

The over-indebtedness of public servants in South Africa

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By

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ABSTRACT

The global financial crisis of 2008 revealed the substantial over-indebtedness of households across many countries. Over-indebtedness of households is the outcome of the policy of financial liberalisation and deregulation since the 1970s. The consumers who are most likely to become over-indebted are employees who earn regular salaries and wages. This paper studies the over-indebtedness of public servants in South Africa.

The concept of over-indebtedness is described, as a structural condition of a consumer that experiences financial is unable to repay credit commitments. This paper briefly describes the evolution of consumer credit and discusses the causes and consequences of over-indebtedness. The study evaluates the level of over-indebtedness of public servants in South Africa applying three quantitative measures: the ratio of credit repayments to income, the number of credit commitments held by the consumer and the indebtedness index.

The analysis uses a very large sample of credit records for public servants that were obtained from a credit bureau shows interesting findings. The overall findings show that majority of public servants in South Africa are over-indebted. The indebtedness index estimates that at least fifty-four (54%) of public servants in South Africa are over-indebted. Although the study did not include any statistical test of significance, the findings of the study are significant given the large sample size. The result should be treated as valid and exploratory.

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GLOSSARY OF TERMS

BMR	Bureau of Market Research
CCMR	Consumer Credit Market Report
CBM	Credit Bureau Monitor
DTI	Department of Trade and Industry
DPME	Department of Monitoring and Evaluation
ECND	European Consumer Debt Network
EU	European Union
NCA	National Credit Act
NCR	National Credit Regulator
NGO	Non governmental organization
PSC	Public Service Commission
SADTU	South African Democratic Teachers Union
SARB	South African Reserve Bank
UK	United Kingdom
USA	United States of America
XDS	Xpert Decision System

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The financial crisis of 2008 triggered concerns amongst public policy makers about the substantial and growing number of households that have become over-indebted, (D'Alessio and Iezzi, 2013). The financial debts of households in many European countries, the United States and developing countries have been increasing over the past two decades. The contributing factors to increasing household debts include financial liberalization and deregulation, declining interest rates and innovation in credit markets, (Barba & Pivetti, 2009 and Girouard, Kennedy & André, 2006).

The extent of the increase in household debt has raised concerns about its sustainability and the possible effects on the financial system across many countries, (Debelle, 2004). Although household debt has contributed significantly to the consumption-led economic growth over the past two decades, the use of debt becomes a problem when it leads to over-indebtedness, (Dyan and Kohn, 2007).

In general terms, over-indebtedness occurs when a borrower is unable repay their debt timeously and fails to meet the obligations of a credit agreement. Over-indebtedness refers to a structural financial condition rather than a transitional situation of a consumer. The assertion by Schicks (2010), is that over-indebtedness refers to a certain permanence of problems over time for the consumer. This approach avoids counting borrowers with one-off repayment problems as over-indebted. The condition of over-indebtedness is a complex economic, legal and social phenomenon that has attracted the attention of public policy makers across the EU, USA and South Africa. The formal definition of over-indebtedness includes measures such as the cost of debt servicing, accounts that are in arrears and the number of credit commitments held by the consumer, (D'Allessio & Lezzi, 2013). The concept of over-indebtedness is discussed extensive and in detail in the literature review section of this paper.

The general focus of this study is on over-indebtedness in South Africa with particular attention to public servants. For the purposes of this study a public servant is described as person that is employed by the government or a government agency excluding politicians that have been directly elected into public office for a stipulated period of time. The National Credit Regulator (NCR) reported in 2015 that many South Africans were over-indebted. The NCR report stated that 45% of credit-active consumers in March 2015 had impaired credit records. An impaired

credit record is described as when a consumer has an account with three months in arrears, or an account with adverse listing or an account with a judgment and administration order against it.

The majority of consumers who have the most debt and impaired credit records are middle class people that earn regular salaries and qualify for credit, (Daniels, 2004). A significant proportion (i.e., about one-third) of the South African workforce in 2014 was a salaried employee in the public service and state-owned enterprises, (Bhorat, Naidoo, Oosthuizen & Pillay, 2015).

There is anecdotal evidence and a few which indicate that public servants in South Africa are over-indebted.

Anecdotal evidence about over-indebted public servants include the press statement by the National Treasury (NT) on 31st August 2000 that, there was a rampant abuse of the government personnel payroll system (PERSAL) by financial services companies that caused public servants to be over-indebted. The NT claimed that financial services companies' marketed easy access to unaffordable credit and insurance cover to public servants. A regulation (i.e. General Notice 3098 of 2000) was promulgated to terminate all discretionary deductions from the PERSAL system.

The chairman of a NGO, Consumer Fair claimed that more than 60% of the public servants who had sought financial counseling from their organization had more than two garnishee orders, (Sibanyoni and Monama, 2012). The general secretary of the South African Democratic Teachers Union (SADTU) acknowledged that teachers are highly indebted in November 2012. The government established a toll-free line to respond to over-indebted public servants in 2015, (Sidimba, 2015).

The Public Service Commission (PSC) research study in 2007; about garnishee orders estimated that 20% of public servants in South Africa could over-indebted as a result of micro-finance personal loans, in 2007. In 2014, a study about consumer indebtedness estimated that 96% of public servants in the Department of Health in the North-West Province were over-indebted, (Moaisi & Ngwenya, 2014).

The concern about the over-indebtedness of public servants is not uniquely South African. Many other countries are concerned about the over-indebtedness of public servants as different governments associate it with the possible corruption of officials who are "financially compromised".

Duasa (2010), argues that the staff of the Malaysian police and immigration departments that have high personal debts, had a high probability for corruption. In China, the President of the Federation of Civil Service Unions, Mr Leung Chau-ting was quoted saying that "...there is a chance of luring them (civil servants) into corruption. If they don't have money to repay the loan, they would do anything to make money", Cheung (2001). The Singaporean civil service code of conduct requires civil servants to report to their authorities immediately if they become "financially embarrassed" as part of an anti-corruption measures. In Botswana, Grynberg (2015) argues that the real cost of rising debt amongst public servants is that they are more likely to accept bribes and this should be of greatest concern to all citizens.

The concern about the over-indebtedness of public servants is justifiable because of their role in a country. Public servants are entrusted with managing state financial resources prudently and facilitating the implementation of public policy. According to the Department of Performance Monitoring and Evaluation (DPME) report of 2005, the South African public service is at the fulcrum of fostering development and promoting democracy. When public servants are over-indebted, they can become vulnerable to suggestions of corrupt practices that may undermine the developmental agenda of the state.

1.2 Problem Statement

The NCR report estimate that South African consumers are highly indebted and experience financial distress. There is anecdotal evidence that public servants in South Africa are over-indebted. The PSC report indicates an association between over-indebtedness and financial misconduct by public servants. The financial distress of public servants exposes them to suggestions of corruption and unethical conduct. The PSC does not publish a periodic report about the level of over-indebtedness amongst public servants. Currently, the NCR reports do not provide detailed information on which categories of public servants (i.e. immigration and customs officials, police officers, teachers etc.) that are indebted and the extent of their financial difficulty.

The PSC has not presented an update report about the level of over-indebtedness of public servants to the parliamentary committee on Public Accounts in the past ten years since the publication of the first report in 2007. There is no commonly accepted or agreed quantitative or objective definition on the measures and indicators of over-indebtedness in South Africa.

The research studies by the PSC (2007) and Moaisi & Ngwenya (2014), which estimate the over-indebtedness of public servants in South Africa, have some limitations. The PSC study estimates over-indebtedness on the basis of emolument attachment orders against salaries of public servants by micro-finance lenders. The study does not use or apply a distinct quantitative measure(s) that indicate the level of over-indebtedness. The results of the study suggest that public servants that have emoluments attachment orders against their salaries are over-indebted. Different studies have shown that some of the emoluments attachment orders against employees may be executed improperly or fraudulently, (Haupt, Coetzee, de Villiers, & Fouché, (2008). There are two limitations to the study by Moaisi & Ngwenya (2014). Firstly, the study surveys only public servants in the Department of Health in the North West Province. Secondly, the findings are based on a subjective measure (i.e. consumer's perceived burden of debt) of over-indebtedness.

This study will propose the adoption of a quantitative definition for measuring over-indebtedness for South Africa. In addition the study will evaluate the level of over-indebtedness of public servants in South Africa.

1.3 Research Questions and Scope

The objective of this study is to examine the financial over-indebtedness of public servants in South Africa.

The primary research questions are:

- What is the level of over-indebtedness amongst public servants in South Africa?
 - How many public servants are currently over-indebted?
 - How many public servants are at risk of becoming over-indebted?

The secondary research questions are:

- Are public servants relatively more or less over-indebted than the average consumer in South Africa?
- What is the relationship between age and gender and the level of over-indebtedness amongst public servants

The key hypothesis is that a significant proportion of public servants in South Africa is over-indebted. The secondary hypothesis is that the debt profile of public servants is consistent with the life-cycle hypothesis in that it increases at younger ages, peaks in the middle age groups and declines among the older age groups.

1.4 Justification of the Research

The purpose of this research study is to estimate the level of over-indebtedness of public servants in South Africa using quantitative measures. This research aims to describe measures of over-indebtedness and estimate its prevalence amongst public servants in South Africa.

The public service in South Africa, like in many other countries plays an instrumental role in the socio-economic development of the country. When public servants are over-indebted, their ethical foundations can be compromised and this can lead to financial misconduct and corruption, PSC (2007).

The findings of this study would be of interest to the policy makers such as the PSC, the NCR, the Department of Trade and Industry (DTI) and its parliamentary committee, citizens and the general public and trade unions.

The PSC has expressed a serious concern about the over-indebtedness of its public servants given their role in the management of state financial resources, (PSC, 2007). The over-indebtedness of public servants has potential negative consequences for managing state financial resources and can undermine their ethical conduct and productivity, (PSC, 2007). The PSC warned about the correlation between personal financial distresses with financial misconduct amongst public servants. The implications of over-indebtedness of public servants could be the erosion of ethics and an enticement to commit unethical or corrupt practices by accepting bribes and committing fraud as a remedy for their financial strife, (PSC, 2007). The PSC had recommended a continuous monitoring of the over-indebtedness of public servants in 2007. The PSC would also be interested in the findings of study, as an employer for the financial wellness of public servants.

The findings of this study would also be of interest to citizens and civil society organizations that are concerned about corruption in the public service. The over-indebtedness of public servants can lead to a general perception about corruption in the public service. The perception of corruption amongst public servants erodes the trust between citizens and the state. When corruption does exist, it robs communities of quality services and undermines the public service reputational capital, (DPME, 2005).

It is important for public servants to avoid over-indebtedness in order to maintain confidence in their ability to manage public finances with integrity. It is equally important for the state to

monitor the level of over-indebtedness of public servants to ensure that appropriate steps are taken to ensure the financial wellness of its employees. The findings of this study would also be of interest to public sector trade unions as key stakeholders that have both expressed a concern about the over-indebtedness of public servants.

Studying over-indebtedness is significant because it is a social issue that affects the individuals concerned but also has a potential impact on the stability of the financial system when many consumers are over-indebted and default on their credit obligations. The significance of this study is the description and evaluation of quantitative (objective) measures of over-indebtedness of public servants in South Africa. The findings of this study would be of interest to both the NCR and the parliamentary committee on trade and industry who are at the forefront of the consumer credit policy of the country. This study aims to contribute additional knowledge to the existing literature to the work of Mashigo and Sekhukhune (2013), the PSC (2007), and Moaisi & Ngwenya (2014).

1.5 Outline of the study

This study is organized into four interlinked chapters. The first chapter is the introduction and provides a problem statement, the purposes and significance of the study, the research questions and the scope of the study. Chapter two, provides a literature review about the economic rationale and evolution of consumer credit market, the theoretical concepts about household debt and consumer over-indebtedness. Chapter three describes the research methodology and the limitations of the study. Chapter four provides a summary of the results and presents an analysis and interpretation of the findings. Chapter five provides the conclusion and recommendations from the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature about the theory and practice of consumer credit and presents an overview of the South Africa consumer credit market. The first part discusses about the theoretical concepts and business practices of consumer credit. The second section provides an overview of the South African consumer credit market.

The first section discusses the economic rationale and justification for the existence of consumer credit and the evolution the market and business practices in the 20th century in the USA and Europe. The second section reviews the concept and definition of consumer over-indebtedness, and examines its causes and consequences. The section concludes with a discussion on how to prevent or minimize over-indebtedness.

The second part of the chapter has one section that describes how the consumer credit market functions in South Africa. The section describes the relative size of the market by reviewing the number of customers and financial transactions. The section concludes with an overview about indebtedness in South Africa and describes some other the relevant trends and dynamics.

The chapter draws a conclusion about the dynamics of over-indebtedness in an economy.

2.2 Economic rationale and evolution of consumer credit market

2.2.1. Economic rationale of consumer credit

The life-cycle hypothesis of Modigliani and Brumberg (1955) and the permanent income hypothesis of Friedman (1957) describe the economic rationale of why households and individuals use credit.

The life cycle-permanent/income hypothesis, postulates that a consumer's permanent income (e.g. wages and salaries, retirement income, etc.) determines their permanent consumption (e.g. the size and quality of their home). Furthermore, in the short-term the level of consumption and expenditure can be lower or higher than the permanent disposable income. Consumers can use savings or debt to smooth out their consumption patterns in the short-term and throughout their life cycle.

