than 80% of the value of the house by the end of 2008 (Luttig, 2010:20). The number of mortgages stabilised as from 2008. The number of mortgage agreements entered into grew by 12.13% for the quarter ended December 2009, but on a year-on-year basis the number of mortgage agreements entered into showed an extra decline of 28.78% (Luttig, 2010:21). The majority (79.87%) of mortgages granted benefited people with a gross monthly income greater than R15 000 (Luttig, 2010:21). From 2008 the number of registered bonds declined rapidly until 2011.

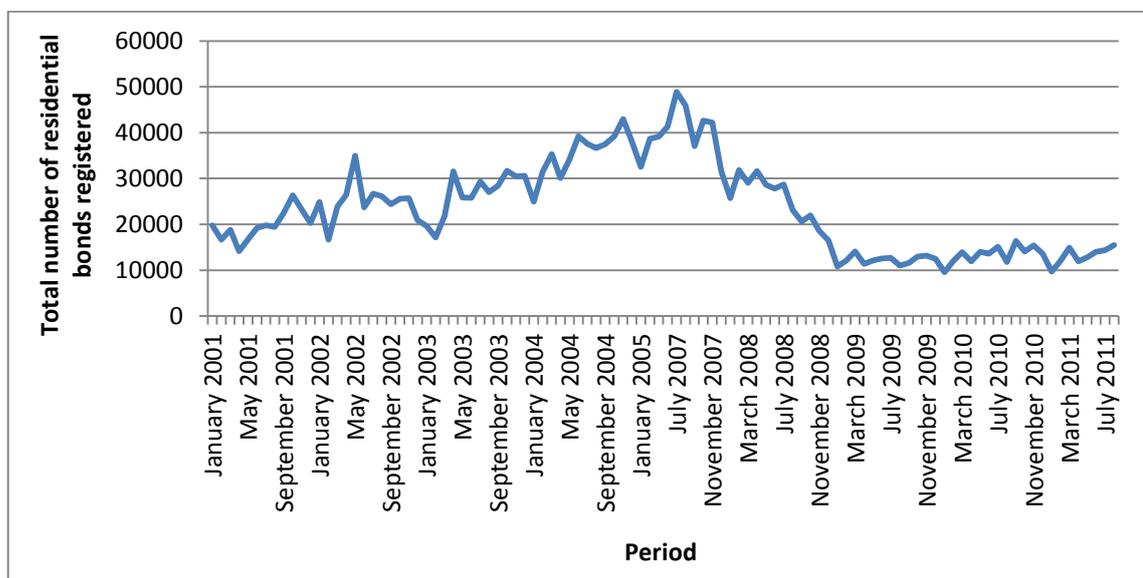


Figure 5.1: Total number of residential bonds registered

What is also known is that a few external factors played a role in the decline in mortgage lending. These include the 2008/9 global financial recession, increase

in interest rates and the financial crisis in the US. According to Landie (2013:3), a slowdown was felt post-2007 until 2009 as a consequence of the financial crisis. The sub-prime crisis did not affect South Africa in the same way that it affected the US and mortgage extensions by credit providers began dropping drastically after 2007. Mortgage loans became less attractive to credit providers because of the following (NCR 2012:56):

- The lack of growth in the property market provided less opportunity.
- The value of residential property was decreasing.
- The time of recovery lengthened, partially prompted by the introduction of the NCA and the delay it caused in the legal process. The risk experience of mortgage loans also changed, where previously a consumer would default on other agreements first and do whatever possible to keep their home, the debt counselling 60-day period saw consumers also stop the servicing of their home loan during this period.
- Bond originators impacted margins at the credit providers (although they provided consumers with a mechanism to shop around and compare).
- The cost of long-term funding went up significantly – i.e. the cost for the credit provider in terms of raising funds to match the long-term nature of their home loan book increased significantly, eroding the profitability of this particular type of lending (NCR, 2012:56).

From the trend analysis, it is evident that there was a decrease in the number of residential bonds registered. The decrease may have been as a result of the implementation of the NCA. As such, it can be concluded that the introduction of the NCA had a positive impact on residential bonds.

5.2.2 Rand value of residential bonds registered

As depicted in Figure 5.2, there was an increase in the value of registered bonds from January 2001 to January 2002. The rand value of aggregate bond registrations increased from May 2002 to January 2004. The trend of the value of registered bonds followed the same trend as the number of registered bonds, the only difference being the number of credit facilities that improved in some income groupings (although the rand value declined), implying a lower average

facility being granted. The SARB provide a commercial vs residential split in the value of mortgage loans granted, and from this it is evident that both sectors contributed to the broad slowing in growth, although at 2.8% year-on-year growth by December 2014, it seemed that the residential sector was the weaker of the two (Loos & Swanepoel, 2015:3). The growth in value of new residential mortgages granted was 28.7% in August 2013 during the second post-recession mortgage lending flow, before the slow broad tapering started (Loos & Swanepoel, 2015:3).

This proves objective 1, this proves that the NCA had a positive effect on the housing loan market because fewer mortgages were approved.

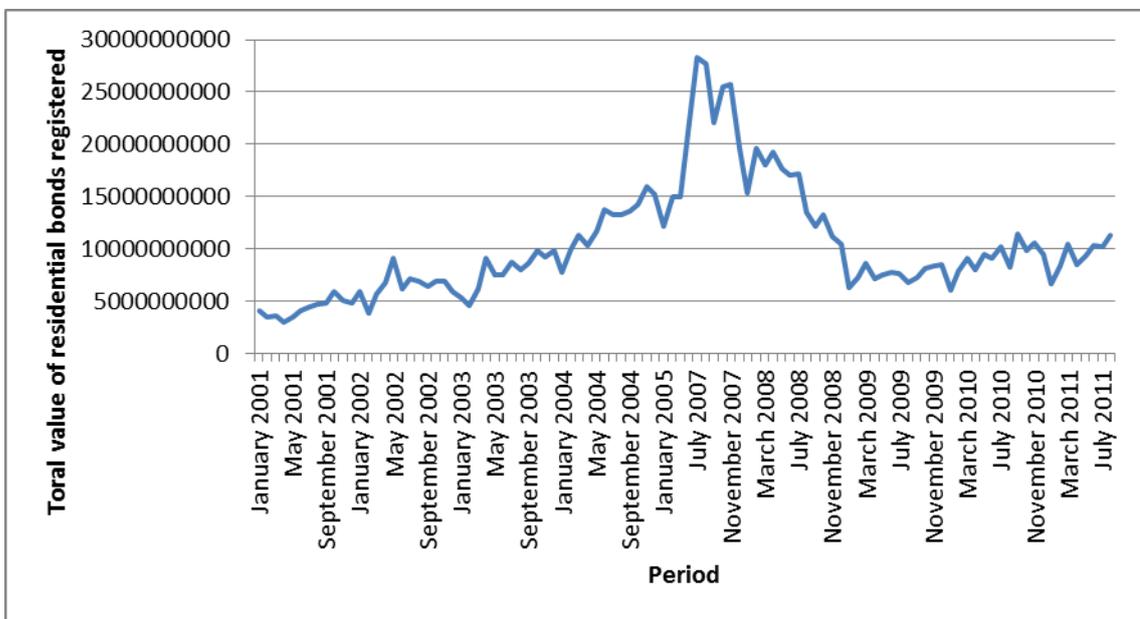


Figure 5.2: Total value of residential bonds registered (Rands)

5.2.3 Mortgage application acceptance rates (2008 – 2014)

To determine whether implementation of the NCA affected the acceptance rates of total mortgage lending was objective 2. For objective 2, the total mortgages approved from January 2008 until January 2014 are considered. The acceptance rate is calculated as the total number of mortgages granted divided by the number of mortgages applied for. Total mortgages include commercial, farm and residential mortgages. Results (see Figure 5.3) of this study confirm the findings of previous studies discussed in the literature review chapter, namely

that the NCA influenced the acceptance rates downwards as from October 2008. These results also show that consumers whose mortgages were approved by the banks adhered to the NCA rules and legislation. Figure 5.3 clearly illustrates the effect of the NCA on the acceptance rate, and indicates a decline in mortgage advances. This result suggests that the introduction of the NCA had a positive influence on the number of applications or supply of mortgage finance. Therefore, by introducing the NCA, the authorities were successful in reducing reckless lending as was the case before the introduction of the NCA. In the study by Pillay (2009:108), it was found that the slowdown in the SA residential property market compounded by the banks' reluctance to approve bonds and the government's stringent enforcement of the National Credit Act, has affected amongst others the formal real estate industry. This also proves objective 2 of this research, namely that the NCA had an effect because fewer mortgages were approved.

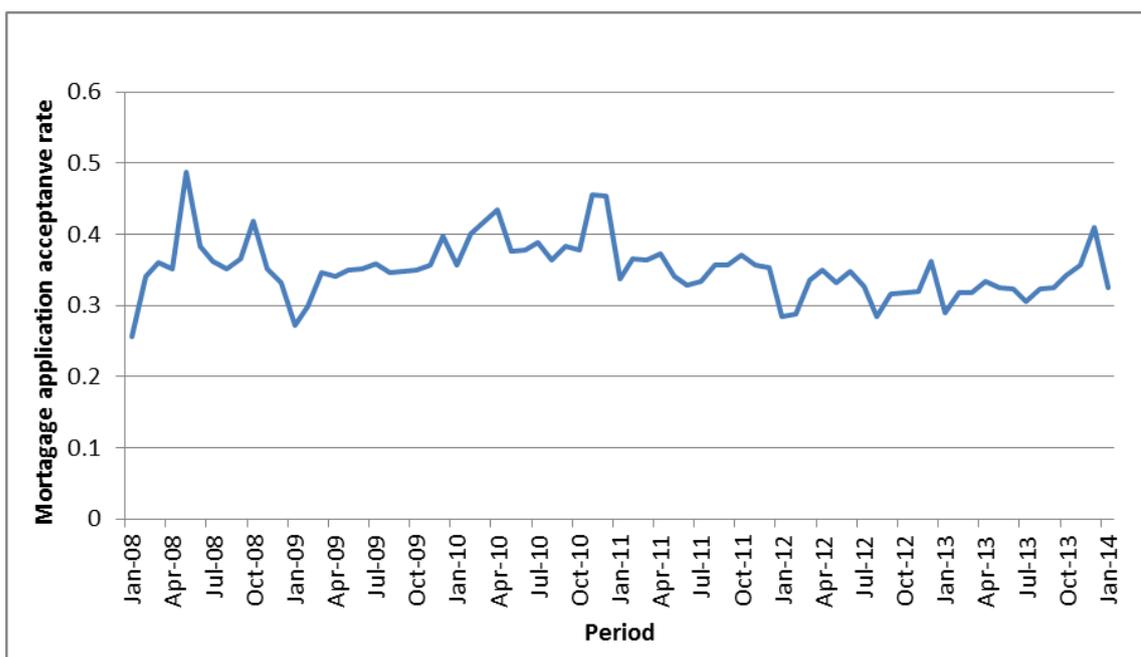


Figure 5.3: Mortgage application acceptance rate

5.2.4 Trends in the number of mortgage advances granted

Figure 5.4 displays the total number of mortgage advances applied for and Figure 5.5 displays the mortgage advances granted. The number of mortgage advances applied for decreased significantly after the implementation of the NCA.