Younger households can justify the use of debt in order to accumulate assets during early stage of life as they expect their future incomes to rise. On the contrary, older households can use accumulated savings to smooth consumption as incomes decline.

Bertola, Disney and Grant (2006:2), assert that household debt can be just as sensible as saving. For example borrowing in order to finance housing purchases can be optimal from the economic

point of view. Furthermore, they argue that “lending and borrowing make it possible to redistribute spending from periods in the life cycle in which income is high to periods in which it is low”, Bertola et al. (2006:6).

Although consumer credit is pervasive and has become an integral part of consumption expenditure of the modern capitalist economy, it was not always a readily accepted practice in society.

2.2.2. Evolution of consumer credit

(a) Debates about consumer credit

Before the twenty-first century, society frowned upon the use of consumer credit and regarded it as disreputable. A strong cultural influence of Protestantism was influencing the Western society during that era.

According to Logemann (2008), the notions of social respectability affected the use of consumer credit in different countries. The prevailing social attitudes towards consumer credit that were evident in the USA, West Germany and France were markedly different.

In the USA access to consumer credit became vital to the attainment of middle-class respectability and a matching consumer life-style. Logemann (2008) described how economists from credit issuing companies promoted the use of credit as sensible and necessary. Consumer credit was seen as a democratic right for American consumers and a key in achieving the middle-class consumer lifestyle as part of the post-war American dream, (Logemann, 2008).

In contrast, the West Germans were reluctant to embrace consumer credit and associated it with working class consumers "living beyond their means". A social stigma and an element of shame was attached to people that used consumer credit. The use of consumer credit was viewed as a sign of financial destitution, a lack in savings and living beyond one's means, (Logemann, 2008).

According to (Logemann, 2008) the USA and West Germany followed different paths towards consumer credit and mass consumption.

The rise of consumer credit in the USA was an outcome of serious debates in society. One of the specific questions that polarized the debate was whether it could be justifiable to grant small-unsecured loans based only of the workers' future wages. The moral conflict about the credit collateral was about the general role of credit in an industrial wage-earning society and the conditions under which loans of money could actually enhance the “welfare” of American consumers. According to Bittman (2016), unsecured loans to individual consumers had remained highly illegitimate until the 1940s. “Loan sharks” were the only suppliers of unsecured loans to consumers. The smaller, unsecured loans raised many legal and moral debates and the loan shark

came to represent the figure of a “payday” usurer or a “salary buyer”. The legitimacy struggles about unsecured loans occurred between 1910 and mid 1940s and ultimately led to the birth of a regulated market of unsecured personal loans.

After the 1929 financial crisis, the commercial banks adopted a model of unsecured loan contract described as salary loans, made to wage earners and based solely on their future income capacity to repay.

The move by the commercial banks legitimized the small-unsecured personal loans market through their higher institutional and economic status and effectively established the market in the USA.

In comparison to the French approach consumer credit was regarded as risky and “ more akin to gambling than to an investment in future prosperity”, (Trumbull, 2010:14). The general belief in France was that consumer credit is economically risky and reduces the purchasing power of incomes over time through interest payments, (Trumbull, 2010). The argument is that while household borrowing can smooth consumption, it also reduces its total consumption by the amount of the interest payments on the loan. Interest payments come out of the budget for future consumption and reduce household purchasing power. In contrast, business borrowing creates a corresponding new stream of income that repays the interest amount. French commercial banks regarded consumer lending as undignified and as commercially unsound because it was difficult to make small loans profitable. The French government collaborated with lenders to create a strong regulatory framework of consumer protection to legitimize consumer credit. A specialized consumer lender, Cetelem entered the market in the 1950’s and remains a dominant player to date. French commercial banks only entered the market in the 1980s when the economics of consumer lending repayments were changed. The technological advances in computerization and telecommunications and deregulation reduced the operational costs of the consumer credit businesses.

The legitimization of consumer credit by commercial banks in America caused a fundamental shift in societal attitudes as it actively undermined the dominant cultural influences of Protestantism toward debt and spending. In comparison, the social attitudes about consumer credit in both Germany and France were more cautious and skeptical. Other key developments in the organization of society and the economy also influenced the rise consumer credit.

(b) Mass-production and installment credit

According to Watkins (2000), the economic strategy; the invention of the system of mass-production; urbanization and the deregulation of financial services market influenced the evolution of modern consumer credit in the early twentieth century.

The USA introduced consumer credit as part of an overall demand expansion economic strategy in response to the Depression-era, (Logemann, 2008).

Installment credit was invented to provide liquidity to the consumer to acquire the durable goods and reassure the creditor by using the purchased goods as collateral, Watkins (2000). The introduction of the “installment plan” enabled the selling of mass-produced durable goods such as radios, washing machines and automobiles that could otherwise not have been mass consumed as their expense exceeded the budgets of most consumers. The “durable goods revolution” period of the 1920s coincided with the rise of the consumer credit economy.

The introduction of consumer credit removed the lack of liquidity for salaried employees to spend on highly priced durable goods. The current incomes of employees were not sufficient to afford highly priced durable goods. According to Watkins (2000:927), “ The development of credit markets and credit instruments circumvents the limits imposed by income, enabling consumers to use their assets to obtain secured credit or to obtain unsecured credit based on their prospective income and ‘credit worthiness’ ”.

The dismantling of the credit regulations system, in particular the Usury Laws, throughout industrialized nations during the 1970s also supported the development of consumer credit.

Dillard (1987) and Watkins (2000) contend that the consumer credit market enabled corporations to increase their profits and enabled individual households to acquire durable goods for personal use that were not affordable through their normal salaries and wages.

(c) Revolving consumer credit

The further evolution of consumer credit was the introduction of a universal credit card to allow credit on demand without collateral.

Consumer credit evolved to become a lending product that was sold as a commodity directly to households and individual consumers. Suppliers of credit cards did not sell or promote goods to consumers; their interest was purely financial. Selling credit products became an end in itself rather than simply a means to an end, Watkins (2000).

The business practice of selling consumer credit as a debt product is an established part of the financial services industry and the economy in the twenty-first century. The financial innovation of securitization of mortgage-backed securities (MBS) that contributed to the financial crisis of 2008 is an example of the practice of selling debt as a product, (Basurto, Jones, Lindner & Blankenheim, 2013).

(d) Concluding summary

Credit is one of the cornerstones of modern capitalism that lubricates the economy and promotes commercial activity, (Fatoki, 2015).

Consumer credit has become an integral part of the daily lives of many people throughout the world. It enables people to spend more money than they actually earn and even use credit when they have cash. Consumers acquire debt products to pay off other debts. The use of consumer credit today has become pervasive and sometimes provides financial relief in cases of unexpected emergencies and risks of modern life.

Consumer credit has introduced new risks to households as unscrupulous suppliers sell inappropriate and expensive loans to exploit socially vulnerable people. In addition, a consumer's life circumstances can change and tip them into an unexpected situation of over-indebtedness.

Suppliers of consumer credit on the other hand, also face potential risks from consumers who do not intend to repay their debts but continue accumulating debts and default on their obligations. Lenders also face the risk from negative macroeconomic events that cause consumers to lose their jobs and make it impossible for them to repay debts.

Public policy makers in many countries have designed legal and regulatory frameworks to ensure that consumer credit markets function optimally for the welfare of society. The overarching concern of many regulators has been the unsustainable debt levels by households and the incidence of over-indebtedness. What constitutes a description and or definition of over-indebtedness is important aspect of policy making.

The next section describes the current thinking about the concept and definition of over-indebtedness. The section also explores the causes, consequences and potential remedies of over-indebtedness.

2.3 Concept and definition of over-indebtedness

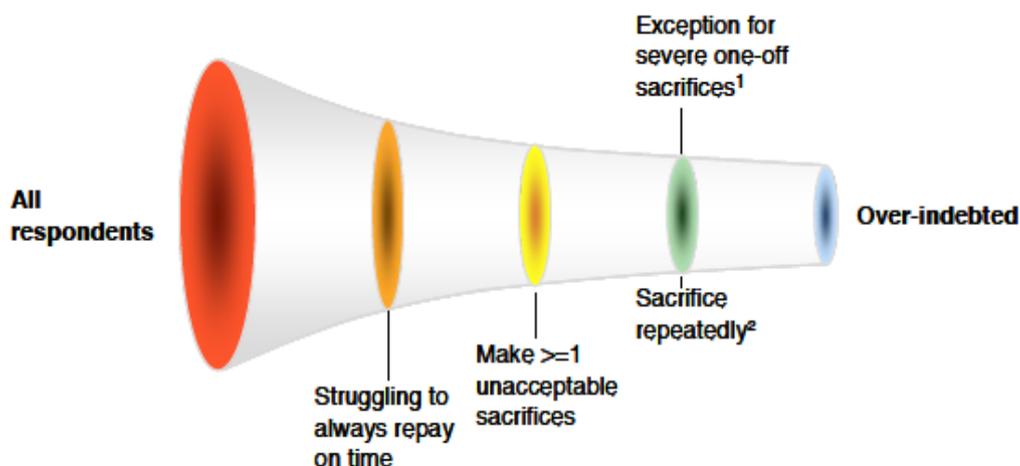
D'Allessio & Lezzi, (2013), contend that there is no universal agreement about the definition of the concept of over-indebtedness. There are no common indicators that best describe over-indebtedness. For example, the UK defined over-indebtedness as a situation “where households or individuals are in arrears on a structural basis, or at a significant risk of getting into arrears in a structural basis” (OXERA, 2004). In Germany, over-indebtedness has been defined as a situation where household income ‘in spite of a reduction of the living standard, is insufficient to discharge all payment obligations over a long period’, (Haas, 2006). In France, over-indebtedness is defined as a ‘manifest inability of the debtor, who is acting in good faith, to face up to the whole of his/her nonprofessional debts due or accrued’, (Bouyon & Musmeci, 2016). The American definition of over-indebtedness focuses on default or delinquency, not on subjective feelings of burden and not on the sacrifices required to meet payment obligations, (Baum & Schwartz, 2005).

According to (Betti, Dourmashkin, Rossi & Yin, 2007), the level of consumer borrowing and the capacity to service debt or a combination of both describes the concept of over-indebtedness. Schicks (2010), argues that over-indebtedness is a structural condition that is not temporary for the consumer. Most countries define over-indebtedness based on the inability of the consumer to pay current debts through observable criteria or the consumer’s conviction of their inability (ECDN, 2003).

There are three models for defining over-indebtedness: (1) the administrative model, (2) the objective or quantitative model and (3) the subjective model, (Niemi-Kiesiläinen & Henrikson, 2005; Betti et al., 2007; Disney, Bridges & Gathergood, 2008; Anderloni & Vandone, 2008). The *administrative model* measures over-indebtedness based on the official registration of defaults in a court or similar procedures such as bankruptcy or debt adjustment petitions, and or debt recovery actions registered with the courts (Niemi-Kiesiläinen & Henrikson, 2005). The *objective or quantitative model* measures over indebtedness on observable indicators, on the consumer’s current or future capacity to satisfy financial obligations based on a critical threshold. For example, financial ratios such as total debt-to-income, debt-to-assets or repayment-to-income (Getter, 2003; Niemi-Kiesiläinen & Henrikson, 2005; Betti et al., 2007; Anderloni & Vandone, 2008). The *subjective model* is based on the consumer’s perception of their capacity to pay their due financial obligations without jeopardizing their ongoing subsistence, (Ssebagala, 2014).

Schicks (2010) contends that the concept of over-indebtedness that hinges on the inability of a customer's to repay debt is a typical risk management approach from a lender's perspective. She contends that the concept of over-indebtedness as viewed from a client protection perspective differs substantially from the conventional risk management approach above. Schicks (2010) defines over-indebtedness as a circumstance when the customer continuously struggles to meet repayment deadlines and structurally has to make unduly high sacrifices related to his/her loan obligations. Only repeated sacrifices (i.e. made more than three times) count as structural. Schicks (2010) presents the concept of over-indebtedness when viewed from a customer protection perspective as a continuum that ranges from struggling to make payments to a state of over-indebtedness. The graphical representation of this approach shows that over-indebtedness occurs when a consumer makes more than three sacrifices repeatedly.

Figure 1: Measuring over-indebtedness by customer protection standards



1 No repeated experience required for unacceptable sacrifices of suffering an asset seizure, taking a new loan to repay, or selling/pawning assets
2 Either >3 unacceptable sacrifices, or >= 1 unacceptable sacrifice made >3 times

Source: Schicks (2010).

According to the customer protection approach, it is possible for a consumer to be experiencing over-indebted without the knowledge of or impact on the lender. This conceptualization of over-indebtedness describes the consequences of this state of affairs from a consumer's perspective. Schicks (2010) conducted the study exclusively amongst customers of micro-finance lenders in Ghana. The study accepted the customer's subjective perspective and experience of what constitutes a "sacrifice". The European Union (EU) recent studies on defining over-indebtedness adopted the conventional risk management perspective. The South African approach is similar to the EU.

European Union (EU) definition of over-indebtedness

The recent EU definition of over-indebtedness is an operational framework that converges on a set of four common factors that broadly describe the concept. The four common factors that define over-indebtedness in the operational framework of the EU are; (1) “making high repayment relative to income, (2) being in arrears, (3) making heavy use of credit and (4) finding debt a burden”, (D’Alessio & Lezzi, 2013:8). Each of the common factors has a set of indicators that indicate a description of over-indebtedness as detailed in the table below:

Table 1: Common indicators of over-indebtedness in EU

Category	Indicator
(1) Cost of servicing debt	(i) Households spending more than 30% (or 50%) of their monthly gross income on total borrowing repayments (secured and unsecured)
	(ii) Households spending more than 25% of their gross monthly income on unsecured repayments
	(iii) Households whose spending on total borrowing repayments takes them below the poverty line
(2) Arrears	(iv) Households more than 2 months in arrears on a credit commitment or household bill
(3) Number of loans	(v) Household with 4 or more credit commitments
(4) Subjective perception	(vi) Household declaring that their borrowing is a “heavy burden”

D’Alessio & Lezzi, (2013) states that each one of the six indicators has justifiable reasons for its inclusion and possesses distinct advantages and some disadvantages.

(1) Cost of debt servicing

The first two indicators measure debt-to-income ratio and are simple to understand. They capture the burden imposed by debt repayments on gross income beyond which a household experiences a significant burden. The disadvantage of the debt repayments approach is that the ratios appear to be arbitrary and typically ignore the financial worth of household assets that may allow for more debt extension.

The third indicator measures the income available to meet basic needs of life (i.e. not below the

poverty line), after paying the debt servicing costs. The advantage of this indicator is a commonly acceptable threshold of the poverty line, after taking account of the spending on total borrowing repayments of a household.

(2) Arrears in debt repayments

According to D'Allesio & Lezzi, (2013:8), the fourth indicator on accounts in arrears “ ... captures all forms of debt and household bills for which a household is more than two months overdue. The cut-off is chosen in such a way that households simply forgetting to pay a bill or debt for one or two months are not considered to be over-indebted.” The measure may overlook households that can still manage to meet their financial obligations even when they are in arrears with other debts.

(3) Number of loans

The presence of the multiple debts (having four or more credit commitments) was identified by the British DTI Task Force on Tackling Over-indebtedness (Kempson, 2002), as having a strong relationship between individuals reporting debt repayment difficulties and being in arrears. This measure is more of an indicator of risk of insolvency as perceived by the banking system. The presence of multiple credit commitments may not be very meaningful given the expansion of credit products in recent years.

(4) Subjective perception of debt burden

The six and last indicator of over-indebtedness relies on asking consumers directly on whether or not they are facing difficulties with repayment of debt. This approach is subjective, and thus prone to error due to individual's interpretations of terms such as “heavy burden” which is likely to vary both between households within countries and, even more, between households of different countries.

South African definition of over-indebtedness

In South Africa, the NCA (2005) defines over-indebtedness as a financial position that indicates that a consumer is or will be unable to satisfy the obligations under the credit agreements based on the available information (historic and current financial obligations), at the time of granting credit. This definition of over-indebtedness by the NCA does not include any specific objective or quantitative measures of the financial position of the consumer.

The South African Bureau of Market Research (BMR) from the University of South Africa, in 2009 proposed a definition of the concept of over-indebtedness using quantitative measures that are similar to the method of the EU. The quantitative measures of over-indebtedness for South Africa that are proposed by the BMR consists of three factors and four indicators as described in table 2 below:

Table 2: BMR Indicators of over-indebtedness

Category	Indicators of over-indebtedness
1. Cost of Debt Servicing	(i) Consumers spending more than 25% of their gross monthly income on unsecured repayments
	(ii) Consumers spending more than 50% of their gross monthly income on total borrowing repayments (secured and unsecured)
2. Arrears	(iii) Consumers with more than two months in arrears on credit commitment or household bills
3. Number of loans	(iv) Consumers with 4 or more credit commitments

Source: BMR (2009)

The proposed South African measures of over-indebtedness are largely similar to the common EU factors and indicators. The South African factors exclude one category (i.e. the subjective measure of the burden of debt) and one indicator of debt servicing costs (i.e. household borrowing expenditures that are below the poverty line).

The EU's description of a poverty line indicator measures the income available to meet basic needs of life provides a commonly understood quantitative threshold. In South Africa, the NCA's expenditure norms table for calculating affordability provides a similar quantitative threshold.

The NCA promulgated a regulation that requires lenders to conduct affordability assessment to establish the prospective consumer's existing financial means and prospects to pay the proposed credit instalments. The affordability of a consumer is determined by calculating the discretionary income available for debt repayments. The NCA defines discretionary income as the consumer's gross income less statutory deductions, less necessary expenses, less all other committed payment obligations as disclosed by the consumer, including obligations disclosed by the consumer's credit record as held by credit bureaux. The NCA, Regulation 23A provides a minimum expenditure norms table for different levels of monthly gross income when a lender

credit calculates affordability or discretionary income that indicates the existing financial obligations of a consumer.

The minimum expenditure norms table as found in Regulation 23A (10) reads as follows:

Table 3: Minimum Expenditure Norms

<i>Minimum Gross Income</i>	<i>Maximum Gross Income</i>	<i>Minimum monthly Fixed Factor</i>	<i>Monthly Fixed Factor = % of Income Above Band minimum</i>
R0.00	R800.00	R0.00	100%
R800.01	R6,250.00	R800.00	6.75%
R6,250.01	R25,000.00	R1,167.88	9.00%
R25,000.01	R50,000.00	R2,855.38	8.20%
R50,000.01	Unlimited	R4,905.38	6.75%

An example of how the lender should apply the minimum expenditure norm table is as follows:

A consumer who earns a gross monthly income of R5 000,00 is placed in the R800,00 to R6250,00 bracket. The minimum expenditure norm for this person is R800,00 worth of expenses per month (the minimum monthly fixed factor) PLUS a percentage of the remaining income over the minimum income. In this case this means that his expenses are:

$$R800 + ((R6250.00 - R800) \times 6.75\%) = R800 + (5450 \times 6.75\%) = R800 + R367.88 = R1167.88$$

What this ultimately means is that if the consumer asserts that their expenses are over R1167,88 per month, then (unless there is contrary evidence) their statement should be accepted as true. If the consumer asserts that their expenses are less than R1167.88 per month then they have to prove the accuracy of their statement or accept that the credit provider will assume that the monthly expenses are R1167.88.

The NCA requires that lenders should refrain from extending credit to consumers to the maximum of discretionary income and leave a margin of discretionary income for adverse changes in the economy or consumer's circumstances.

The approach of determining the discretionary income of a consumer at the point of credit application is comparable to the idea advanced by Finlay (2006) on the importance of defining affordability and over-indebtedness. Finlay (2006) presents the formula for calculating affordability as: Net income less total expenditure (credit and non-credit expenditure):

$$A = N - C - E$$

where;

N is net income from all sources (i.e. Gross Income less statutory deductions), C is expenditure on all existing credit commitments (mortgage and non-mortgage) and E is non-credit expenditure (rent, bills, food, travel, luxuries and so on). Information about existing credit commitments (C) is available from records of credit bureau's that routinely collect consumer credit bureaus. Information about non-credit expenditure (E) is difficult to obtain. It can however be estimated through national statistics Income and Expenditure surveys of a country.

Finlay (2006) argues that the measure of affordability can be determined by calculating a relative ratio of expenses to income. The following equation expression the concepts succinctly:

$$Ar = 1 - \frac{C}{N} - \frac{E}{N}$$

Where *Ar* denotes affordability ratio; the affordability ratio leads directly to the definition of over-indebtedness; *I*

$$I = 1 - Ar$$

'Over-indebtedness', is then defined as when $I > 1$. A state of over-indebtedness will exist even if the consumer does not have any credit commitments when non-credit expenditure exceeds net income (if $E > N$).

The above quantitative measures and indicators provide a clear and simple basis for evaluating the level of over-indebtedness of consumers. This research study uses some of these measures to evaluate over-indebtedness amongst public servants in South Africa.

The next section reviews the causes, consequences and implications of over-indebtedness.

2.4 Causes and consequences of over indebtedness

2.4.1 Causes of over indebtedness

The causes of over-indebtedness go beyond the often-cited social and psychological factors that reduce an individual's capacity to evaluate the consequences of their consumption and borrowing decisions, (Anderloni & Vandone, 2011). A combination of multi-faced phenomena that include the design of public policies (i.e. social, economic, legal and political aspects), behavioural and situational factors of both consumers and credit providers, cause over-indebtedness (Anderloni & Vandone, 2008; Marron, 2012 and SSebagala (2014)).

Marron (2012) argues that over-indebtedness emanates from three sites, the individual's agency, the subject's lived personal and social context and the market. SSebagala (2014) contends that credit market factors and household situational factors cause households to be over-indebted.

Nyaruwata (2009) argues that the cause of over-indebtedness in South Africa includes both the supply and demand factors. The supply factors include the credit market regulation and other public policies while demand factors are structural factors such as poverty and unemployment. An empirical study by Hurwitz and Luiz (2007) found that some households in South Africa had a genuine inability to repay their debts due in part to emergencies that strained their cash flows. The other significant causes of over-indebtedness include irresponsible and reckless behavior by both lenders and consumers.

The causes of over-indebtedness are discussed under the following broad themes; (a) public policy factors, (b) credit market behavioral factors and (c) situational factors.

a. Public policy

According to Debelle, (2004) and Gloukoviezoff, (2007), the two public policies that have contributed to the rise in over-indebtedness of households across many countries are ; (a) the deregulating financial services and (b) the democratizing of access to consumer credit.

Firstly, the lifting of financial regulations has contributed to the rise of over-indebtedness of consumers over the past three decades, (Debelle, 2004).

The regulatory controls of financial service included direct constraints on the amount and allocation of lending by financial institutions, a restriction of lending to certain institutions and controls on interest rates. The controls also restricted the ability of financial institutions to lend to consumers.

According to Lapavitsas (2009), the process of financial deregulation since the late 1960s allowed large corporations to raise capital from open financial markets and bypass traditional banks. Banking profits from traditional lending opportunities to large corporations have shrunk. The banks have turned to the personal revenue of workers and others as a source of profit. The individual worker salaries have become a source of profit for banks, which are increasingly financing elementary needs such as housing, education and health through borrowing, (dos Santos, 2009). The current global economic system generates more profits from the circulation of money through the financial system rather the production of goods. The economic system has been “financialized” by the dominant role of finance in the economy. The process of making profit through the pure circulation of money is a described as “financial expropriation”. Financial expropriation causes finance to have a predatory outlook towards the economy and society, (Lapavitsas, 2013:800).

Secondly, the public policy of expanding or democratizing access to consumer credit contributes to the rising levels of over-indebtedness, (Gloukoviezoff, 2007). The USA policy of democratizing access to consumer credit has resulted in relatively higher levels of over-indebtedness compared to France and Germany. Over-indebtedness in the USA is an unintended outcome of a public policy that was a “tool for economic self-reliance and social inclusion” to improve the economic status and well-being of a consumer, (Trumbull, 2010:14).

The French and West German approached public policy on consumer credit differently compared to the USA.

The French’s general view is that consumer credit reduces the welfare of a household through the payment of interest, (Trumbull, 2010). The French public policy on consumer credit was supported by careful government restrictions on the scope and extent of lending practice that were aimed at protecting the consumer.

The views of a large section of the German elite was consumer credit did not promote the attained of a middle-class economic status. A middle-class status of respectability should be attained through frugality, budget discipline, and savings. The middle-class viewed the use of consumer credit as predominantly a working-class phenomenon of living beyond ones financial means, which should be frowned. The post-war German public policy subsidised savings and there was a well–developed social safety net, (Logemann, 2011).

The general outcome of these different public policies is a much larger incidence of over-indebtedness of household in the USA relatively to France and Germany. In South Africa, similar public policies have contributed to the rise of consumer over-indebtedness include financial inclusion initiatives and the liberalization of credit markets.

The implementation of the policy of financial inclusion through the Financial Sector Charter in 2003, included the extension of consumer credit to households. The access to credit is a double edge sword that facilitates financial inclusion but encourages a credit-driven consumption growth that leads to over-indebtedness, (Seta, 2013). The democratization of consumer credit in South Africa did not provide adequate measures for protecting consumers against the “vagaries” of the credit market. Furthermore, the commercialization of the micro-finance industry contributed directly to the over-indebtedness of consumers, (Hossain, 2013; Bond, 2012 and Schicks 2010).

The deregulation of financial services and the liberalization of the credit market in South Africa facilitated the growth in micro-finance companies, (Seta, 2013). The amendment to the Usury Act and the scrapping of lending interest rate ceilings for small loans, facilitated an aggressive growth in unsecured consumer credit that contributed to over indebtedness of consumers, James (2012). The South African government subsequently promulgated the NCA partly, to regulate the behavior of credit market participants as the incidence of over-indebtedness became more prevalent in the country.

b. Credit market behavioural factors

SSebagala (2014) describes credit market factors as the irrational behavior of lenders (i.e. poor credit practices such as predatory lending) and the poor judgment by borrowers (i.e. financial imprudence).

The credit market framework supports the irrational behavior of lenders. Marron (2012), argues that the credit market framework is an inherently complex, unequal and even a hostile territory between the lender and the borrower, it is highly likely that a consumer will experience over-indebtedness. The credit market designs and distributes financial products that confuse customers and thus gives rise to over-indebtedness. Lenders adopt very aggressive marketing techniques and inappropriate lending practices that are predatory and unfair, (Marron, 2012; Ssebagala, 2014 and Bittmann, 2016). Since the 1920s in the USA, lenders extended unsecured credit to poor industrial workers based on income earning ability in what was general known as a

“salary buying” practice, (Bittmann, 2016:23). Soederberg (2014), argues that the “salary lenders” played a role in developing a “poverty industry” with this economic practice during the 1920s in the USA.