Previously, too much credit was granted to those who could not really afford it and the rate of approvals for such loans dropped drastically as a result of the NCA (Pieterse, 2009:160). Prior to the implementation of the NCA, the year-on-year change in mortgage advances showed a stable growth from 24.5% (2004) to 28.6% (2005), closing in 2006 at 30.4% as depicted in Table 5.1 (Pillay, 2009: 90) The year-on-year change in mortgage advances post-implementation of the NCA shows a decline from 30.4% (2006) to 25.3% (2007), dropping to 13.2% (2008) (Pillay, 2009:90). The biggest decline was in mortgage advances granted, because between December 2007 and June 2009 this figure dropped by 66.77% (CCR, 2009:1). This is displayed in Table 5.1. The contribution of mortgages towards total credit granted decreased from 56.55% to 39.65% in the June 2009 quarter (Consumer Credit Report 2009:1). The percentage share of mortgage advances granted, against total credit granted, dropped from 51.8% in December 2007 to 23.9% in December 2012 (NCR, 2013:7).

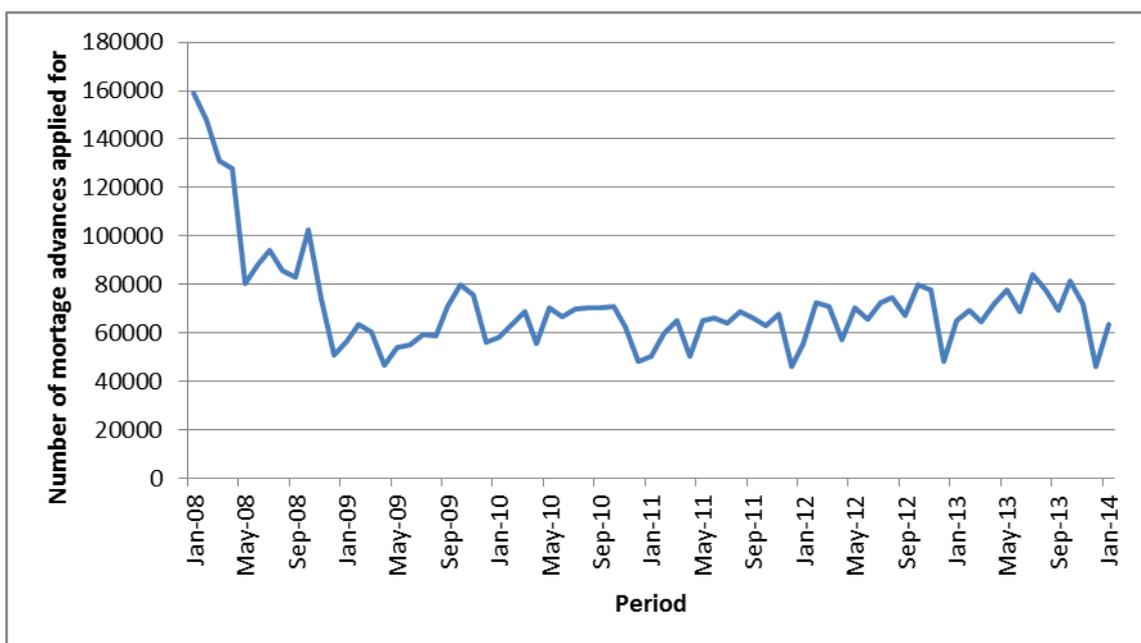


Figure 5.4: Number of mortgage advances applied for

Data from the NCR reveals a similar picture of slowing growth through 2014, with growth in mortgage credit granted to households having peaked at 22.9% year-on-year in the first quarter of 2014, and decreasing to 7.35% by the third quarter of the year (Loos & Swanepoel, 2015:3). The implementation of the NCA on 1 June 2007 accounted for the lower growth in mortgage advances in the

second half of the year due to the strict criteria used to evaluate home loan applications (Pillay, 2009:88). In a study on the NCA, Pillay (2009:88) reports that growth in mortgage advances to the household sector was slightly lower at 19.9% year-on-year from 20.0% year-on-year in September and the unpaid amount of mortgage balances in the household sector was R692.2 billion in October, having a share of 72.5% in total mortgage debt. The mortgage market has seen two growth flows since the 2008/9 recession, one in about 2010 in response to aggressive interest rate cuts by the SARB in late 2008/2009, and the second flow beginning in about 2012/13 (Loos & Swanepoel, 2015:2).

A strong negative relationship exists because the correlation coefficient $r = -1.00$ for period 2007 to 2008, as depicted in Table 5.1 (Pillay, 2009:90). This explains that the interest rates had a minimal effect on the performance of mortgage advances, although, post-implementation of the NCA, the value of r strengthened considerably, indicating a stronger relationship between these variables (Pillay, 2009:90). This also proves the objective that the NCA had an effect because fewer mortgages were approved.

Table 5.1: Key variables in respect of mortgage advances

		2004	2005	2006	2007	2008
Mortgage interest rates (x)	%	11.3	10.6	11.2	13.2	15.1
Mortgage advances (end of period) (y)	Normal % change	24.5	28.6	30.4	25.3	13.2
Correlation coefficient r	$r = \frac{SP}{\sqrt{SS_x \times SS_y}}$			-0.3465		-1.00

Source: Pillay (2009:90)

To examine the trend of residential mortgages after the implementation of the NCA was objective 3. To achieve objective 3, Figure 5.5 shows that there was a growth in the number of new residential mortgage advances granted in January 2008, but then it systematically dropped until January 2009; the financial crisis and interest rates could be some of the external factors that played a role. There was a small recovery in 2010, but another slowdown was experienced into 2011 as the effect of the financial crisis continued to impact the economy

(Landie, 2013:3). The number of new residential mortgage advances systematically dropped and then recovered in January 2013, but dropped at an increasing rate until January 2014. The residential mortgage market continued its slowdown in the final quarter of 2014, in relation to new lending, with SARB data displaying the growth in the value of new residential loans granted having decreased to 1.3% year-on-year from 8.7% in the former quarter (NCR, 2013:7). The SARB Leading Business Cycle Indicator, which most of the time correlates quite well with new mortgage lending, portrays a depressed picture because two post-recession growth resurgences were experienced; the big one in 2009/10 and a more lenient one in 2012/13, both leading to higher residential mortgage growth (Loos & Swanepoel, 2015:9).

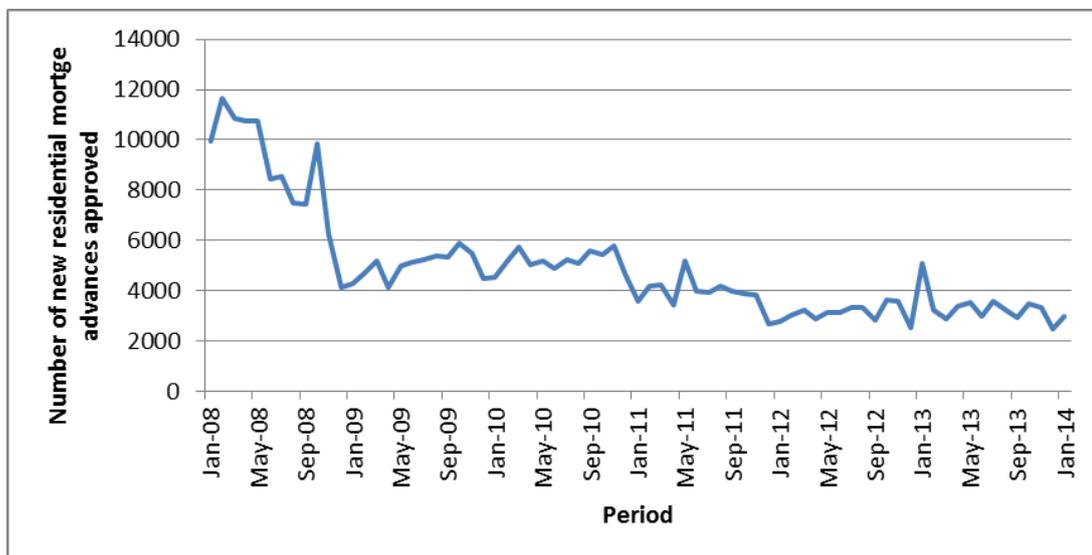


Figure 5.5: Number of new residential mortgage advances approved

The values of new residential mortgage advances granted, seen in Figure 5.6, follow the same trend as the number of new residential mortgage advances granted. The values of residential mortgages granted dropped significantly after the NCA.

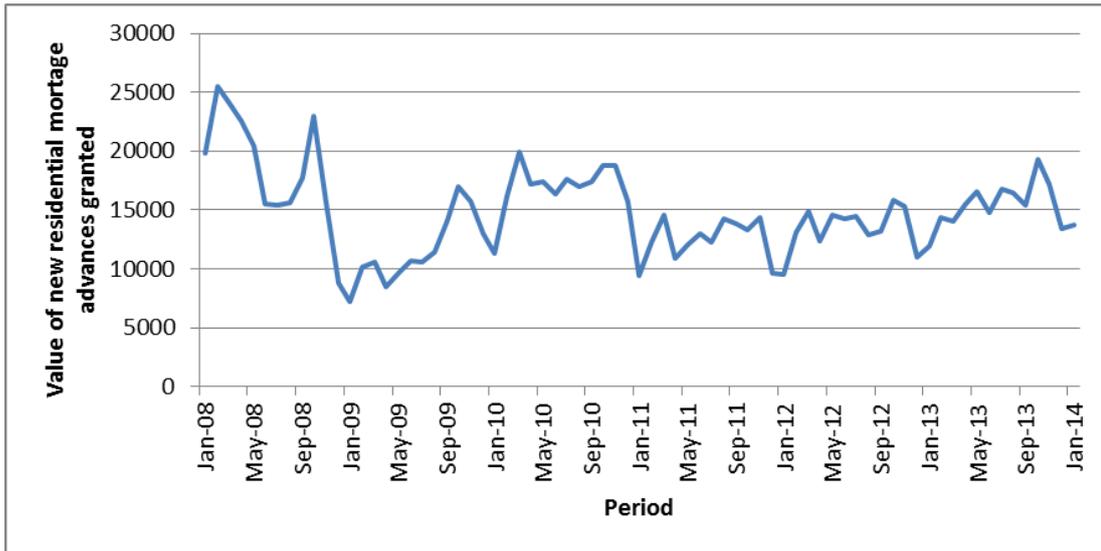


Figure 5.6: Value of new residential mortgage advances granted

To achieve the fourth research objective, namely to determine the effect of the implementation of the NCA on further advances on residential mortgages.