In South Africa, the practice of targeting salaried employees with debt products is a well-established marketing strategy for lenders. Daniels (2004) found that lenders grant credit to salary and wage earners based on their income earning capacity and position in the workforce. The granting of credit based on salary income, is effectively a “salary buying” practice that can result in borrowings at unsustainable levels by employees. Financial services companies in South Africa target public servants (i.e. nurses, teachers, police officers etc.) with consumer credit and other financial products based on their employment status and the ability to collect payments through the PERSAL payment infrastructure, a government payroll administration system, (James, 2014).

Marron (2012), concludes that, notwithstanding the inherently complexity of the credit market, the individual is still culpable for entering into contract debt arrangements. The consumer has individual agency in becoming over-indebted. It is the individual that enters into a credit agreement and become unable to make repayments or manage their expenditure within their income limits. The findings by Disney, Bridges and Gathergood (2008), shows financial imprudence is one of the major causes of consumers tipping over into over-indebtedness. According to James (2014), some consumers in South Africa fell into over-indebtedness while attempting to realize the new promise of prosperity and social upward mobility following the transition from apartheid to democracy.

Unexpected shocks and other situational factors in the life of even the most prudent consumer can cause them to become over-indebted.

c. Situational factors

Marron (2012), argues that the neoliberal economic and political context produces over-indebtedness because of the inherent uncertainty of the economy. Borrowers can lose their jobs and negative interest rate shocks can impose unexpected financial strain on household. The financial crisis of 2007/8 and the subsequent recession led to unemployment and caused consumer to become over-indebted across all income groups.

Gloukoviezoff (2007) argues that the main triggers for over-indebtedness are life changes (e.g.

job loss, separation or divorce, sickness, etc.), that can affect people with higher levels of income. SSebagala (2014), argues that the household situational factors are the “unavoidable circumstances” that consumers can find themselves from occurrences of unfortunate events that are beyond their control, such as sudden illness, death, divorce etc.).

These situational factors can affect consumers across in all income and demographic groups.

Marron (2012), asserts that the lived personal and social context refers to life’s unexpected events like sickness, unemployment, changed family circumstances and marital breakdown that affect an individual’s income and their ability to repay current credit obligations, sustain payments on utility bills and other financial commitments.

d. Concluding summary

The public policies of deregulating financial services and democratizing access to consumer credit have caused the rise of the over-indebtedness amongst households across countries.

The deregulation of financial has led to the dominance of the financial sector in the global economic system. The global corporate sector earns more profit from the circulation of money rather than production. The current global financial system has become financialised. The financial sector is involved in a process of “expropriating” financial profits from the personal incomes of workers and households as a new source of profit.

The public policy democratization of access to consumer credit contributes to over-indebtedness the reduction in economic welfare of workers. The interest payment for consumer credit reduces the purchasing power of workers and affects their economic welfare negatively. The legitimization of unsecured credit by commercial banks contributes to the existence of a “salary buying” industry. The predatory conduct of lenders in the consumer credit industry is part of the process of financial expropriation of the income of workers by the financial sector.

Notwithstanding all the mentioned macro-social causes of over-indebtedness, the individual remains ultimately responsible for their own actions. The individual consumer has agency in becoming over-indebted and remains culpable for entering into contract debt arrangements. The effect of over-indebtedness on individuals, households and the whole society is negative.

2.4.2 Consequences and implications of over indebtedness

The over-indebtedness of an individuals and households is associated with some negative personal, social, economic and political consequences and implications.

a. Personal implications and consequences

Individuals that are over-indebted often experience a high prevalence of psychological and physical health impairments. Their inability to pay debts, combined with aggressive collection techniques from creditors, often result in them feeling harassed. The consequence of such financial strain is health problems that include stress-related illnesses, marital stress, and some individuals may descend into a life of hopelessness and a greater suicidal intent, (Turunen & Hiilamo, 2014; Niemi-Kiesiläinen & Henrikson, 2005; and Jacoby, 2002).

Households that are over-indebted become fragile and can experience negative mental and physical stress, loss of productivity and marital breakdowns (Fatoki, 2015).

b. Economic implications and consequences

Over-indebted employees are less productive and have poor financial behaviors (Garman, Leech and Grable, 1996). In addition, the over-indebtedness of employees can also cause an administrative burden for employers as they may have to establish staff financial wellness programmes, provide salary advances and sometimes execute emoluments attachments orders against their staff members as directed by the judicial system.

The over-indebtedness of public servants has negative consequences for managing state financial resources and can undermine their ethical conduct and productivity, PSC (2007). Over-indebted public servants can become vulnerable to an erosion of ethics and suggestions of corruption practices. Such public servants could be enticed to commit unethical or corrupt practices by accepting bribes or commit fraud to remedy their financial strife. Consumer over-indebtedness has financial implications for lenders as well. There are costs for collecting outstanding debts from customers. It is also very costly to the lender when there is a complete default (Niemi-Kiesiläinen & Henrikson, 2005).

The state and the economy can incur high costs when many customers are over-indebted and or default on their obligations simultaneously. A significant exposure to over-indebtedness can lead to bankruptcy of a financial institution can trigger a systemic risk to the entire financial system.

The state would be forced to intervene financially to rescue a failing financial system.

c. Social and political implications and consequences

The social and political costs of over-indebtedness become evident when social groupings engage in conflicts that are underpinned by financial strains of the individual citizens. In South Africa, the over-indebtedness of employees was one of the underlying reasons for employees of a mining company in the town of Marikana to embark in an industrial action of striking that eventually led to the tragic death of 34 mineworkers. According to Bateman (2014), “This incidence ...took place against a background of massive indebtedness among the Marikana mineworkers”. Bond (2012) argues that indebtedness was central to the desperation of mineworkers in Marikana. Davis (2012) described the vicious debt cycle that trapped mineworkers into debt because of predatory lending practices. James (2014) states that one of the underlying causes of the strike at Marikana was the unsustainable debt of mineworkers and the onslaught of lenders on their bank accounts. Some of the mineworkers had nothing to live on shortly after payday because of indebtedness.

d. Concluding summary

Over-indebtedness affects the society negatively at a personal, economic, social and political level. The current financial system excludes consumers that cannot repay debts and have poor credit records. Over-indebtedness causes stress-related problems and social exclusion for individuals and households that can lead to a sense of hopelessness. At a social and political level, over-indebtedness can cause strife by social groupings that feel financially strained. Over-indebtedness can induce the corruption of public servants and undermine the development agenda of the state.

The economic costs of over-indebtedness include a reduction in productivity of individual workers. The financial costs of rescuing a faltering financial institution due to over-indebtedness by the state reduces overall economic welfare. The unintended outcomes of the policy of financial liberalization and deregulation are increased risks of over-indebtedness of consumers and the instability of the financial system. The unintended consequences of democratization consumer credit intention are financial exclusion and a reduction in the purchasing power of workers. Given the negative consequences of over-indebtedness, policy makers should strive to minimize or prevent the negative impact on society if possible.

2.5 Preventing and or minimizing over-indebtedness

The impact of over-indebtedness on individuals and households has drawn the attention of public policy makers who also believe that it necessary to prevent and minimize a negative social situation. Ssebagala (2016) believes that the risks of consumer over-indebtedness are identifiable and preventable. A set of well-structured public policies, credit market and individual behaviors can respond effectively the negative consequences and other challenges of over-indebtedness.

a. Public policy response

A public policy response to over-indebtedness addresses the negative social, legal, economic and political consequences. The state can design and implement regulatory measures that are aimed at protecting consumers, preventing reckless lending and promoting responsible lending by creditors to minimize over-indebtedness, (Renke, 2011).

In the aftermath of the Global Financial Crisis (GFC) in 2008, many countries introduced consumer protection legislation in response to over-indebtedness. For example, according to Nottage & Kozuka (2012), the USA established the Consumer Financial Protection Bureau in October 2010 to strength the regulation of consumer lending. The EU issued a *Consumer Credit Directive* (2008/48/EC) in 2010. The UK announced the creation of a new Consumer Protection and Markets Authority (CPMA) that would take a more proactive and focused approach to regulating the conduct of financial services and markets. In South Africa, the NCA aims to protect consumers from over-indebtedness, prevent the reckless and predatory lending practices of creditors. The state can also consider the re-regulation some aspects of consumer credit to respond to some of well-known negative consequences. According to Nottage & Kozuka (2012), Japan has implemented a re-regulation the consumer credit market by re-imposing maximum interest rates caps on unsecured loans.

Regulators should also consider product safety rules for credit products. Consumer credit products pose real safety risks for customers. The argument by Bar-Gill & Warren (2008), is that consumer credit products like mortgage loans, credit cards and payday loans can be unsafe and dangerous. What makes these products dangerous is that the sellers of credit products exploit the lack of information and cognitive limitations of consumers. Consumers are no better equipped to protect themselves against from many credit products than from other physical products like poorly wired toasters or badly designed lawnmowers, Bar-Gill & Warren (2008:106). The subprime crisis shows that consumer credit products can lead to financial distress, bankruptcy, and foreclosures with devastating effects on communities and the economy. The harm caused by

consumer credit product is as real as that of physical products. A gap in the consumer credit regulation is a specific obligation on lenders to disclose to regulator about “accidents” or risks befalling borrowers. Nottage & Kuzuka, (2012) propose that regulators should require lenders to report about abnormal problems arising from services that they have supplied. For example, lenders can be required to report any suicides by borrowers or personal insolvencies, which occur in unusually high numbers by industry standards. This type of information can contribute to improving the effectiveness of consumer credit regulation and better cooperative relationship with credit market participants.

b. Credit market response

The cooperation of credit market participants with regulators is important for preventing and minimizing the over-indebtedness of consumers. The financial sector can develop appropriate financial instruments and products, market structures and an environment that facilitate access to financial services, that does not prejudice consumers, (Johnson & Sherraden, 2007).

Credit providers can adopt voluntary codes of behavior to eliminate predatory lending practices and promote responsible lending for the welfare and protection of consumers. The credit industry in South Africa adopted a code to combat over-indebtedness with detailed provisions on how to prevent over-indebtedness of consumer, (National Debt Mediation Association, 2013).

The commitment to responsible lending include taking steps to adopting mechanisms for early detection of vulnerable consumers.

The lending industry can use the credit information reporting or reference system to identify consumers who are at risk of becoming over-indebted. Lenders can use the credit profiles and scores of consumers to develop indicators of affordability at the point of credit application to minimize the risk of default and over-indebtedness. According to Finlay, (2006) lenders can use data from credit bureaus to develop good predictive models of expenditure and over-indebtedness that can indicate which individuals to reject or restrict volume of credit extension. It is possible to avoid over-indebtedness of a consumer by constructing statistically significant models of affordability and over-indebtedness using available data at the time of applying for credit, (Finlay, 2006).

The provision of financial education and debt-advice services contributes positively in the reduction of the risks of over-indebtedness, (Bouyon & Musmeci 2016).

c. Personal and household response

At a personal level, consumers can respond to the risk of over-indebtedness by improving their knowledge and capability about financial products. The financial capability of consumer incorporates the skills, knowledge and behavior in personal financial management. Consumers should review their credit scores regularly to monitor the risk of becoming over-indebted. When entering into credit agreements consumer should read the contracts carefully and seek advice from knowledgeable people.

Household should minimize their debt or leverage because highly leveraged households are more vulnerable in times of stress, and their debt servicing capabilities might deteriorate when interest rate rise, (Hull, 2003).

d. Concluding summary

Over-indebtedness can be prevented or minimized through changes in public policy, credit market and personal behaviors. The state can design and implement regulatory measures that protect consumers from predatory lending and promoted a responsible lending by creditors. The financial sector can collaborate with regulators to develop appropriate financial instruments and products that do not prejudice consumers. For example, credit providers can adopt voluntary codes of behavior to eliminate predatory lending practices and promote responsible lending for the welfare and protection of consumers. The lending industry can use the credit information reporting or reference system to identify consumers who are at risk of becoming over-indebted.

The provision of financial education and debt-advice services can contribute positively in improving the knowledge and capability of the consumer and reduce the risks of over-indebtedness. At a personal level, consumers can minimize their debt or leverage because highly leveraged households are more vulnerable in times of stress, and their debt servicing capabilities might deteriorate when interest rate rise, (Hull, 2003).

The state can also consider the re-regulation some aspects of consumer credit like limits on interest rate, to respond to some of well-known negative consequences. In addition, regulators should also consider product safety rules for consumer credit products given their potential harm to financial and economic welfare of consumers.

2.6 South African consumer credit market

2.7.1 Understanding household debt in South Africa

Household debt in South Africa comes in many different types of consumer credit products and or facilities. The South African Reserve Bank (SARB) classifies the household debt into mortgage advances and consumer credit. Van der Walt and Prinsloo (1993:26-27), subdivide consumer credit into open accounts, personal loans at banks, other personal loans, credit card facilities, and installment sale transactions and lease transactions.