Figure 5.7 gives the distribution of the pre- and post-NCA scores of the further advances (in numbers) on residential bonds registered. From January 2001 and just before the implementation of the NCA there was an increase in further advances. After implementation of the NCA, the number of further advances on bonds decreased. From September 2008 it gradually dropped until June 2011.

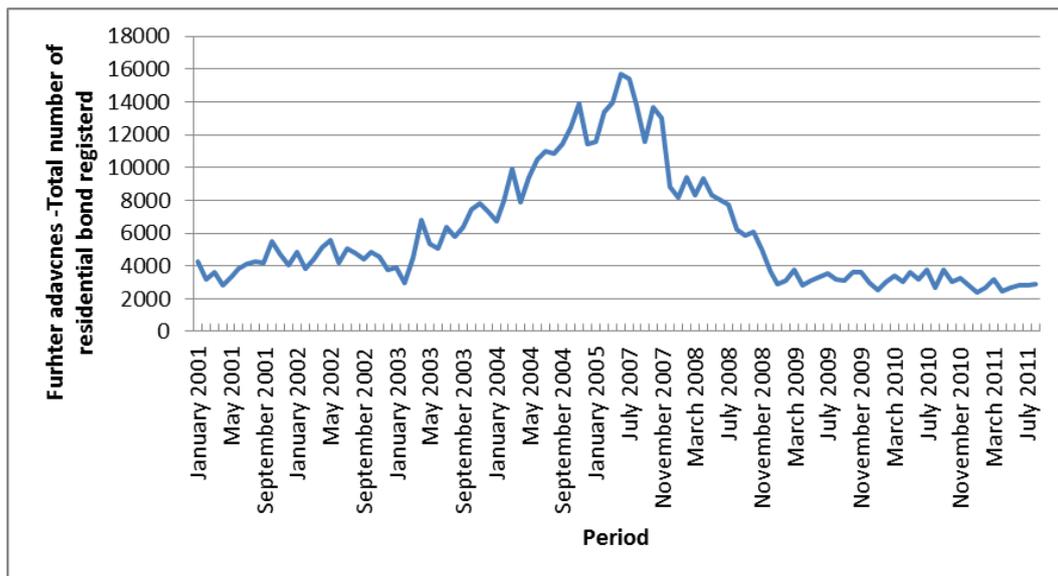


Figure 5.7: Further advances – Total number of residential bonds registered

Figure 5.8 displays the values for further advances on bonds registered. The figure displays a similar trend to the number of further advances. From January 2001 and before the implementation of the NCA, the values of further advances increased. The values dropped post-NCA and from September 2008 the values of further advances decreased steadily. The NCA had a positive effect on further advances because the number and values of bonds dropped.

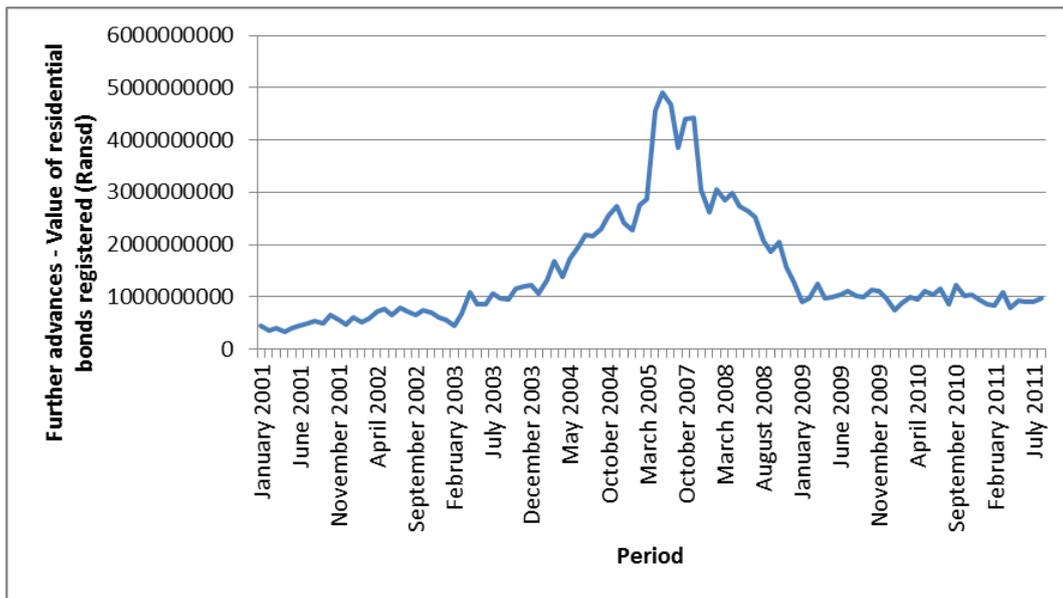


Figure 5.8: Further advances – Value of residential bonds registered (Rands)

5.3 DESCRIPTIVE ANALYSIS

Descriptive statistics in Table 5.2 show the means for the pre- and post-NCA periods for objective 1. The mean for the pre-NCA period is 27321.1 and that for the post-NCA period is 19750.2. This shows that the chances of an application being approved before the NCA was introduced were higher than in the post-NCA period. Although the highest number of bonds was issued in the post-NCA period (Max = 48926.0), on average, the reduced mean score of 19750.2 from 27321.1 in the pre-NCA period shows that after the introduction of the NCA fewer bonds were issued than in the period before the NCA came into effect. The standard deviation of the post-NCA period is 10680.5 compared to the pre-NCA period, which is 7346.2.

These results point towards the desired positive effect of slowing down the money supply towards mortgage lending by introducing the NCA. They are in

line with theoretical submissions that the credit supply may be limited by regulatory interventions.

Table 5.2: Bonds issued in the pre- and post-NCA periods

Pre-NCA					Post-NCA			
Variable	Mean	Std dev	Min	Max	Mean	Std dev	Min	Max
Volume	27321.1	7346.2	14162.0	42951.0	19750.2	10680.5	9558.0	48926.0
Value	8.157E9	3.6648E9	2.9681E9	1.597E10	1.238E10	6.0314E9	5.9895E9	2.83E10

Descriptive statistics in Table 5.3 show the means for the pre- and post-NCA periods for the total value of registered bonds. The mean for the pre-NCA period is 8.1579E9, while that for the post-NCA period is 1.238E10. This implies that the chances of an application being approved before the introduction of the NCA were higher than in the post-NCA period under review. The SD for the pre-NCA is 3.6648E9 and post-NCA is 6.0314E9.

Table 5.3: Total value of residential bonds registered (Rands)

V2	N	Mean	Std dev	Std err	Minimum	Maximum
Pre-NCA	51	8.1579E9	3.6648E9	5.1318E8	2.9681E9	1.597E10
Post-NCA	51	1.238E10	6.0314E9	8.4457E8	5.9895E9	2.83E10
Diff (1-2)		-4.221E9	4.9904E9	9.8825E8		

Table 5.4 gives more or less the same information, except that it includes the confidence intervals for the means and standard deviations for the pre-NCA and post-NCA periods. The standard deviation, which is an indication of the average distance from the mean, indicates that it was less for the pre-NCA (3.6648E9) than for the post-NCA period (6.0314E9).

Table 5.4: Total value of residential bonds registered (includes the confidence intervals)

V2	Method	Mean	95% CL mean		Std dev	95% CL std dev	
Pre-NCA		8.1579E9	7.1272E9	9.1887E9	3.6648E9	3.0664E9	4.5556E9
Post-NCA		1.238E10	1.068E10	1.408E10	6.0314E9	5.0465E9	7.4975E9
Diff (1-2)	Pooled	-4.221E9	-6.182E9	-2.261E9	4.9904E9	4.3843E9	5.7926E9
Diff (1-2)	Satterthwaite	-4.221E9	-6.187E9	-2.256E9			

5.4 TEST FOR NORMAL DISTRIBUTION

A test for normality was done to determine if data was normally distributed. The results of the normality test informed the subsequent choice between the parametric or non-parametric test. The Kolmogorov-Smirnov, a non-parametric test, was used to determine if data was normally distributed. Further tests for normality were conducted using the Shapiro Wilk (W), Cramer-von Mises (W-Sq) and Anderson Darling (A-Sq) for robustness. Table 5.5 below presents the summarised results for the normality test. All the tests confirm that the data was normally distributed with p-values less than 0.05.

Table 5.5: Normality test

Variable	Shapiro-Wilk (W)	p-value	Kolmogorov-Smirnov (D)	p-value	Cramer-von Mises (W-Sq)	p-value	Anderson Darling (A-Sq)	p-value
No. of residential bonds	0.939965	0.0002	0.11774	<0.0100	0.255103	<0.0050	1.798963	<0.0050
Total value of bonds	0.876332	<0.0001	0.163532	<0.0100	0.642979	<0.0050	3.706181	<0.0050
No. of further advances	0.841779	<0.0001	0.186221	<0.0100	1.010624	<0.0050	5.815864	<0.0050
Value of further advances	0.799526	<0.0001	0.248153	<0.0100	1.367333	<0.0050	7.246316	<0.0050

5.5 CORRELATION ANALYSIS

The first objective of the study was to determine the effect of the NCA on mortgage lending. A correlation analysis of the variables used to test this objective

was conducted using the Pearson correlation test. Results of the pre-NCA period are presented in Table 5.6 below.

5.5.1 Pre-NCA period correlation analysis

Results for the pre-NCA period in Table 5.6 show that there is a positive relationship between the number of residential bonds registered and the pre-NCA period ($r = .704$; $p > .05$). These results imply that the number of residential bonds issued increased during that period. There is a strong positive relationship between the value of residential bonds registered and the pre-NCA period ($r = .921$; $p > .05$), which means that the value of residential bonds increased during that period. There is a positive relationship between the number of registered bonds and the value of residential bonds registered ($r = .874$; $p > .05$), suggesting that an increase in the number of residential bonds registered led to an increase in the value of residential bonds registered. There was an increase in the numbers and values of bonds registered during pre-NCA. Overall, these results confirm the NCA has had a positive influence on the supply of residential mortgages.

Table 5.6: Pre-NCA correlation analysis

Correlations^a						
		Date	Number of residential bonds registered	Value of residential bonds registered (Rands)	Further advances – Number of residential bonds registered	Further advances – Value of residential bonds registered (Rands)
Date	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	51				
Number of residential bonds registered	Pearson Correlation	.704**	1			
	Sig. (2-tailed)	.000				
	N	51	51			
Value of residential bonds registered (Rands)	Pearson Correlation	.921**	.874**	1		
	Sig. (2-tailed)	.000	.000			
	N	51	51	51		
Further advances – Number of residential bonds registered	Pearson Correlation	.879**	.726**	.945**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	51	51	51	51	
Further advances – Value of residential bonds registered (Rands)	Pearson Correlation	.891**	.696**	.941**	.993**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	51	51	51	51	51

** Correlation is significant at the 0.01 level (2-tailed).

^a Period = Pre

5.5.2 Post-NCA period correlation analysis

Looking at the post-NCA correlation analysis in Table 5.7, there is a negative correlation between the number of residential bonds registered and post-NCA period ($r = -.711$ $p < .05$), as the periods in which the NCA was applied scored lower approval ratios than prior to the NCA. There is a negative correlation

between the value of residential bonds registered and post-NCA period ($r = -.631$; $p < .05$); there was a drop in the value of residential bonds registered after the implementation of the NCA. There is a strong positive relationship between the number and the value of residential bonds registered ($r = .992$; $p > .05$), suggesting that an increase in the number of residential bonds registered led to an increase in the value of residential bonds registered.

Further advances showed a strong positive correlation with the pre-NCA period. The coefficient for further advances in rand value was found to be 0.891. Similarly, the further advances in volume terms was observed to be positively related with the pre-NCA period. The relationship was found to be significant at a 95% confidence level. These results suggest that in the absence of regulatory controls, consumers were inclined to borrow more money for the construction of residential properties. In order to test the effect of the NCA on mortgages, data in respect of mortgage lending after the introduction of the NCA was analysed. The results are presented below in Table 5.6.

Table 5.7: Post-NCA correlation analysis

Correlations^a						
		Date	Number of residential bonds registered	Value of residential bonds registered (Rands)	Further advances – Number of residential bonds registered	Further advances – Value of residential bonds registered (Rands)
Date	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	51				
Number of residential bonds registered	Pearson Correlation	-.711**	1			
	Sig. (2-tailed)	.000				
	N	51	51			
Value of residential bonds registered (Rands)	Pearson Correlation	-.631**	.992**	1		
	Sig. (2-tailed)	.000	.000			
	N	51	51	51		
Further advances – Number of residential bonds registered	Pearson Correlation	-.824**	.957**	.928**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	51	51	51	51	
Further advances – Value of residential bonds registered (Rands)	Pearson Correlation	-.827**	.970**	.943**	.996**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	51	51	51	51	51

** Correlation is significant at the 0.01 level (2-tailed).

^a Period = Post

The period from January 2008 to January 2014 was reviewed and results of the correlation analysis are presented in Table 5.8. There is a strong negative correlation between the number of mortgage advances applied for and post-NCA period ($r = -.360$; $p < .05$), which means that after the implementation of the NCA, the mortgages applied for dropped considerably. A strong negative correlation is revealed between the total number of mortgage advances granted

and post-NCA period ($r = -.472$; $p < .05$). This means that the total number of mortgage advances dropped following the introduction of the NCA. There is also a strong relationship between the number of mortgage advances applied for and the total number of mortgage advances granted ($r = .898$; $p > .05$) and the relationship is observed to be positive and significant, suggesting that an increase in the number of mortgage advances applied for led to an increase in the total number of mortgage advances granted. This explains that the number of mortgage advances applied for had an effect on the performance of total mortgage advances granted, indicating a stronger relationship between these variables. The summarised correlations are presented in Table 5.8 below.

Table 5.8: Number of mortgage advances applied for and total number of mortgage advances granted

		Period	Number of mortgage advances applied for	Total number of mortgage advances granted
Period	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	73		
Number of mortgage advances applied for	Pearson Correlation	-.360**		
	Sig. (2-tailed)	.002		
	N	73	73	
Total number of mortgage advances granted	Pearson Correlation	-.472**	.898**	1
	Sig. (2-tailed)	.000	.000	
	N	73	73	73

**Correlation is significant at the 0.01 level (2-tailed)

Further relationships were analysed for the post-NCA period. Results are presented in Table 5.9 and reported in the sections that follow.

Table 5.9: Correlations

		Period	Value of new residential mortgage advances granted	Value of re-advances on residential mortgages granted	Number of new residential mortgage advances granted	Number of re-advances on residential mortgages granted
Period (Jan 2008 – Jan 2014)	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	73				
Value of new residential mortgage advances granted	Pearson Correlation	-.182				
	Sig. (2-tailed)	.124				
	N	73	73			
Value of re-advances on residential mortgages granted	Pearson Correlation	-.830**	.517**			
	Sig. (2-tailed)	.000	.000			
	N	73	73	73		
Number of new residential mortgage advances granted	Pearson Correlation	-.351**	.935**	.548**		
	Sig. (2-tailed)	.002	.000	.000		
	N	73	73	73	73	
Number of re-advances on residential mortgages granted	Pearson Correlation	-.794**	.646**	.813**	.786**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	73	73	73	73	73

**Correlation is significant at the 0.01 level (2-tailed)

5.5.2.1 NCA and value of re-advances on residential mortgages granted

In Table 5.9, the correlation is from January 2008 to January 2014. There is a strong negative correlation between value of re-advances on residential mortgages granted and period ($r = -.830$; $p < .05$), which means there were lower

approval ratios after the NCA. Similarly, there is a strong negative correlation between the number of re-advances on residential mortgages granted and post-NCA period ($r = -.794$; $p < .05$).

5.5.2.2 NCA and new residential mortgages

There is a negative correlation between the number of new residential mortgage advances granted and period ($r = -.351$; $p < .05$) as depicted in Table 5.9. This result implies that the number of new residential mortgage advances granted dropped significantly after the NCA came into effect.

5.5.2.3 Value of re-advances on residential mortgages granted and value of new residential mortgage advances granted

There is a positive relationship between value of re-advances on residential mortgages granted and value of new residential mortgage advances granted ($r = .517$; $p > .05$). This means that the value of new residential mortgage advances granted had an effect on the value of re-advances on residential mortgage advances granted as depicted in Table 5.9.

5.5.2.4 Number of new residential mortgage advances granted and value of new residential mortgage advances granted

There is a strong relationship between the number of new residential mortgage advances granted and the value of new residential mortgage advances granted ($r = .935$; $p > .05$), which is observed to be positive and significant. This suggests that an increase in the number of new mortgage advances granted led to an increase in the value of new residential mortgage advances granted as depicted in Table 5.9.

5.5.2.5 Number of new residential mortgage advances granted and value of re-advances on residential mortgages granted

There is a positive relationship between the number of new residential mortgage advances granted and the value of re-advances on residential mortgages granted ($r = .548$; $p > .05$). This means that when the number of new residential mortgage advances granted increased, the value of re-advances on residential mortgages granted also increased as depicted in Table 5.9.

5.5.2.6 Number of re-advances on residential mortgages granted and value of re-advances on residential mortgages granted

There is a positive relationship between the number of re-advances on residential mortgages granted and the value of re-advances on residential mortgages granted ($r = ,813$; $p > .05$). This means that when the number of re-advances on residential mortgages granted increased, the value of re-advances on residential mortgages granted also increased as depicted in Table 5.9.

5.5.2.7 Number of new residential mortgage advances granted and number of re-advances on residential mortgages granted

There is a strong relationship between the number of new residential mortgage advances granted and the number of re-advances on residential mortgages granted ($r = ,786$; $p > .05$). This relationship is observed to be positive and significant, suggesting that an increase in the number of new mortgage advances granted led to an increase in the number of re-advances on residential mortgages granted as depicted in Table 5.9.

5.5.2.8 Number of re-advances on residential mortgages granted and value of new residential mortgage advances granted

There is a strong positive relationship between the number of re-advances on residential mortgages granted and the value of new residential mortgage advances granted ($r = ,646$; $p > .05$). This suggests that an increase in the number of re-advances on residential mortgages granted led to an increase in the value of new residential mortgage advances granted as depicted in Table 5.9.

5.5.2.9 Number of mortgage advances applied for and number of new residential mortgage advances granted

There is a strong positive correlation between the number of mortgage advances applied for and the number of new residential mortgage advances granted ($r = ,886$; $p > .05$), as depicted in Table 5.10. This explains that the number of mortgage advances applied for had an effect on the performance of the number of new residential mortgage advances granted, indicating a stronger relationship between these variables.

Table 5.10: Correlations

		Number of mortgage advances applied for	Number of new residential mortgage advances granted
Number of mortgage advances applied for	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	73	
Number of new residential mortgage advances granted	Pearson Correlation	.886**	1
	Sig. (2-tailed)	.000	
	N	73	73

**Correlation is significant at the 0.01 level (2-tailed)

5.5.2.10 Number and value of residential bonds registered using further advances

Correlation analysis for objective 4 was done for the whole period without division, from January 2001 to August 2011, as seen in Table 5.11. There is a strong positive relationship between the number of further advances on residential bonds registered and the values of further advances on residential bonds registered ($r = .868$; $p > .05$). This means that the number of further advances on residential bonds had an effect on the values of further advances on residential bonds registered, indicating a stronger relationship between these variables.

Table 5.11: Correlations – further advances

Period (January 2001 – August 2011)		Period	Further advances – Number of residential bonds registered	Further advances – Value of residential bonds registered (Rands)
Period	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	102		
Further advances – Number of residential bonds registered	Pearson Correlation	-.164	1	
	Sig. (2-tailed)	.100		
	N	102	102	
Further advances – Value of residential bonds registered (Rands)	Pearson Correlation	.193	.868**	1
	Sig. (2-tailed)	.052	.000	
	N	102	102	102

**Correlation is significant at the 0.01 level (2-tailed)

Looking at the correlations for pre-NCA in Table 5.6, there is a positive relationship between the number of further advances on bonds registered and pre-NCA period ($r = .879$; $p > .05$), which means that the number of further advances on bonds increased during that period. There is a strong positive relationship between the value of further advances on bonds registered and pre-NCA period ($r = .891$; $p > .05$), which means that the value of residential bonds increased during that period. There is a positive relationship between the number of further advances on registered bonds and the value of further advances on residential bonds registered ($r = .993$; $p > .05$), suggesting that an increase in the number of further advances on residential bonds registered led to an increase in the value of further advances on residential bonds registered.

Regarding the correlations for post-NCA in Table 5.7, there is a negative correlation between the number of further advances on residential bonds registered and post-NCA period ($r = -.824$; $p < .05$), as the periods in which the NCA was applied scored lower approval ratios than the period pre-NCA. There is a

negative correlation between the value of further advances on residential bonds registered and post-NCA period ($r = -.827$; $p < .05$), as there was a drop in the value of further advances on residential bonds registered after the implementation of the NCA. There is a strong positive relationship between the number of further advances on registered bonds and the value of further advances on residential bonds registered ($r = .996$; $p > .05$), suggesting that an increase in the number of further advances on residential bonds registered led to an increase in the value of further advances on residential bonds registered.

5.6 T-TEST RESULTS

The results for the t-test are presented per hypothesis stated in the methodology chapter. To draw a comparison between pre- and post-NCA to see if there was a change in residential mortgage lending each of the hypotheses is restated for ease of reference.

- H_0 : The means for the two groups of data sets representing the pre- and post-NCA periods are equal.
- H_a : The means are not equal. The Satterthwaite test was used to test to see if the variances were unequal. To determine whether the difference in mean is statistically significant, the t-test was performed as presented in Table 5.12. The H_0 is rejected for both numbers and values because $Pr < (0.0001)$, which is less than 0.05 as depicted in Table 5.12. The t-test is used when there are two independent samples or categories. There is a significant difference in the approval ratio of means of the pre- and post-NCA applications.