- (a) *Open accounts* of households include all outstanding debits to dealers and amounts payable to buy-aid associations for the purchase of goods and services from dealers. This debt is usually for purchasing durable and semi-durable goods and for consumer services. The period of credit extension is normally one calendar month from the date of inception.
- (b) *Personal loans* granted by banks consist of overdraft facilities and other advances granted to individuals. Overdraft facilities are available to the bank's current accounts holders and enable clients to withdraw funds over and above the amounts deposited into the accounts. Consumer credit includes only that part of the overdraft facility that is outstanding by the consumer.
- (c) *Other bank advances* to individuals are for persons who are not clients at that particular bank. The scheduling of the repayment of such debt is more precise than the repayment of overdrawn accounts and repayment is normally required within a fixed period.
- (d) *Other personal loans* consist of loans granted to persons by long-term insurers where the surrender value of a policy serves as security for the loan.
- (e) *Credit card facilities* from banks offer consumers a very convenient method of making purchases and deferring the payment of the purchase price. Only the outstanding debit balance at the end of each calendar month is part of total consumer credit and not the total credit available.
- (f) *An installment sale agreement* (hire-purchase agreement) is a transaction, which provides goods or services to the buyer, who pays the purchase price in installments for a period in the future. Installment sale finances the purchase of relative highly priced durable consumer goods that have an expected economic lifetime between three to five years.
- (g) *Lease agreements* are transactions in a debtor leases or hires the goods for using during a time period without owning the goods at any time during or after the expiry of the lease period. As the credit-taker does not acquire ownership in terms of the agreement, the outstanding commitment is part of consumer debt.

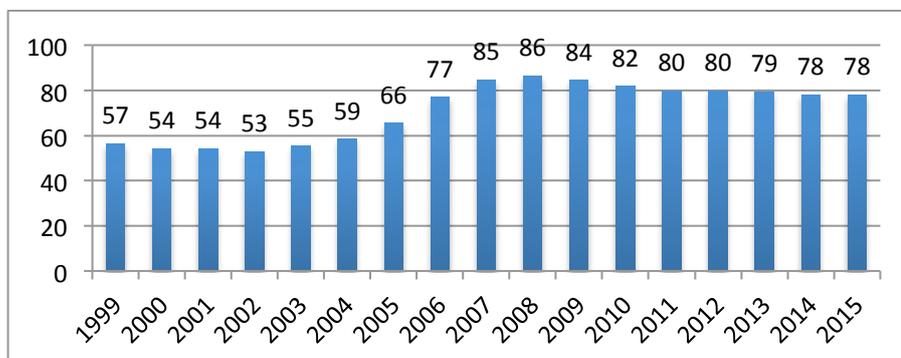
Ssebagala (2014) classifies household debt into secured and unsecured debt. Secured debt consists of debt backed by collateral such as the asset purchased or another valuable asset. Secured debt is typically used to the purposes of running a business, acquisition or improvement of land and or real estate. Unsecured debt, also referred to as consumer credit, originates when credit is used for consumption purposes such as purchasing a consumer good or service (e.g. cell phone device, holiday, school fees etc.). Unsecured debt or consumer credit can be arranged in different forms as described by Ssebagala (2014:9-10) and Moaisi & Ngwenya (2014): (i) revolving credit; (ii) personal loans; (iii) installment sale and (iv) informal debt.

It is common for a household or individual in South Africa to enter into debt agreements that include a combination of secured credit (e.g. housing mortgage) and unsecured debt (e.g. furniture, study loans, vehicle finance) concurrently during the same period.

Household debt trends in South Africa

Household debt has been increasing since the beginning of the 1980's following the deregulation of the financial sector. Further growth trends became evident with the rise of the micro-lending industry since the beginning of the 1990s, Prinsloo (2000:68-71). The SARB statistics indicate that household debt as a percentage of disposable income increased from 50% in 2003 to 76% in June 2013.

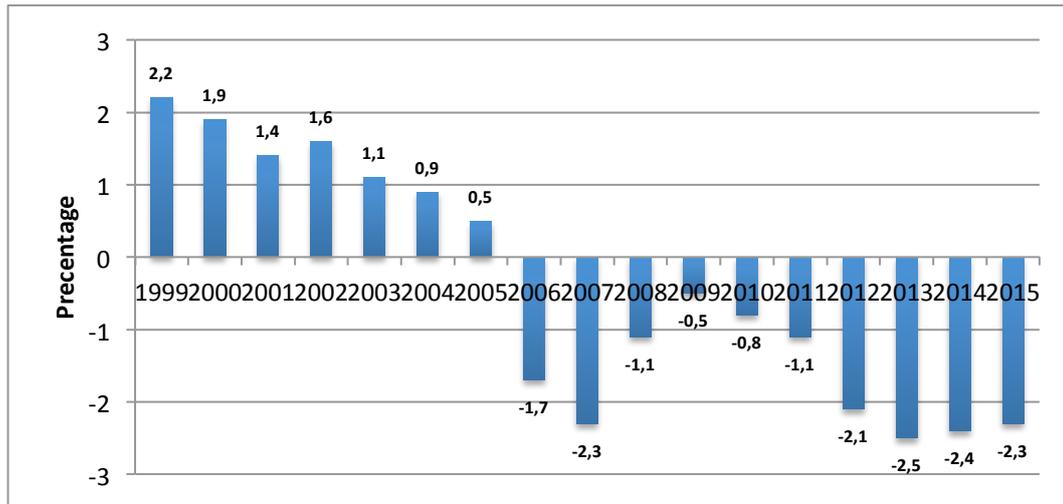
Figure 2: Household debt to disposable income



Source: SARB Quarterly Report, 2016

The extension of credit facilities to households has also been accompanied a deteriorating savings rates as indicated by the SARB statistics in the table below. The rate of household savings relative to disposable income changed from 2.2% in 1999 to -2,3% in 2015.

Figure 3: Household savings to disposable income



Source: SARB Quarterly Report, 2016

The extension of credit facilities to households in South Africa has given rise to in over-indebtedness. The assumption and belief that access to credit is a right underlies the South African policy approach on consumer credit. The transition from apartheid to democracy brought new promises of prosperity and upward mobility for those previously dispossessed, (James, 2014). The Department of Trade and Industry (DTI) reviewed the credit laws and established a new approach to regulating credit markets (including consumer credit) in 2003 for South Africa.

During parliamentary hearings on the credit market policy, the Congress of South African Trade Unions (COSATU) argued that access to affordable credit for low-cost housing and small enterprise development was a right, (Ssebagala, 2014). A case was also made for bringing the previously excluded population segments into the mainstream financial system through a programme of financial inclusion. The Financial Sector Charter was adopted in 2003, by the private sector and the government as a policy approach to build a financial inclusive financial sector, (Arora & Leach, 2005).

The DTI adopted a credit policy for the country after extensive public consultations with various stakeholders. The overarching objectives of the credit policy as expressed by the DTI (2004), are to promote a stable, efficient and competitive credit market that protects consumer rights adequately, and access to finance for developmental purposes. The DTI's credit law review in 2003 recommended inter alia, the enactment of a new consumer credit act that would achieve the desired policy objectives as expressed above.

The National Credit Act number 34 of 2005, (NCA) was promulgated with the purposes of *promoting and advancing 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.*

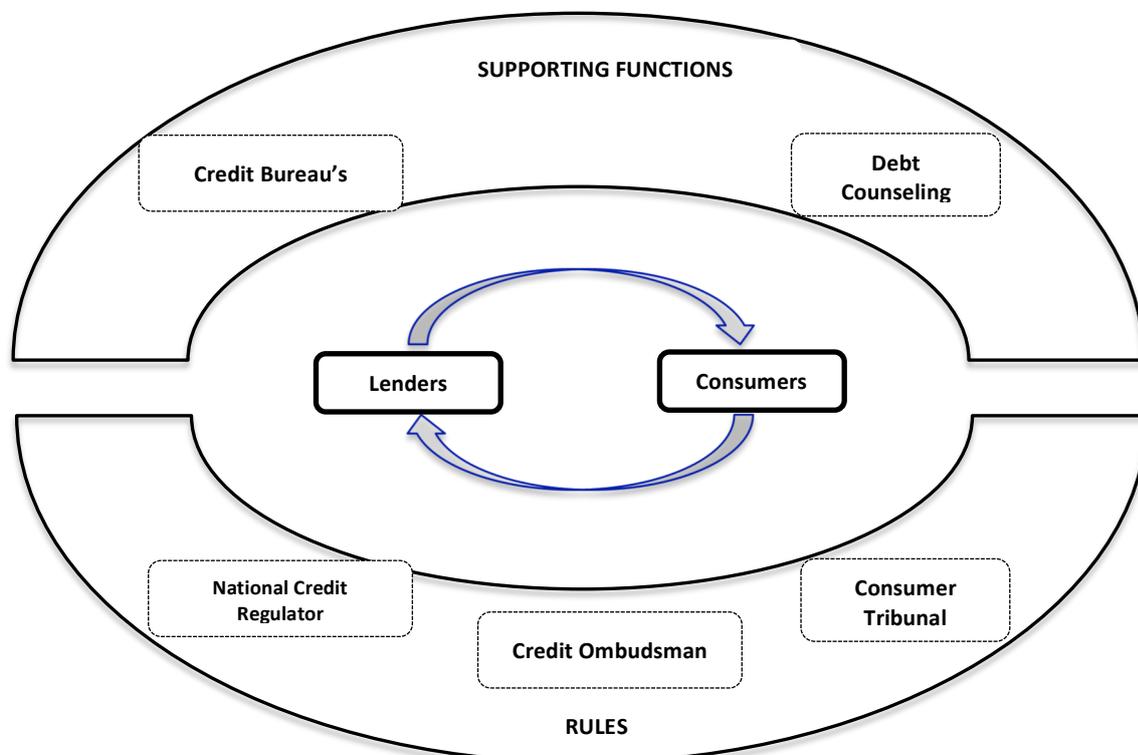
The consumer credit market system of South Africa can be described as a multi-player arrangement comprising of the core function of exchange by consumers and lenders and the supporting functions and rules which are performed and shaped by a variety of market players, (Tschumi & Hagan, 2008).

The lenders in the consumer credit market includes commercial banks, microfinance companies, motor-car financier, pawnbrokers, insurers and retailers.

The supporting functions includes; credit bureau's that provide credit reporting services about credit behavior information of borrowers; and debt counseling companies that provide debt review services to borrowers who are in financial distress.

The rules of the credit market are developed and managed by the National Credit Regulator (NCR), Consumer Tribunal and the Credit Ombudsman Office, that are the implementation agencies of the NCA.

Figure 4: Consumer credit market system in South Africa

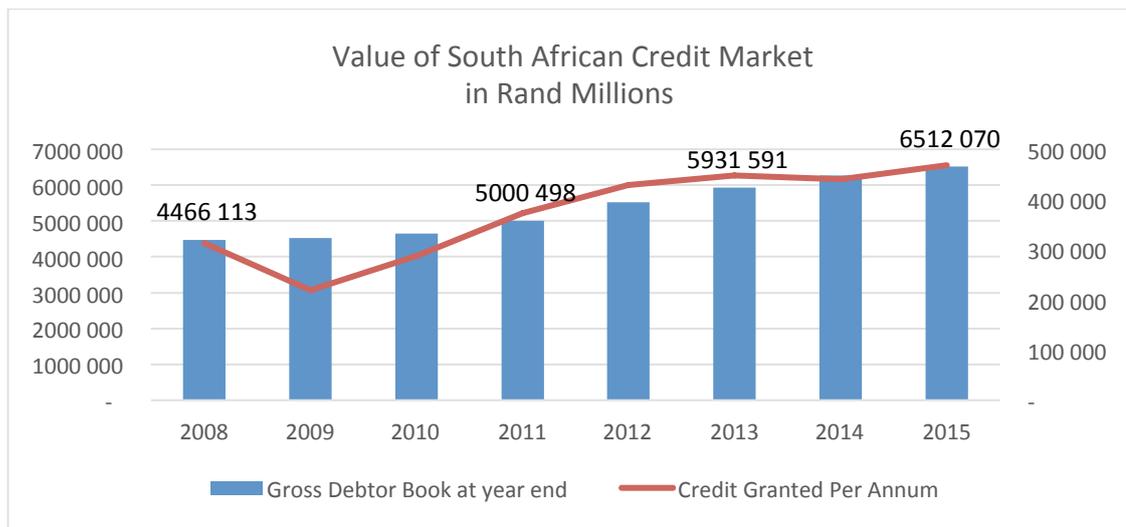


Source: Adapted from Tschumi & Hagan (2008)

The NCR (2015) reported that there were 4 569 registered lenders; 23,7 million credit-active consumers, 13 credit bureaus; 2 375 debt counselors in December 2015.

The gross value of the debtor book grew from R4, 5 trillion in 2008 to R6, 5 trillion at the end 2015. Consumer credit granted annually grew from R219, 3 billion from 2008 to R467, 9 billion in 2015.

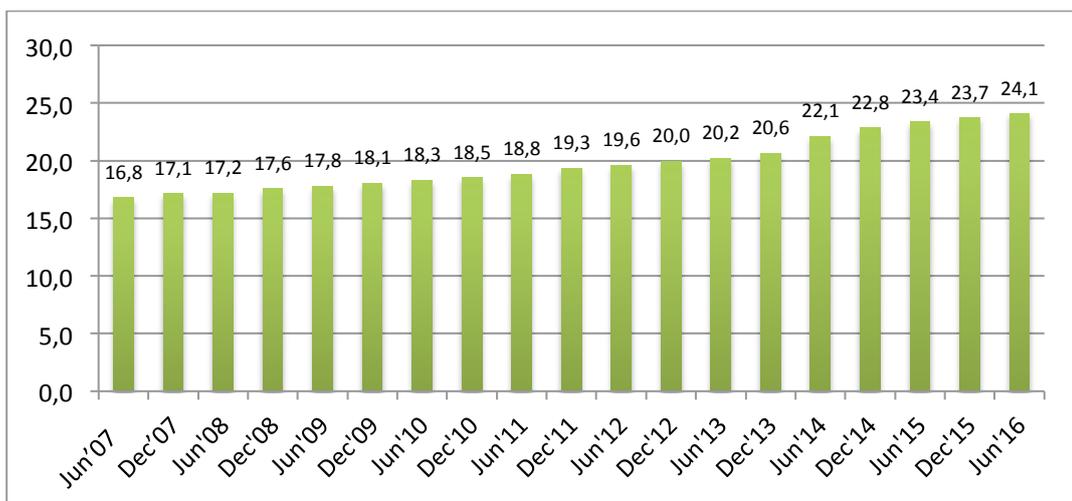
Figure 5: Value of South African Credit Market



Source: NCR Consumer Credit Market Report (CCMR), First Quarter 2016

The number of credit-active consumers grew by 43% from 16,8 million in 2007 to 24,1 million in June 2016.

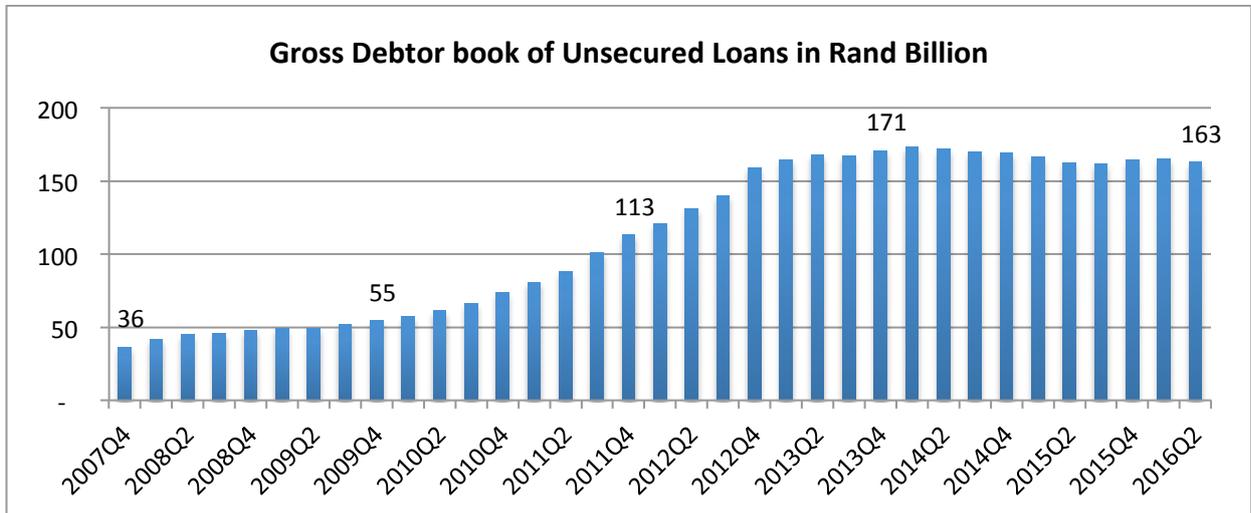
Figure 6: Number of credit active consumers in South Africa



Source: Credit Bureau Monitor Report, First Quarter 2016

The gross debtor book for unsecured loans has grown more than 300% in a decade, from R36 billion in 2007 to R163 billion at the end of 2016. According to Schraten (2014), this phenomenal growth is a consequence of the NCA encouraging creditors to offer unsecured loans.

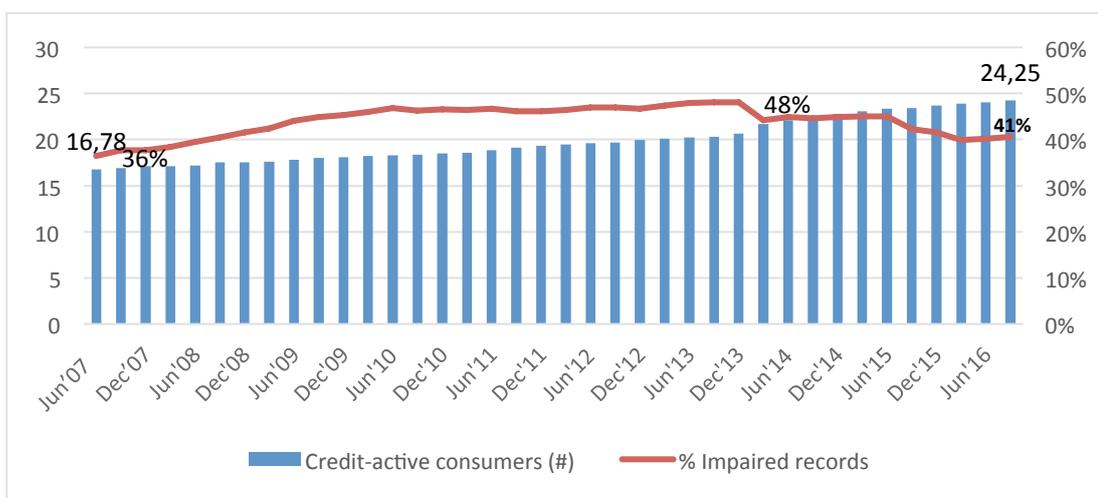
Figure 7: Growth of Unsecured Loans in South Africa



Source: NCR Consumer Credit Market Report, Second Quarter 2016

The NCR statistics show a deterioration in the credit records as indicated by the percentage of impaired credit records. The definition of impaired credits records includes three categories; (i) the number of accounts that are at least three months in arrears, (ii) the number of accounts with adverse listings and (iii) the number of accounts in which judgments and administration orders have been granted against a consumer. Impaired credit records were 41% of the credit active accounts in September 2016 as shown in the graph below.

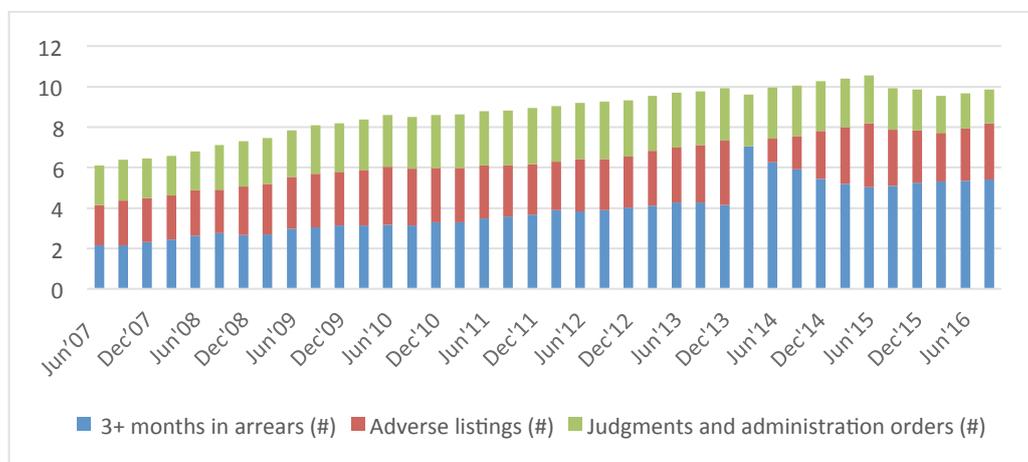
Figure 8: Consumers with impaired credit records



Source: NCR Consumer Credit Market Report, Second Quarter 2016

A further analysis of the impaired records show that most consumers were in arrears on their accounts for more than three months.

Figure 9: Analysis of impaired credit records



Source: NCR CCMR, Second Quarter 2016

Given the inherent uncertainty of life events, a credit-taker can encounter unexpected circumstances that results in them missing a scheduled debt repayment or default on a credit contract. When credit-takers are unable to meet their debt obligations, they are generally considered over-indebted.

2.7 Conclusion

Modern consumer credit has evolved since early twentieth century to become an integral part of the modern capitalist economic system. The wide spread availability of consumer credit has been accompanied by a deterioration in household savings and an increase in the incidence of over-indebtedness. There are two convincing arguments that over-indebtedness is an inherent part of the current global financial system. Marron (2012) argues that the financial system inherently produces over-indebtedness. Lapavitsas (2013) maintains that financial expropriation is a characteristic of the new financialized capitalism of our time. The dominance of the financial sector profits in the global economy that coincides with the rise of over-indebtedness by households across many countries suggests the existence of a relationship between the two phenomena. The evidence of predatory lending practices by creditor providers including commercial banks suggest that the finance sector does expropriate profit from the incomes of individuals and households. The presence of a legitimate unsecured personal loans industry that includes commercial banks that operate what is effectively “salary buying” business raises

serious moral questions about how the system functions to produce over-indebtedness. The consumer credit industry supplies services that are risky, unsafe and dangerous for individuals and households, (Bar-Gill & Warren 2008). Consumer credit products such as credit cards, unsecured payday loans and mortgages have the potential to threaten financial security of individuals and household through various by-products such as over-indebtedness, bankruptcies and foreclosures.

Over-indebtedness has serious negative consequences for both individual households and the society. When public servants are over-indebted, they can become vulnerable to suggestions of corrupt practices such as accepting bribes or commit fraud to remedy their financial strife. The over-indebtedness of public servants presents an environment that can facilitate the introduction of corrupt practices and undermine the developmental agenda of a state. It is important to monitor the incidence of over-indebtedness in a country and to adopt appropriate counter-measures to minimize and prevent it from destabilizing households and the state.

The adoption of appropriate public policies can prevent or minimize the occurrence and negative effects of over-indebtedness in a country. Regulators should consider re-regulating the consumer credit industry in the aftermath of the GFC. The regulation of consumer credit products should include minimum safety standards just like physical consumer products where customers cannot protect themselves due to a lack of information. The economic and social harm caused by unsafe financial products justifies the need to regulate consumer financial products for safety.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the empirical approach approached in achieving the objectives of the research. It consists the research approach and design, data collection approach, sampling procedures and techniques, and data analysis for this study.

3.2 Research approach and design

A research approach is a plan and procedure for research that includes broad assumptions, detailed methods for data collection, analysis and interpretation. According to Creswell (2014:3), there are three approaches: quantitative, qualitative and mixed methods. The quantitative research approach tests objective theories by examining the relationship among numbered data variables using statistical procedures or other means of quantification, to draw generalizations about the variables, (Creswell, 2014 and Strauss & Carbin, 1998). “Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to social or human problem.” (Creswell, 2014:4). The researcher uses inductive reasoning to interpret the meaning of data collected in a qualitative research process. The mixed methods approach integrates quantitative and qualitative data in its inquiry. The researcher has to select either a quantitative, qualitative or mixed method for a study based on the nature of the research problem.

The next critical choice for the researcher is the type of research design, (Creswell, 2014). A research design is a plan on how to collect information about research participants for the particular study, (Welman and Kruger, 1999). According to Wisker (2008), the researcher also has to choose amongst the following types of research designs: descriptive, exploratory, explanatory, predictive and action research. “Descriptive research aims to find out more about a phenomenon and to capture it in detailed information”, (Wisker 2008:71). Exploratory research is commonly used to discover new knowledge by enquiring whether a phenomenon is true or not. Explanatory research seeks to explain the cause-and-effect relationship between two or more phenomena. Predictive research tries to predict an outcome based on several variables. Action research combines doing research with solving an existing problem. Wisker (2008) asserts that the researcher can choose a mixture of two or more kinds of research types.

The research method selected for this current study is the quantitative research approach because the nature of the inquiry. The study is about the level of financial over-indebtedness of public servants in South Africa. The variables that will be measured and analyzed in the study in order to reach generalized conclusion are numbers. The research design of this study is a descriptive. A descriptive research approach describes the characteristic of a population or phenomenon that is studied. Descriptive studies are used when the characteristics of a population is partially known or either unknown. In this study, the phenomenon of over-indebtedness amongst public servants in South Africa is partially known as discussed in section three of the literature review. This study describes measures of over-indebtedness for public servants using available data that is currently held by credit reporting agencies or credit bureaus, as explained in the next section.

According to Creswell (2014:12), there are two types of research designs for the quantitative method: the experimental and non-experimental design. One type of non-experimental quantitative research is a casual-comparative study, which compares two or more groups for an independent variable that already happened. Another non-experimental quantitative research is the correlation design in which the association between two or more variable is described and measured using a correlation statistic, (Creswell, 2014:12). The current study follows a non-experimental correlation design, within the quantitative research approach.

3.3 Data Collection

A researcher can collect primary or secondary data when conducting a study. Primary data is collected by the researcher as part of the investigation about a phenomenon in a research study. This study uses secondary data that was obtained from the databases of a major provider of business and consumer data to the South African market, known as Xpert Decision System (XDS), a credit bureau. The data consists of consumer credit records of all credit active debtors in South Africa whose information was submitted by various lenders to the credit bureau.