Table 5.12: Variances

Method	Variances	DF	t-value	Pr > t
Pooled	Equal	100	4.17	<.0001
Satterthwaite	Unequal	88.657	4.17	<.0001

From Table 5.12 above, it can be seen that $Pr < (0.0001)$, which is less than 0.05. Therefore, the null hypothesis that the mean scores for the pre- and post-NCA period are equal is rejected.

5.6.1 Standard deviation

The smaller the standard deviation, the closer the data lies to the mean, and thus the tighter the spread of the data (Pieterse, 2009:126). The standard deviation, which is an indication of the average distance from the mean, for the pre-NCA period (7346.2) is less than that for the post-NCA period (10680.5). Table 5.13 below illustrates this.

Table 5.13: Total number of residential bonds registered

V2	N	Mean	Std dev	Std err	Minimum	Maximum
Pre-NCA	51	27321.1	7346.2	1028.7	14162.0	42951.0
Post-NCA	51	19750.2	10680.5	1495.6	9558.0	48926.0
Diff (1-2)		7570.9	9166.2	1815.2		

Test for equality of variance

5.6.2 Hypothesis 1: The variances for the pre- and post-NCA periods are equal

It seems that there is a significant difference in the approval ratio of means of the periods pre- and post-NCA. As seen in Table 5.14, the test for equality of variance shows that $Pr < F$ (0.0006), which is less than 0.05. The null hypothesis that the variances are equal for the two groups is therefore rejected.

Table 5.14: Equality of variances (further tests for significance)

Equality of variances				
Method	Num DF	Den DF	F-value	Pr > F
Folded F	50	50	2.71	0.0006

5.6.3 Test for variances between Pre- and Post-NCA periods

The variances are unequal and significant because $P < 0.0001$ as shown in Table 5.15 below. Given the fact that variances between the two groups are unequal, the Satterthwaite test was used to test for mean difference.

Table 5.15: Variances between pre- and post-NCA periods

Method	Variances	DF	t-value	Pr > t
Pooled	Equal	100	-4.27	<.0001
Satterthwaite	Unequal	82.491	-4.27	<.0001

The NCA, which was effective from June 2007, had an impact on residential mortgage financing in South Africa because the number of mortgages dropped, as depicted in Figure 5.1. In Chapter 3 (literature review) it was stated that banks cannot just approve mortgages like they did before the NCA came into effect. Under the NCA, consumers must make a deposit when they want to buy a house. The criteria for lending have become more stringent with the implementation of the NCA, and are now based on affordability after taking household and living expenses into consideration. It was found that following the application of the NCA, it is more difficult to obtain mortgages and vehicle financing, as credit applicants have to show that they earn enough income to cover the new instalment in addition to all their existing monthly expenses (Pieterse, 2009:160).

Descriptive statistics in Table 5.16 show the means pre- and post-NCA. The pre-NCA mean is 27321.1 and the post-NCA mean is 19750.2. It seems that the chances of an application being approved before the NCA were higher than post-NCA. The standard deviation, which is an indication of the average distance from the mean, for pre-NCA (7346.2) is less than post-NCA (10680.5).

Table 5.16: Total number of residential bonds registered (includes the confidence intervals)

V2	Method	Mean	95% CL mean		Std dev	95% CL std dev	
Pre-NCA		27321.1	25255.0	29387.3	7346.2	6146.6	9131.9
Post-NCA		19750.2	16746.3	22754.1	10680.5	8936.4	13276.7
Diff (1-2)	Pooled	7570.9	3969.7	11172.2	9166.2	8052.9	10639.6
Diff (1-2)	Satterthwaite	7570.9	3964.0	11177.8			

5.7 TEST FOR EQUALITY OF VARIANCE

The study hypothesised that the variances for the pre- and post-NCA mortgages are the same. Table 5.17 below presents the results for the test for equality of variance. Since $Pr < F$ (0.0092) is less than 0.05, the null hypothesis that the variances are equal for the two groups is rejected. Given the fact that variances between the two groups are unequal, the Satterthwaite test was used to test for mean difference. The variances are unequal and significant because $P < 0.0001$, as shown in Table 5.17.

Table 5.17: Equality of variances

Equality of variances				
Method	Num DF	Den DF	F-value	Pr > F
Folded F	50	50	2.11	0.0092

5.8 OBJECTIVE 4: NCA AND FURTHER ADVANCES

The fourth objective of the study was to determine the effect of the implementation of the NCA on further advances on mortgages in South Africa. Descriptive statistics for the number and value of further advances were used to analyse the data. In order to test this objective, the following null and alternate hypotheses were postulated:

- H_0 : The NCA has no effect on further advances.
- H_1 : The NCA has an effect on further advances.

To determine whether the difference in means was statistically significant, the t-test was performed as presented in the above tables. From Table 5.18 below it can be seen that $Pr > (0.0987)$, which is more than 0.05. The null hypothesis that the mean scores for post- and pre-NCA are equal and is therefore accepted. The period prior to the NCA had the highest number of further advances on bonds registered compared to post-NCA.

Table 5.18: Variances

Method	Variances	DF	t-value	Pr > t
Pooled	Equal	100	1.67	0.0987
Satterthwaite	Unequal	97.326	1.67	0.0988

The descriptive statistics in Table 5.19 below show the pre- and post-NCA means for number of further advances. The mean for pre-NCA is 6575.8 and that for post-NCA is 5430.9. It seems that the chances of an application being approved before the NCA were higher than post-NCA.

Table 5.19: Further advances – number of residential bonds registered; mean scores between pre- and post-NCA

V2	N	Mean	Std dev	Std err	Minimum	Maximum
Pre-NCA	51	6575.8	3168.5	443.7	2815.0	13978.0
Post-NCA	51	5430.9	3745.5	524.5	2392.0	15714.0
Diff (1-2)		1144.9	3469.1	687.0		

Table 5.20 gives more or less the same information, except that it includes the confidence intervals for the means and standard deviations for pre- and post-NCA. The pre-NCA period had the highest number of further advances on bonds registered compared to post-NCA. The standard deviation for pre-NCA (3168.5) was less than post-NCA (3745.5).

Table 5.20: Confidence intervals for the means and standard deviations

V2	Method	Mean	95% CL mean		Std dev	95% CL std dev	
Pre-NCA		6575.8	5684.6	7467.0	3168.5	2651.1	3938.7
Post-NCA		5430.9	4377.4	6484.3	3745.5	3133.9	4656.0
Diff (1-2)	Pooled	1144.9	-218.0	2507.8	3469.1	3047.7	4026.7
Diff (1-2)	Satterthwaite	1144.9	-218.5	2508.3			

The mean for the values of further advances for pre-NCA is 1.0969E9, while that for the post-NCA period is 1.7607E9 (see Table 5.21). The mean is higher

for the post-NCA period than the pre-NCA period, which means that the values increased after the implementation of the NCA.

Table 5.21: Further advances – value of residential bonds registered (Rands)

V2	N	Mean	Std dev	Std err	Minimum	Maximum
Pre-NCA	51	1.0969E9	7.3919E8	1.0351E8	3.3218E8	2.8695E9
Post-NCA	51	1.7607E9	1.2139E9	1.6998E8	7.3854E8	4.8984E9
Diff (1-2)		-6.638E8	1.005E9	1.9902E8		

Table 5.22 gives more or less the same information, except that it includes the confidence intervals for the means and standard deviations for the pre-NCA and post-NCA periods. The standard deviation for pre-NCA (7.3919E8) was more than that for the post-NCA period (1.2139E9).

Table 5.22: Further advances confidence intervals for the means and standard deviations

V2	Method	Mean	95% CL mean		Std dev	95% CL std dev	
Pre-NCA		1.0969E9	8.8904E8	1.3048E9	7.3919E8	6.1848E8	9.1887E8
Post-NCA		1.7607E9	1.4193E9	2.1022E9	1.2139E9	1.0157E9	1.509E9
Diff (1-2)	Pooled	-6.638E8	-1.059E9	-2.689E8	1.005E9	8.8293E8	1.1665E9
Diff (1-2)	Satterthwaite	-6.638E8	-1.06E9	-2.679E8			

5.9 TEST FOR EQUALITY OF VARIANCE FOR VALUE OF FURTHER ADVANCES FOR PRE- AND POST-NCA PERIODS

In this section, the hypothesis is that the variances between the two periods are equal. Results show that there is a significant difference in the approval ratio means of the two periods. Table 5.22 below shows the results for the test for equality of variance.

Table 5.23: Equality of variances

Equality of variances				
Method	Num DF	Den DF	F-value	Pr > F
Folded F	50	50	2.70	0.0006

Since $Pr < F$ (0.0006) is less than 0.05, the null hypothesis that the variances are equal for the two groups is rejected. Given the fact that variances between the two groups are unequal, the Satterthwaite test was used to test for mean difference as depicted in Table 5.24.

Table 5.24: Variances

Method	Variances	DF	t-value	Pr > t
Pooled	Equal	100	-3.34	0.0012
Satterthwaite	Unequal	82.957	-3.34	0.0013

For Objective 4, it has been proved that the NCA had a positive effect on further advances because fewer further advances were approved.

5.10 SUMMARY

In this chapter, the results of the study were presented and discussed. From the results, it is evident that the NCA did impact the lending of financing for houses in South Africa. In objective 1 the NCA had a positive effect on the number of residential bonds registered. In objective 2 the NCA had an effect on the acceptance rates of total mortgage lending because there was a drop in the mortgages approved. In objective 3 there was a drop in the residential mortgages after the implementation of the NCA. In objective 4, the NCA had a positive effect on further advances mortgages because there was a dropped in the bonds.

The next chapter presents the conclusion of the study, limitations and recommendations.

CHAPTER 6

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

In 1994, South Africa attained political independence from a regime that discriminated and thus disadvantaged the majority of its population. One of the areas in which South Africans were disadvantaged was access to decent accommodation due to the non-availability of mortgage finance. However, the dawn of democracy ushered in more players in the credit market. Some lenders could not cope with increasing competition for clients. As a result of the stiff competition, normal affordability tests were neglected, leading to many borrowers defaulting. To curb the increase in defaulting borrowers, the government introduced the National Credit Act in 2007. The aim of the NCA is to protect consumers from reckless lending.

The purpose of this study was to determine the impact of the NCA on residential mortgage lending in South Africa. The study was motivated by the increasing level of household debt in the aftermath of the introduction of the NCA. Specifically, this study examined the impact of the NCA on residential mortgage financing by South African banks.

Following the main objective of the study as stated above, the second objective of the study was to determine whether the implementation of the NCA affected the acceptance rates of total mortgage lending. In the third objective, the study examined the trends in total residential mortgage financing and the last objective is the relationship between the NCA and further advances.

In order to test the hypothesis of there being no positive relationship between credit regulation (the NCA) and household mortgage financing in South Africa, time series secondary data was obtained mainly from the South African Reserve Bank. Data analysis was conducted using trends, descriptive statistics, correlation analysis and inferential statistics.