3.4 Sampling

A sample is a subset of a population of interest for a research process. The population for this study is all public servants that have a credit-active record in South Africa. Sampling is a statistical process of selecting a subset of a population of interest for the purposes of making observations and statistical inferences about that population, (Bhattacharjee, 2012). It is a process of selecting a few from a bigger group to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group, (Kumar, 2005).

There are two broad approaches to sampling: probability and non-probability sampling. Probability sampling is also called random sampling is when each element of the element in the population has an equal and independent chance of being selected in the sample. This approach is not influenced by personal preferences or considerations of the researcher. Probability sampling can be done using the following techniques; simple random sampling, stratified random sampling, systematic random sampling and cluster sampling.

Nonprobability sampling does not select a random sample from the population of interest. It uses subjective methods to decide which elements should be included in the sample. Non-probability sampling designs are used when the number of elements in a population is either unknown or cannot be individually identified, (Kumar, 2005). Non-probability sampling is sub-divided into the following categories; quota sampling; accidental sampling; judgmental sampling or purposive sampling; expert sampling and snowball sampling.

A non-probability purposive sampling approach has been selected for this research study. Purposive sampling is useful when we describe a phenomenon or develop something that we know very little about, (Kumar, 2005). Purposive sampling allows the researcher to identify and target individuals who are believed to be “typical” of the population being studied, Davies (2007:57). The advantage of purposive sampling is that it allows the researcher to home in on the variables that are critical to the research and is therefore economical and informative, Denscombe (2008). The disadvantage of purposive sampling is the difficulty in evaluating the extent to which a purposive sample is representative of the relevant population. The interpretation of the results should be limited to the population under study. A non-probability purposive sampling approach is the most suitable tool for this study because there is very little that is currently known about the over-indebtedness of public servants in South Africa.

A sample of approximately 503 400 and 601 000 credit records for 2015 and 2016, respectively was selected for this research study. These credit records were identified as belonging to credit active public servants. The selected credit records were identified using the date for salary payments into the bank accounts of borrowers. The data is collected on a monthly basis from various customer records of participating credit providers. The data includes records of credit extended to the customer and their repayments against the contractual agreements. The sample size for this study is considered as a significant representation of a public sector of approximately three million employees.

3.5 Data Analysis Methods

Data analysis in a research process is the stage when several interrelated procedures are performed to summarize and rearrange the data that has been collected, (Zikmund, 2003). The first form of data analysis is descriptive analysis, which transforms raw data into a form that is easy to understand and interpret. According to Zikmund, (2003) summarizing, categorizing, rearranging, and other forms of analysis obtain descriptive information, (p 491). Beyond the descriptive stage the data analysis process can be moved to inferential statistical analysis using various tools. Inferential analysis enables the researcher to estimate population parameters and assess the statistical significance of various hypotheses.

This research study used Microsoft Excel spreadsheets and formulas to categorize, summarize and analyze data. The study presents findings in a form of tables and graphs.

The data analysis for this study focuses on the evaluation of over-indebtedness using the proposed BMR quantitative measures and the calculation of the Indebtedness Index for South African public servants. The key attributes of the data include the age profile, gender and income levels of public servants.

The data analysis includes an evaluation of credit risk profile of public servants using the credit scoring methodology.

3.5.1 Credit scoring

Credit scoring is a statistical method that is used to predict the probability that a consumer will default or become delinquent in a credit transaction at the point of applying for credit, (Hand & Henley, 1997 and Mester, 1997). The lending industry uses credit scoring as a risk management tool in the process evaluating the consumer's credit risk profile.

Credit scores are used as an indicator of the risk profile of a consumer at the point of granting credit. The credit applicants are allocated a credit score that classifies their risk of default in a range between "bad" and "good" accordingly to their likely repayment behaviour based on information at the time of application for credit, (Hand & Henley, 1997).

This study uses the credit scoring methods and process from a large and reputable credit bureau in South Africa, XDS.

The credit scoring system of XDS allocates credit scores to applicants in range between 0 and 900 points. In general, a credit score of 900 and more is ranked as excellent while a score between 0 and 600 is ranked as poor.

Table 4: XDS Credit Scoring table

Description of Credit Score	Credit Score
Very Poor	1-599
Poor	600-649
Below Average	650-699
Average	700-749
Above Average	750-799
Good	800-849
Very Good	850-899
Excellent	900+

Source: XDS and researcher's analysis

Consumer credit scores or rankings are an indicator of the risk profile of the borrower and do not directly reflect the level of indebtedness of the potential customer. The actual level of indebtedness of consumers in South Africa is evaluated through the quantitative measures of over-indebtedness as proposed by the BMR and the Indebtedness Index that were presented in the literature review section.

3.5.2 BMR quantitative measures and indicators of over-indebtedness

The BMR quantitative measures of over-indebtedness include three categories: (1) cost of debt servicing, (2) accounts in arrears, and (3) number of credit commitments of a consumer.

The first category of cost of debt servicing has two indicators of over-indebtedness:

- (a) When the consumer spends 25% or more of the gross salary is spent on repayments for unsecured credit commitments.
- (b) When the consumer spends 50% or more of the gross salary is spent the repayments of total credit commitments by the consumer.

The second category of account in arrears has one indicator of over-indebtedness:

- (a) A customer is over-indebted when he or she has two or more accounts in arrears.

The third category on the number of credit commitments has one indicator of over-indebtedness:

- (a) A customer is over-indebted when he or she has four or more credit agreements.

The data obtained from XDS does not include the percentage of gross salary repayments percentage for unsecured credit commitments. The only available data for this study is the total percentage of gross salary repayments for total credit commitments.

There is not data available for this study on total number of accounts in arrears.

The data on the number of credit commitments of a consumer and for calculating the indebtedness index was available for this study.

3.5.2 Indebtedness index

The indebtedness index is the ratio of total expenses to the gross income of a consumer. The indebtedness index is derived directly from the calculation of the affordability ratio. Affordability is the amount of discretionary income available for spending after regular household expenditure and existing credit commitments have been taken into account, (Finlay, 2006). Affordability shows how much credit a consumer can afford at the time of entering into a new credit agreement. Affordability is defined as: Net income less total expenditure (credit and non-credit expenditure):

$$A = N - C - E$$

where;

A = affordability; N is net income from all sources (i.e. Gross Income less statutory deductions); C is total expenditure on all existing credit commitments (mortgage and non mortgage) and E is non-credit expenditure (rent, bills, food, travel, luxuries and so on).

The equation for the affordability ratio (Ar) is:

$$Ar = 1 - \frac{C}{N} - \frac{E}{N}$$

The affordability ratio leads directly to the definition of Indebtedness;

$$I = 1 - Ar$$

'Over-indebtedness', is then defined as when $I > 1$. A state of over-indebtedness will exist even if there are credit commitments if non-credit expenditure exceeds net income (if $E > N$).

The indebtedness index is calculated as follows: Indebtedness Index (I) = Total expenses divided by Income.

$$I = \frac{C + E}{N}$$

When I or $(C+E)/N$ is more than 1, the consumer is over-indebted because total expenses exceed total income, (Finlay, 2006).

3.6 Research Reliability and Validity

According to Bless, Higson-Smith & Kagee (2006), reliability is the extent to which the observable measures that represent a theoretical concept are accurate and stable when used for the concept by several studies. Validity is the accuracy with which the measures represent the concept being researched. A study is considered reliable if another researcher carrying out the

same research activities with the same kind of group would likely replicate your findings, although findings need not be identical (Wisker, 2008:321). Zikmund, Babin, Carr, & Griffin (2013: 301) state that “ A measure is reliable when different attempts at measuring something converge on the same result”.

Validity is concerned with how accurate the observable measures actually represent the concept in question or whether in fact, they represent something else. Validity refers to the accuracy of a measure, or the extent to which a score truthfully represents the concept being studied, (Zikmund et.al, 2013). Validity of a measurement is the extent to which the instrument measure what it is supposed to measure, Ormrod & Leedy (2005:31).

The data for this research study was obtained from the records of an established credit reference company that collects credit records for the industry, XDS. The database had a total of 20 million records for November 2016. This volume of records is consistent with the submission made to the NCR by all credit bureaus in South Africa. The measures for credit commitments of consumers contained in the records are used consistently by the NCR and the consumer credit industry. The credit scores of consumers that are used in the research projected are used consistently for approving credit application by lenders. The consistency of data on credit records and credits scores that is used for this study enhances the reliability and validity of research results.

3.7 Limitations

The limitation of a research study refers to factors that may affect the interpretations and generalization of the results or outcomes, Lunenburg & Irby (2008). This research study deals with personal information about public servants that are employees of the state. The data about public servants is not freely available for research purposes due to its confidential nature. The PSC did not give the researcher permission to access and use the personal identification numbers of state employees for the study, as they were concerned about a breach of privacy regulations. The researcher used data from a credit bureau on the credit profiles of public servants at an aggregated level. The research study used the date of receipt of salary payment of the 15th of the month to distinguish the identity of government employees. The data used in this research was collected for period November 2015 and 2016. Although the research study did not conduct any statistical test of significance on the data, the size of the sample is very large at approximately 601,000 credit records. The nature of the dataset used for the study constrained the use of

advanced quantitative techniques in the analysis. Specifically, the data was aggregated data making it impossible to employ advanced econometric regression techniques such as cross-sectional, time series and panel data estimations.

3.8 Summary and Conclusion

This chapter described the research methodology and design used in the study. The chapter discussed about the data collection methods, sampling process, data analysis, the reliability, validity, and the limitations of the study.

This study uses the quantitative research approach because the nature of the inquiry. Secondary data was collected from the databases of a credit bureau in South Africa, XDS.

The non-probability purposive sampling approach was used in this study. Data analysis was conducted using Microsoft Excel tables and spreadsheets. The measures of indebtedness that were used are consistent with this used by the consumer credit market.

The limitation of the study is the lack of direct access to personal records of public servants for research purposes. The data used in this study is however representative of the public servants credit records as it is collected regularly by credit bureaus in South Africa.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter discusses the findings from the data about the indebtedness of public servants in South Africa. It covers the demographic information of the sample, the credit scoring, the indebtedness index, cost of debt servicing

4.2. Demographic information

The demographic information from the data shows that in 2015, 56% of public servants employed in the study are women. The age profile of the sample public servants also indicate that 26% was between the age of 18 and 35, and 47% were between the ages of 36 and 50, and 27% was between the ages of 51 and 65. Both the age and gender profiles are similar to the findings of the PSC 2007 report.

The sample has been categorised into six levels of gross income ranging from less than R5 000 to more than R30 000 per month is also presented in Table 5. It is observed that the majority (87%) of public servants earned below R20 000 per month. Only 13% earned a gross salary above R20 000 per month.

The demographic information for both 2015 and 2016 is similar.

Table 5: Demographic Characteristics

Variables	Classifications	Frequency	Percentage
Gender	Female	335 174	56%
	Male	258 755	44%
Age	18-25	14 089	2%
	26-30	52 556	9%
	31-35	81 882	14%
	36-40	86 108	15%
	41-45	97 984	17%
	46-50	91 257	16%
	51-55	79 704	14%
	56-60	56 943	10%
	61-65	22 754	4%
Income Profile	R0 - R5 000	56 411	9%
	R5 001 - R10 000	129 041	22%
	R10 001 - R15 000	215 599	36%
	R15 001 - R20 000	114 125	19%
	R20 001-R30 000	65 759	11%
	R30 001+	13 519	2%

Source: Authors estimates from research data

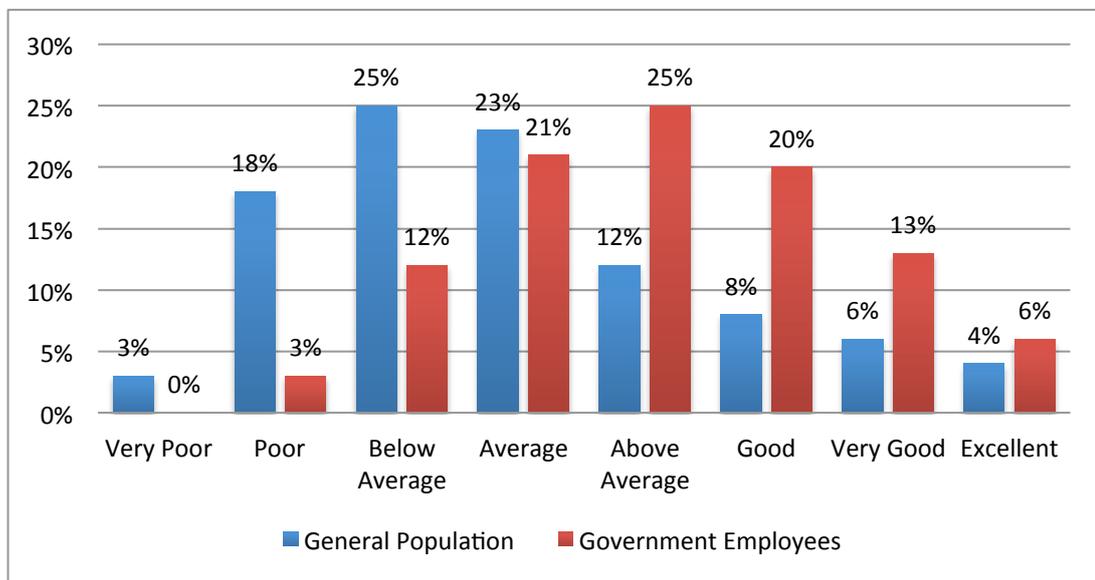
4.3 Credit Scoring

Credit scoring is a statistical method that is used to predict the probability that a consumer will default or become delinquent in a credit transaction at the point of applying for credit, (Hand & Henley, 1997 and Mester, 1997). Lenders use credit scoring as a risk management tool before granting credit to a prospective customer.