The rest of the chapter is structured as follows: the findings are summarised in section 6.2. The limitations of the study are outlined in section 6.3, followed by the recommendations for policy and further study in section 6.4.

6.2 SUMMARY OF FINDINGS

6.2.1 Relationship between the NCA and residential mortgage financing

The main objective of the study was to examine the relationship between the NCA and the level of residential mortgage financing in South Africa. To achieve this objective, data analysis was conducted on the pre-NCA period and the post-NCA period. The purpose of the two-period approach was to determine if there was a change in residential mortgage lending after the introduction of the NCA. Results show that the NCA did have a positive impact on mortgage lending in South Africa, implying that the demand for mortgage finance declined. However, for banks, the decline in residential mortgage portfolios represents a negative impact due to losses of potential interest income. After the introduction of the NCA, there was a decline in total mortgages approved.

The trend analysis shows that there was a drop in the number of registered bonds from January 2001 to January 2002. An increase was observed from April 2002 to January 2005. However, from 2008, the number of registered bonds declined rapidly until 2011.

6.2.2 Relationship between the NCA and acceptance rate of mortgage advances

The second objective of the study was to determine whether implementation of the NCA affected the acceptance rates of total mortgage lending. The total mortgages approved from January 2008 to January 2014 were examined. The results show that the NCA affected the acceptance rates and that there was a decline in these rates.

6.2.3 Trends in residential mortgage financing

The trend analysis shows that there was growth in the number of new residential mortgage advances granted in January 2008, but then it systematically

dropped until January 2009. There was a small recovery in 2010, but there was a slowdown in 2011. It then systematically dropped and recovered in January 2013, but dropped at an increasing rate until January 2014. The residential mortgages granted therefore dropped significantly after the NCA.

6.2.4 Relationship between the NCA and further advances

The fourth objective was to determine the effect of the implementation of the NCA on further advances. The pre-NCA period had the highest number of further advance bonds registered compared to post-NCA. The chances of an application being approved before the NCA were higher than post-NCA.

The trend shows that from January 2001 to just before the implementation of the NCA there was an increase in further advances. After the implementation of the NCA, the number of further advances decreased. From September 2008 it gradually dropped until June 2011.

Based on the findings above, this study concludes that when the credit market is not regulated, lenders tend to neglect the recommended lending practices. This negligence, often referred to as reckless lending, leads to lenders focusing on growing their loan book at the expense of the quality of the assets. The result is that borrowers default, leading to foreclosures. With specific reference to South Africa, the study concludes that the introduction of the National Credit Act in 2007 brought sanity to the credit market, reducing the number of mortgage loan approvals due to the implementation of more stringent requirements for applicants to access residential mortgage finance.

6.3 LIMITATIONS OF THE STUDY

One limitation of the study is that the behaviour and trend of mortgage lending cannot only be explained by the NCA. There are a number of factors or rather intervening factors other than the NCA that could have affected mortgage lending. The challenge would be to separate the effect of such factors from those of the NCA. These factors could include the increase in interest rates and inflation. The financial crisis in the USA and Europe could also have played a role.

6.4 RECOMMENDATIONS

6.4.1 Recommendations to banks

Housing plays a very important part in the economy of a country. Banks are the primary finance tool for consumers to get access to housing and for this reason banks must charge affordable interest on loans. In this study it was found that it is difficult for the lower income groups to get housing financing. Banks must get more involved in the lower income groups by charging affordable interest rates.

6.4.2 Recommendations to the NCR

This study recommends the simplification of the NCA in order to create a better understanding of the NCA. When this happens, consumers will be able to make informed borrowing decisions. The NCR can create more awareness campaigns and offer education programmes to improve consumer education on credit and financial issues. Debt counselling must also be promoted extensively to avoid borrower default and asset repossessions.

6.4.3 Recommendations for future research

- This study was based only on the effect of the NCA on banks. Future research could examine its effect on consumers.
- This study was based only on banks, but it would be interesting to determine the effect of the NCA on the property market.
- This was a quantitative research study. An in-depth qualitative as well as quantitative research could be carried out in future.

6.5 SUMMARY

This chapter presented the main findings on the impact of the NCA on residential mortgage lending in South Africa. Recommendations were provided for further research by interested parties and it also provided limitations in light of earlier empirical studies. The main objective of this study was to investigate whether residential mortgage financing has become more difficult since the implementation of the NCA. The NCA had a negative impact on the banks

because there was a decrease in the number registered bonds. The answer is that it is indeed more difficult for banks to grant mortgage finance to consumers since the implementation of the NCA. Stringent criteria are in place to prevent reckless lending.

From the study it can be seen that residential mortgages dropped after the implementation of the Act. Similar studies by Pieterse (2009), Pillay (2009) and Rossouw (2008) conclude that the NCA has impacted the South African market positively, be it vehicle financing, mortgages or micro lending. The NCA is positive legislation and its purpose is to protect consumers against reckless lending and to create a fair credit market. This means that regulation must be fair and trading in the market must be efficient and competitive. This will positively contribute to the academic field of knowledge and provide new ideas to the banks and the NCA.

REFERENCES

Aaker, D.A., Kumar, V., Leone, R.P. & Day, G.S. (2013). *Marketing research*. (11th ed.). Singapore: John Wiley & Sons.

Aalbers, M.B. (2009). The globalization and Europeanization of mortgage markets. *International Journal of Urban and Regional Research*, 33(2):389–410.

Aalbers, M.B. (2012). Mortgage market, character and trends: Europe. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:399–402.

Akçay, B. (2011). Integration of residential mortgage markets of Turkey and European Union in light of recent regulation in Turkey. *Housing Finance International*, 25(4):23–31.

Balin, B.J. (2008). *Basel I, Basel II, and emerging markets: A nontechnical analysis*. Washington DC: The Johns Hopkins University School of Advanced International Studies.

Bank for International Settlements. (n.d.) International regulatory framework for banks (Basel III). [Online] Available at: <http://www.bis.org/bcbs/basel3.htm> [Retrieved 31 August 2012].

Barth, J.R., Li, L., Lu, W., Phumiwasana, T. & Yago, G. (2009). The rise and fall of the US mortgage and credit markets: A comprehensive analysis of the meltdown. [Online] Available at: <http://www.amazon.com/Rise-Fall-Mortgage-Credit-Markets/dp/0470477245> [Retrieved 10 October 2014].

Basel Committee on Banking Supervision. (1988). *International convergence of capital measurement and capital standards, year (1988)*. Basel.

Baumann, T. (2003). The demand for microcredit: Part two, community micro finance network newsletter. [Online] Available at: <http://www.cmfnet.org.za> [Retrieved 22 October 2012].

- Beard, T.R., Kaserman, D.L. & Mayo, J.W. (2003). A graphical exposition of the economic theory of regulation. *Economic Enquiry*, 41(4):592–606.
- Berenson, M.L., Levine, D.M. & Krehbiel, T.C. (2012). *Basic business statistics: Concepts and applications*. (12th ed.). New Jersey: Pearson.
- Blank, L. & Mayo, J.W. (2009). Endogenous regulatory constraints and the emergence of hybrid regulation. *Review of Industrial Organization*, 35:233–255.
- Blom, L.R. (2012). Review of governance in the South African mortgage origination industry and suggested framework for a governance body. Master's in Business Administration, University of Stellenbosch.
- Boleat, M. (2003). Regulation of mortgage lending institutions. *Housing Finance International*, 1–9.
- Bonorchis, R. (2012). South Africa probes boom in unsecured lending by banks. BloombergBusiness (2012). [Online] Available at: <http://www.undp.org.za/flash-news/479-south-africa-probes-boom-in-unsecured-lending-by-banks> [Retrieved 17 October 2012].
- Boraine, A. & Van Heerden, C. (2010). To sequester or not to sequester in view of the National Credit Act 34: A tale of two judgments. *Potchefstroom Electronic Law Journal*, 13(3).
- Branco, J.P., Meljer, F.M. & Visscher, H.J. (2012). Housing standards: Regulation. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:613–619.
- Brits, R. (2012). Mortgage foreclosure under the Constitution: Property, housing and the National Credit Act. Doctorate in Law, University of Stellenbosch.
- Buttimer, R.J. Jr. (2011). The financial crisis: Imperfect markets and imperfect regulation. *Journal of Financial Economic Policy*, 3(1):12–32.
- Caballero, R.J. & Kurlat, P. (2009). The “surprising” origin and nature of financial crisis: A macroeconomic policy proposal. Working Paper No. 09-24.

- Calem, P.S. & Follain, J.R. (2007). Regulatory capital arbitrage and the potential competitive impact of Basel II in the market for residential mortgages. *Journal of Real Estate Finance and Economics*, 35 (2):197–219.
- Caputo, R.K. (2012). Patterns and predictors of debt: A panel study, 1985–2008. *Journal of Sociology & Social Welfare*, 39(2):7–29.
- Chipeta, C. & Mbululu, D. (2012). The effects of the National Credit Act and the global crisis on domestic credit extension: Empirical evidence from South Africa. *Journal of Economic and Financial Sciences*, 5(1):215–228.
- Chiquier, L. & Lea, M. (2009). *Housing finance policy in emerging markets*. Washington, DC: The International Bank for Reconstruction and Development/ The World Bank.
- Chisasa, J. (2014). An empirical study of the impact of bank credit on agricultural output in South Africa. Doctorate in Commerce, University of South Africa.
- Coase, R. (1960). The problem of social cost. *Journal of Law and Economics*, (3):1–44.
- Consumer Credit Report*. (2009). Second quarter, June.
- Chu, K. (2009). South Africa credit law could guide USA. *USA Today*, 31 December.
- Cocks, M. (2009). Governance arrangements from a regulationist perspective: The case of Liverpool. *Local Economy*, 24(6–7):456–472.
- Cooper, D.R. & Emory, C.W. (1995). *Business research methods*. (5th ed.). Chicago: Irwin.
- Cooper, D.R. & Schindler, P.S. (2014). *Business research and methods*. (12th ed.). New York: McGraw-Hill.
- Council for Scientific and Industrial Research (CSIR). (2000). *Status quo report: Unblocking finance for affordable housing in South Africa*. Pretoria.

Credit Act's impact on home loans 17 May 2007. [Online] Available at: <http://www.theforumsa.co.za/forums/showthread.php/1242-Credit-Act-s-impact-on-home-loans> [Retrieved 22 February 2016].

Creswell, J.W. (2014). *Research design: Qualitative, quantitative and mixed methods approach*. (4th ed.). London: Sage.

Croucher, J.S. (2010). *Introductory mathematics and statistics*. (5th ed.). New York: McGraw-Hill.

Crowther Committee on Consumer Credit. (1971). *Consumer Credit: Report of the Committee*. Command Paper, 4596. London: HMSO.

Cummings, C. (2008). A practitioner's guide to mortgage regulation. *Journal of Financial Regulation and Compliance*, 16(1):93–107.

Datta, K. & Jones, G. (eds.) (1999). *Housing finance in developing countries*. London: Routledge.

Davel, G. (2013). *Regulatory options to curb debt stress*. CGAP.

Davids, M. (2008). Financial regulation in South Africa: A case study on the implementation of the National Credit Act by the four big banks. Master's in Business Administration, University of Stellenbosch.

Davis, T.B., Soule, A.B. & Thomas, C.W. (2010). Special interest capture of regulatory agencies: A ten-year analysis of voting behavior on regional fishery management councils. *The Policy Studies Journal*, 38(3):447–464.

De Clercq, B. (2013). Over-indebtedness of SA consumers. Unpublished report.

Den Hertog, J. (1999). *General theories of regulation*. Utrecht: Economic Institute, Utrecht University.

Den Hertog, J. (2010). Review of economic theories of regulation. Utrecht School of Economics, Utrecht University. Working Paper No. 10-18.

Deng, Y. & Fei, P. (2012). Mortgage market, character and trends: China. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter & K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:422–433.

Department of Housing (DOH), Republic of South Africa. (2004). *Breaking new ground: A comprehensive plan for the development of sustainable human settlements*. Pretoria.

Department of Trade and Industry (DTI), Republic of South Africa. (2004a). *Consumer credit law reform: Policy framework for consumer credit*. Pretoria.

Department of Trade and Industry (DTI), Republic of South Africa. (2004b). *Credit law review: Setting the scene*. Pretoria.

Dilotsotlhe, N. (2013). The effect of the National Credit Act on a micro-lending financial institution. Master's in Commerce, University of Johannesburg.

Dowelani, M. (2012). Comparing share valuation models in boom and recession conditions: A South African study. Master's in Commerce, University of Pretoria.

Duca, J.V., Muellbauer, J. & Murphy, A. (2010). Housing markets and the financial crisis of 2007–2009: Lessons for the future. *Journal of Financial Stability*, 6:203–217.

Erbas, N.S. & Nothaft, F.E. (2005). Mortgage markets in Middle East and North African countries: Market development, poverty reduction, and growth. *Journal of Housing Economics*, 14(3):212–241.

Etzioni, A. (2009). The capture theory of regulations – revisited. *Society Journal*, 46:319–323.

Feldman, M.L. (2013). The domestic implementation of international regulations. *New York University Law Review*, 88:401C438.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. (4th ed.). London: Sage.

- FinScope. (2006). *Report on the overview of housing finance systems in South Africa*. Johannesburg: FinMark Trust.
- Flanagan, M. (2012). Mortgage markets: Regulation and intervention. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:507–517.
- Freeman, A.S. (2008). Community reinvestment legislation and access to housing finance in post-apartheid South Africa. *Housing Studies*, 23(5):697–716.
- Freybote, J. & Karoly, V. (2008). *Secondary mortgage markets in South Africa*. In D. Ben-Shahar, C.K.Y. Leung & S.E. Ong, editors. *Mortgage markets worldwide*. Oxford: Blackwell.
- Gilbert, A. (2004). Helping the poor through housing subsidies: Lessons from Chile, Columbia and South Africa. *Habitat International*, 28(1):13–40.
- Goodmann, A.C. & Smith, B.C. (2010). Housing default: Theory works and so does policy. Working Paper No. 10-10.
- Goodwin, C.J. (2010). *Research in psychology: Methods and design*. (6th ed.). Hoboken: John Wiley & Sons.
- Goodwin, M. (2012). Regulation theory. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:22–27.
- Goodwin-Groen, R.P. & Kelly-Louw, M. (2006). *The National Credit Act and its regulating in the context of access to finance in South Africa*. FinMark Trust.
- Gopaul, M. (2013). Exploring customer satisfaction with the healthier food options available at fast-food outlets in South Africa. Master's in Commerce, University of South Africa.
- Gordis, L. (2000). *Epidemiology*. (2nd ed.). California: WB Saunders.
- Healy, T.J. (2013). Basel III Redux. *Mortgage Banking*, 73(12):64–69.

- Heymans, M. (2010). *Working towards a sustainable source of access and performance data of affordable housing finance*. FinMark Trust.
- Ho, G. & Pennington-Cross, A.N. (2008). Predatory lending laws and the cost of credit. *Real Estate Economics*, 36:175–211.
- Hodge, D. (2009). Growth, employment and unemployment in South Africa. *South African Journal of Economics*, 77(4):488–504.
- Howell, D.C. (2009). *Fundamental statistics for the behavioural sciences*. (7th ed.) Boston: Linda Schreiber.
- International Finance Corporation. (2004). Housing finance. [Online] Available at: <http://www.ifc.org/housingfinance/why.htm> [Retrieved 11 October 2012].
- Ironfield-Smith, C., Keasey, K., Summers, B., Duxbury, D. & Hudson, R. (2005). Consumer debt in the UK: Attitudes and implications. *Journal of Financial Regulation and Compliance*, 13(2):132–141.
- Itzikowitz, A. (2000). Financial institutions and stock exchanges. [Online] Available at: <https://www.copyright.com/cc/basicSearch.do?&operation=go&searchType=O&lastSearch=simple&all=on&titleOrStdno=0376-4605> [Retrieved 12 March 2013].
- James, T.S. (2009). Whatever happened to regulation theory? The regulation approach and local government revisited. *Policy Study*, 3(2):181–201.
- Jentsch, N. (2008). An economic analysis of China's credit information monopoly. *China Economic Review*, 19:537–550.
- Kajimo-Shakantu, K. & Evans, K. (2006). The role of banks in the provision of low-income housing finance in South Africa: Can they play a different role? *International Journal of Strategic Property Management*, 10:23–38.

- Kashyap, A., Rajan, R. & Stein, J. (2008). The global roots of the current financial crisis and its implications for regulation. Paper presented at Fifth Central Banking Conference. Frankfurt am Main, Germany. [Online] Available at: <http://www.ecb.europa.eu/pub/pdf/other/euroattenen2009en.pdf?6ca2c8ad670dc32eeecd6ba34120c80b5> [Retrieved 12 February 2013].
- Kelly-Louw, M. (2010). Protection for homeowners against various interest rate hikes. *South African Mercantile Law Journal*, 22:27–49.
- Khuzwayo, N.F. (2013). Durban consumer views on the National Credit Act (NCA). Master's in Business Administration, University of KwaZulu-Natal.
- Kolb, R.W. (2011). The financial crisis of our time. Financial Management Association Survey and Synthesis Series. Oxford University Press.
- Laferrère, A. & Le Blanc, D. (2012). Mortgage market, character and trends: France. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. *International encyclopedia of housing and home* [E-book]. Oxford: Elsevier, 4:434–444.
- Landie, D. (2013). The impact of the National Credit Act on risk in the South African banking system. Master of Philosophy in Economics, University of Johannesburg.
- Leedy, P.D. (1993). *Practical research: Planning and design*. (5th ed.). New York: Macmillan.
- Leedy, P.D. & Ormrod, J.E. (2005). *Practical research: Planning and design*. (8th ed.). Upper Saddle River, N.J.: Prentice Hall.
- Lemanski, C. (2012). Housing and the state in South Africa. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:337–339.
- Le Roux, F.E. (2011). The provision of low-cost housing in South Africa: A wicked problem with a systems theory solution. Master's in Philosophy, University of Stellenbosch.

Levitin, A. & Wachter, S. (2012). Mortgage market regulation: North America. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:403–409.

Lightstone Property. (2013). E-mail message to researcher.

Loos, J. & Swanepoel, T. (2015). FNB. Market analytics and scenario forecasting unit 20 March 2015. [Online] Available at: https://blog.fnb.co.za/wp-content/uploads/2015/03/Mortgage_Market_Barometer__Mar_2014.pdf [Retrieved 9 October 2015].

Lunde, J., Scanlon, K. & Whitehead, C. (2011). Responding to the housing and financial crises: Mortgage lending, mortgage products and government policies. *International Journal of Housing Policy*, 11(1):23–49.

Luttig, H.H. (2010). An evaluation of the South African National Credit Act and the implications for credit users. Master's in Business Administration, University of Stellenbosch.

Luyirika, M.N. (2010). The role of microfinance in the socio-economic development of women in a community: A case study of Mpigi town council in Uganda. Master's in Arts, University of South Africa.

Makina, D. (2012). Mortgage market, character and trends: Africa. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:410–414.

Masilo, K.H. (2014). The role of debt counselling in the financial well-being of consumers in Gauteng. Doctorate in Commerce, University of South Africa.

Minister of Trade and Industry. (2005). Address on 13 October.

Mizen, P. (2008). The credit crunch of 2007–2008: A discussion of the background, market reactions, and policy responses. *Federal Bank of St Louis*, 90(5):531–67.

Mlandu, N. (2007). The effectiveness of the National Credit Act (2005) in curbing consumer indebtedness. Master's in Business Administration, University of Pretoria.

Moaisi, L.P. (2013). Consumer debt level of the Department of Health public servants in Mahikeng. Master's in Commerce, University of South Africa.

Modigliana, F. & Brumberg, R.H. (1954). "Utility analysis and the consumption function: an interpretation of cross-section data." In K. Kenneth & Kurihara, editorts. *Post-Keynesian Economics*. New Brunswick, NJ. Rutgers University Press.

Mortgage performance initial findings for comment. [Online] Available at: <http://www.housingfinanceafrica.org/wp-content/uploads/2015/04/Findings-Performance-Analysis-of-FSC-loans> [Retrieved 10 April 2015].

Moss, V. (2003). Preview of housing finance systems in four different African countries: South Africa, Nigeria, Ghana and Tanzania. [Online] Available at: http://www.housingfinance.org/uploads/Publicationsmanager/Africa_PreviewofHousingFinanceSystemsinFourDifferentAfricanCountries.pdf [Retrieved 12 January 2013].

Moss, V. (2008). *Market economic outlook*. Johannesburg: National Housing Finance Corporation.

Moss, V. (2011). *Market economic outlook*. Johannesburg: National Housing Finance Corporation.

Moss, V. (2013). The nature of the creditor-debtor relationship in South Africa. *International Journal of Research in Business and Social Science*, 2(2):2147–2157.

Mould, K. (2008). Tacit responsibilities assigned to the drafter of a credit agreement by the National Credit Act 34 of 2005 with particular emphasis on contractual consensus. A critical analysis. *Journal for Juridical Science*, 33(2):109–127.

- Mtimkulu, Z.M. (2009). The impact of inaccurate credit information on bank's secured lending. Master's in Business Administration, University of South Africa.
- Myers, J.L., Well, A.D. & Lorch, R.F. Jr. (2010). *Research design and statistical analysis*. (3rd ed.). New York: Routledge.
- National Credit Regulator (NCR). (2007). *Credit bureau monitor*. Pretoria.
- National Credit Regulator (NCR). (2012). *Literature review on the impact of the National Credit Act (NCA) has had on South Africa's credit market*. Pretoria.
- National Credit Regulator (NCR). (2013). *National credit matters*. Pretoria.
- National Housing Finance Corporation (NHFC). (2003). *Housing Market Bulletin*, October to December 2002, 1(4).
- Neuman, W.L. (2005). *Social research methods: Qualitative and quantitative approaches*. Boston: Allyn & Bacon.
- Nield, S. (2010). Responsible lending and borrowing: Whereto low-cost home ownership? *Legal Studies*, 30(4):610–632.
- Okpala, D.C.I. (2012). House building industries: Africa. In: S.J. Smith, M. Elsinga, L. Fox O'Mahony, S.E. Ong, S. Wachter, K-H. Kim, editors. [E-book]. *International encyclopedia of housing and home*. Oxford: Elsevier, 4:182–186.
- Otto, J.M. (2006). *The National Credit Act explained*. Cape Town: LexisNexis Butterworths.
- Paskelian, O.G. & Bell, S. (2013). The tale of two regulations – Dodd-Frank Act and Basel III: A review and comparison of the two regulatory frameworks. *Review of Futures Markets*, 21 (Special issue):7–29.
- Phenya, A.M. (2011). An assessment of the financial management skills of small retail business owners/managers in Dr JS Moroka Municipality, South Africa. Master's in Commerce, University of South Africa.

- Pieterse, H.C. (2009). The National Credit Act of South Africa and the motor finance sector. Master's in Business Leadership, University of South Africa.
- Pillay, A. & Naude, W.A. (2006). Financing low-income housing in South Africa: Borrower experiences and perceptions of banks. *Habitat International*, 29(3): 872–885.
- Pillay, S. (2009). The paradoxical effect of the National Credit Act on the residential property market in South Africa. Master's in Business Administration, University of KwaZulu-Natal.
- Platt, L.E., Ragalevsky, S.V. & Mahoney, S.P. (2012). Proposed Basel III capital rules for mortgage loans would further push mortgage market to homogeneous products. [Online] Available at: http://www.klgates.com/files/Publication/5394f6a9-ca00-460d-a50c-e336fa817f5d/Presentation/PublicationAttachment/ac9d05ca-b583-4534-96f9-e5957ee23d23/Client_Alert_CFS_June18.pdf. [Retrieved 15 October 2015].
- Porteous, D. (2005). Setting the context: South Africa. *Housing Finance International*, 1:34–39.
- PricewaterhouseCoopers. (2007). Strategic and emerging issues in South African banking. *Regulation and Compliance*, 13(2):132–141.
- Reinhart, C.M., Reinhart, V.R. & Rogoff, K.S. (2012). Public debt overhangs: Advanced economy episodes since 1800. *Journal of Economic Perspectives*, 26(3):69–86.
- Rencke, S. (2011). Measures in South African consumer credit legislation aimed at the prevention of reckless lending and overindebtedness: An overview against the background of recent developments in the European Union. *Journal of Contemporary Roman-Dutch Law*, 74:208–229.
- Renke, S., Roestoff, M. & Haupt, F. (2007). The National Credit Act: New parameters for the granting of credit in South Africa. *Obiter*, 28(2):229–270.

Report on Global Consumer Banking Survey. (2011). A global survey on customer satisfaction trends. [Online] Available at: https://scholar.google.co.za/scholar?q=A+global+survey+on+customer+satisfaction+trends+2011&hl=en&as_sdt=0&as_vis=1&oi=scholart&sa=X&ved=0ahUKEwikip6Onl5LLAhXLhhoKHaDoA3gQgQMIGDAA. [Retrieved 21 September 2014].

Rethel, L. (2012). Each time is different! The shifting boundaries of emerging market debt. *Global Society*, 26(1):123–143.

Richards, M., Palmer, P. & Bogdanova, M. (2007). Irresponsible lending? A case study of a UK credit industry reform initiative. *Journal of Business Ethics*, 81:499–512.

Rossouw, Z. (2008). The impact of the National Credit Act on micro lending sales in a bank in South Africa. Master's in Business Administration, University of Pretoria.

Rust, K. (2006). Analysis of South Africa's housing sector performance. [Online] Available at: http://www.urbanlandmark.org.za/downloads/present_cp_07_mar_2009.pdf [Retrieved 14 August 2015].

SA Home Loans. (n.d.). South African loans. [Online] Available at: <http://www.sahomeloans.com/FurtherLending> [Retrieved 14 August 2015].

Saayman, A. (2011). Securitisation and bank liquidity in South Africa. [Online] Available at: http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/p-fems/CV/Andrea_Saayman.pdf [Retrieved 20 October 2011].

Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research methods for business students*. (5th ed.). Harlow: Pearson Education.

Schmudde, D. (2009). Responding to the subprime mess: The new regulatory landscape. *Journal of Corporate & Financial Law*, 14(4):709–743.

Shleifer, A. (2005). Understanding regulation. *European Financial Management*, 11(4):439–451.

Slovik, P. & Cournède, B. (2011). Macroeconomic impact of Basel III. Working Paper.

South Africa. (2000). Home Loan and Mortgage Disclosure Act 63 of 2000. Pretoria: Government Printer.

South Africa. (2005). National Credit Act 34 of 2005. Pretoria: Government Printer.

South African Reserve Bank. (2000). Government Gazette 21726 of 8 November. [Online] Available at: www.resbank.com [Retrieved 28 February 2011].

South African Reserve Bank. (2011). Regulation and supervision. [Online] Available at: <http://www.resbank.co.za/Pages/default.aspx> [Retrieved 16 August 2011].

South African Reserve Bank. (2012). Bank supervision. [Online] Available at: [http://www.resbank.co.za/RegulationAndSupervision/BankSupervision/TheBaseICapitalAccord\(Basel%20II\)/Pages/AccordImplementationForum\(AIF\).aspx](http://www.resbank.co.za/RegulationAndSupervision/BankSupervision/TheBaseICapitalAccord(Basel%20II)/Pages/AccordImplementationForum(AIF).aspx) [Retrieved 31 August 2012].

South African Reserve Bank. (2013). [Online] Regulation and supervision. Available at: <http://www.resbank.co.za/Pages/default.aspx> [Retrieved 8 August 2013].

South African Reserve Bank. (2016). Important rates. [Online] Available at: <https://www.resbank.co.za/Research/Rates/Pages/Rates-Home.aspx> [Retrieved 14 August 2015].

Standard Bank. (2015). Further advances. [Online] Available at: [http://www.standardbank.co.za/standardbank/Personal/Borrowing/Homeloans/Renovating-my-homeold/Options/Further-advance-\(2nd-bond\)](http://www.standardbank.co.za/standardbank/Personal/Borrowing/Homeloans/Renovating-my-homeold/Options/Further-advance-(2nd-bond)) [Retrieved 14 August 2015].

Stander, M. (2012). Formal procedural requirements for debt enforcement in terms of National Credit Act. Master's in Law, University of Pretoria.

Starr, M.A. (2010). Debt-financed consumption sprees: Regulation, freedom and habits of thought. *Journal of Economic Issues*, XLIV(2):459–469.

- Stecker, J.H. (2009). Impact of the 2008 economic crisis on the insurance industry – first impressions. *Journal of Financial Service Professionals*, 63(2):71–76.
- Steinbock, D. (2013). The great triangle drama: The Euro zone debt crisis, the US fiscal cliff, and Chinese growth prospects. *American Foreign Policy Interests*, 35:108–118.
- Steyn, A.G.W., Smit, C.F., Du Toit, S.H.C. & Strasheim, C. (1994). *Modern statistics in practice*. Pretoria: Van Schaik.
- Stigler, G.J. (1971). The theory of economic regulation. *The Bell Journal of Economics and Management Science*, 6:3–21.
- Stoop, P.N. (2009). South African consumer credit policy: Measures indirectly aimed at preventing consumer over-indebtedness. *South African Mercantile Law Journal*, 1:365–386.
- Talla, J.H.N. (2013). An empirical study of e-banking in Cameroon. Master's in Commerce, University of South Africa.
- The National Consumer Tribunal. (2006). Government Gazette. [Online] Available at: <http://www.thenct.org.za/NCTDocs/founding-legislation/9a669fbc-ef58-4bd2-8a5e-d12f37d018bf.pdf> [Retrieved 28 February 2011].
- Tomlinson, M.R. (1999). From rejection to resignation: Beneficiaries' views on the South African government's new housing subsidy system. *Urban Journal Studies Foundation*, 36(8):1349–1359.
- Tomlinson, M.R. (2002). Efforts and errors: South Africa's search to extend housing finance to low-income households. *Housing Finance International*, 17(2):8–14.
- Tomlinson, M.R. (2007). The development of a low-income housing finance sector in South Africa: Have we finally found a way forward? *Habitat International*, 31(1):77–86.

Tustin, D.H., Ligthelm, A.A., Martins, J.H. & Van Wyk, H. de J. (2005). *Marketing research in practice*. Pretoria: Unisa Press.

United Nations. (1948). Universal Declaration of Human Rights. [Online] Available at: <http://www.supremecourt.ge/files/upload-file/pdf/act3.pdf> [Retrieved 14 August 2015].

Van Dyk, F. (2011). Basel III: An overview of the safer 'safety net'. South African Institute of Financial Markets. *South African Financial Markets Journal*, (13):1–14.

Vogt, W.P. (2007). *Quantitative research methods for professionals*. Boston: Pearson Education.

Walker, I. (2010). *Research methods and statistics*. London: Palgrave Macmillan.

Weber, R.F. (2012). Structural regulation as antidote to complexity capture. *American Business Law Journal Volume*, 49(3):643–738.

Whittaker, M. (2008). South Africa's National Credit Act: A possible model for the proper role of interest rate ceilings for microfinance. *Northwestern Journal of International Law & Business*, 28:561–582.

Wiid, J. & Diggines, C. (2009). *Marketing research*. Cape Town: Juta.

Wiid, J. & Diggines, C. (2013). *Marketing research*. (2nd ed.). Cape Town: Juta.

APPENDIX A
– ETHICAL CLEARANCE CERTIFICATE –

2013-04-12

Ref. Nr:
2013/CEMS/CN_003

To the researchers:

Ms Catherine Boonzaaier (student nr 32774346)
Mr Joseph Chisasa (staff nr 90130804)
Department of Finance, Risk Management and Banking
Unisa main campus,
AJH VD WALT 5-108
(021)9364112/ (012) 429 4613
cboonzaa@unisa.ac.za
chrisai@unisa.ac.za

This is to certify that the researchers

Ms C Boonzaaier and Mr. Joseph Chisasa

Declared that the research project for the fulfillment of the degree MCom, entitled:

The impact of the National Credit Act on mortgage lending in South Africa

complies with the ethical requirements stipulated by the Unisa Policy on Research Ethics.

This compliance notification (2013/CEMS/CN_003) for the abovementioned project based on **secondary data analysis** has been considered by the chairperson of the Research Ethics Review Committee of the College of Economic and Management Sciences, Unisa on 12 April and found to be acceptable.



Dr. Retha G Visagie (DCur)
Chairperson of the CEMS Research Ethics Review Committee Chair
UNISA
(012) 429 2478
Visagrg@unisa.ac.za



University of South Africa
Pretter Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 129 12 428 4150
www.unisa.ac.za