Overall the credit scores of government employees show that only 39% of employees had a ranking from good to excellent. Only 6% of government employees have an excellent credit score. The implication is that the majority of government employees (61%) have a credit score that indicate a relatively high credit risk profile.

Approximately 36% government employees have a credit score between poor and average. 24,3% of government employees had an above average score. Although the average credit scores of, government employees indicate a relative high levels of credit risk, the scores are relative better than the general population. Credit active government employees seem to present a lower risk of default for creditors compared to the general population.

Figure 9: XDS Credit scores comparison of general population and public servants



Source: Authors estimates from research data

The findings about credit scores are consistent with the expectations of lenders that government employees are less-riskier than the general population. Government employees have more stable employment and debt repayments can be facilitated through the government payroll system.

There is a correlation between the poor credit scores in the population and the significant number of South Africa consumers (45%) that have impaired credits records.

4.4 Quantitative measures of over-indebtedness for South Africa

The findings of this study estimate the level of over-indebtedness of public servants in South Africa using the proposed BMR quantitative measures and the Indebtedness Index that were discussed in the literature review section.

The findings also present the outcome of the Indebtedness Index that was discussed in the literature review section.

4.4.1 BMR quantitative measures of over-indebtedness

The findings include only two quantitative measures of over-indebtedness from the BMR, (i.e. the cost of debt servicing and the number of credit commitments).

4.4.1.1 Cost of debt servicing

a. Total credit repayments are 50% of gross income

The findings estimate that the majority of public servants (52,5%) spend more than 50% of their gross income on total debt repayments.

Further analysis shows that an estimated 22% of public servants spent more than 75% of their total gross income on credit repayments.

Comparative analysis shows that only an estimated 28,3% of the general population spends more than 50% of their gross income on total credit repayments. It is estimated that 14,8% of the general population spends more than 75% of gross income on total debt repayments.

When measuring the level of over-indebtedness with the cost of debt servicing criteria, it is estimated that relatively more public servants (i.e.52,5%) maybe over-indebted compared to the general population at 28,3%.

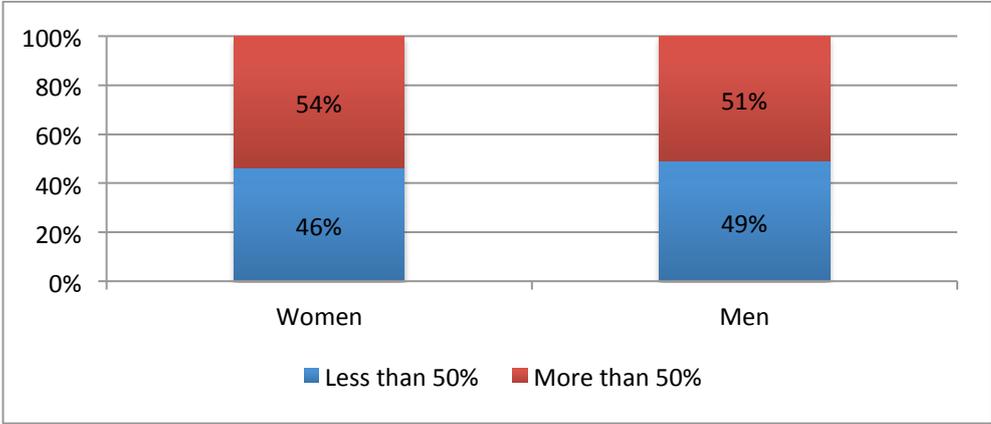
Table 6: Credit repayment ratio to Income

% of Total Credit Commitment to Income	General Population	Percentage	Government employees	Percentage
0-0.25	9 200 474	47,4%	113 398	19,1%
0.25-.5	4 696 882	24,2%	169 056	28,4%
0.5-0.75	2 619 186	13,5%	181 450	30,5%
0.75+	2 879 607	14,8%	130 550	22,0%
	19 396 149	100,0%	594 454	100,0%

Source: Authors estimates from research data

The findings estimate that 54% of women employed as public servants spend more than 50% of their income on total debt repayments. An estimate 51% of men that are public servants spend more than 50% of their gross income on total credit repayments

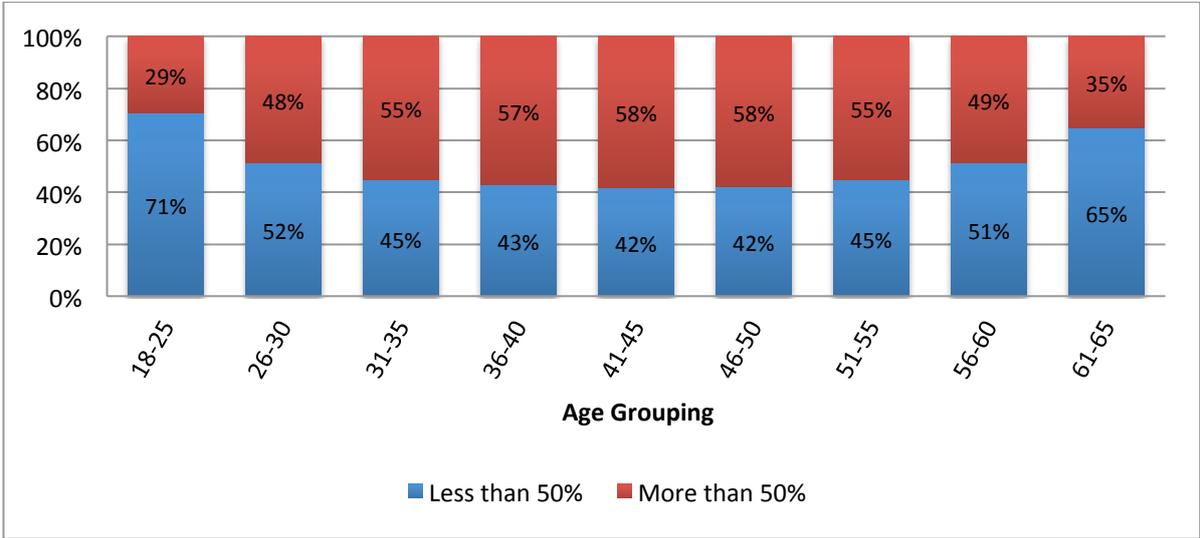
Figure 11: Credit repayment ratio by gender



Source: Authors estimates from research data

The majority of public servants in the age grouping between 31 and 55 years spend more 50% of their gross income on debt repayments. The youngest (18-25) and oldest age grouping (61-65) spend less than 50% of their gross income on debt repayments.

Figure 12: Credit repayment ratio by age group



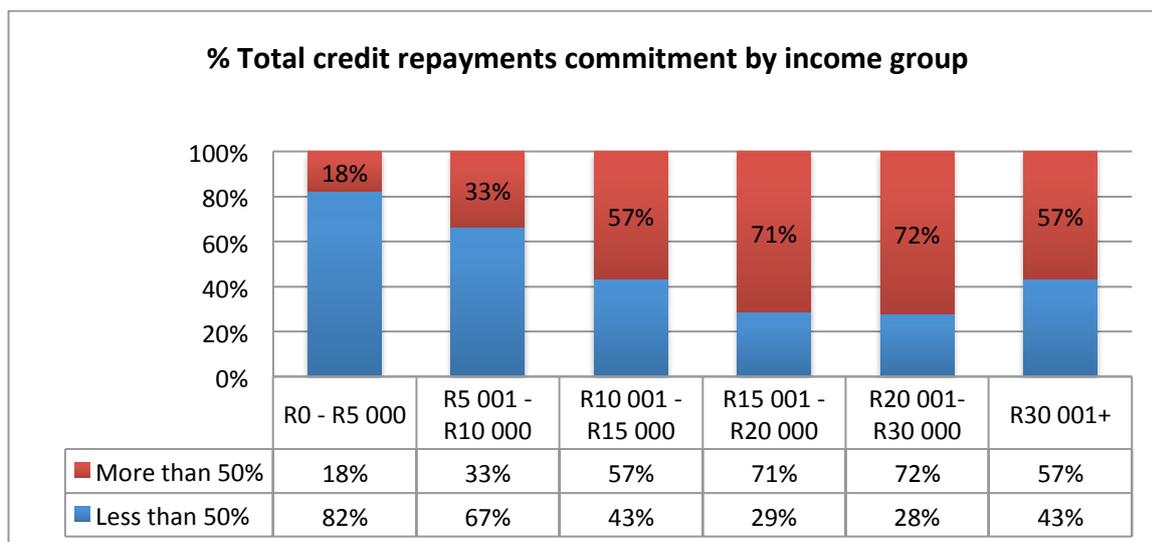
Source: Authors estimates from research data

The findings on the indebtedness and age are consistent with the life cycle income hypothesis that postulates that on average older household use less debt for their consumption needs.

The majority of public servants who earn more than R10 000 per month spend more than 50% of their gross income on debt repayments.

An estimated 72% public servants who earn between R20 000 and R30 000 gross income spend more than 50% of their income on credit repayments. This finding is consistent with the expectation that employees who earn high income are likely to mortgage agreements.

Figure 13: Credit repayment ratio by income group



Source: Authors estimates from research data

The findings on the cost of debt servicing shows that an estimated majority (52,5%) of public servants in South Africa spend more than 50% of their gross income on total debt repayments. A relatively high (22%) proportion of public servants spend more than 75% of their gross income of repaying debts.

The finding on the level of debt repayments by different age groupings is consistent with the life cycle income hypothesis.

4.4.1.2 Number of credit commitments

a. Total number of four or more credit commitments

The BMR indicators of indebtedness postulate that a consumer than has more than four credit commitments is over-indebted. The findings estimate that 79,5% of public servants has more than four credit commitments. This finding suggests that the majority of public servants may be over-indebted.

Table 7: Number of credit commitments

	Less than 4	More than 4	Total
Number	121 915	472 539	594 454
Percentage	20,5%	79,5%	100,0%

Source: Authors estimates from research data

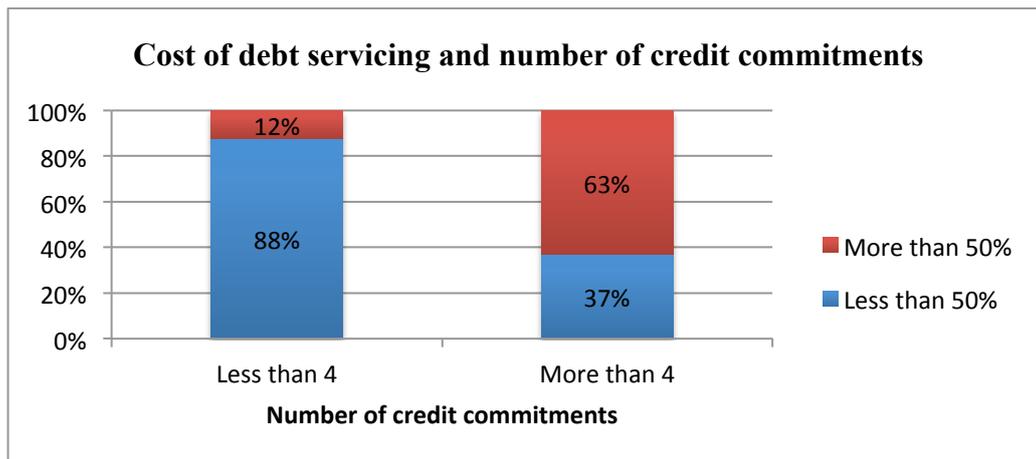
A cross tabulation analysis of the findings between the cost of debt servicing and number of credit commitment can provide valuable insights about the over-indebtedness of public servants. The results of the cross-tabulation analysis show an estimated 63% of public servants who have more than four credit commitments spend more than 50% of their gross income on credit repayments. It is also estimated that more a quarter (26,4%) of public servants who have more than four credit agreements spend more than 75% of their gross income on total debt repayments.

Table 8: Debt service ratio and number of credit commitments

% of Total Credit Commitment to Income	Less than 4 credit commitments	%	More than 4 credit commitments	%	Total
0-0.25	74 942	61,5%	38 456	8,1%	113 399
0.25-.5	32 034	26,3%	137 022	29,0%	169 056
0.5-0.75	9 080	7,4%	172 370	36,5%	181 450
0.75+	5 859	4,8%	124 691	26,4%	130 550
	121 915	100,0%	472 539	100,0%	594 455

Source: Authors estimates from research data

Figure 15: Cost of debt servicing and number of credit commitments



Source: Authors estimates from research data

These findings summarise the evaluation the level of over-indebtedness using the BMR quantitative measures for public servants in South Africa by this study. The next quantitative measure of over-indebtedness in this study is the indebtedness index.

4.4.2 Indebtedness Index

The equation for the Indebtedness index is: Indebtedness Index (*I*) = Total expenses divided by Income. i.e. $I = \frac{C+E}{N}$

In this equation when *I* or (C+E)/N is more than 1, the consumer is over-indebted.

The findings of this study estimate that the majority (54,0%) of public servants are over-indebted according to the indebtedness index. The proportion of government employees that are over-indebted (54,0%) is higher than the general population (36,1%).

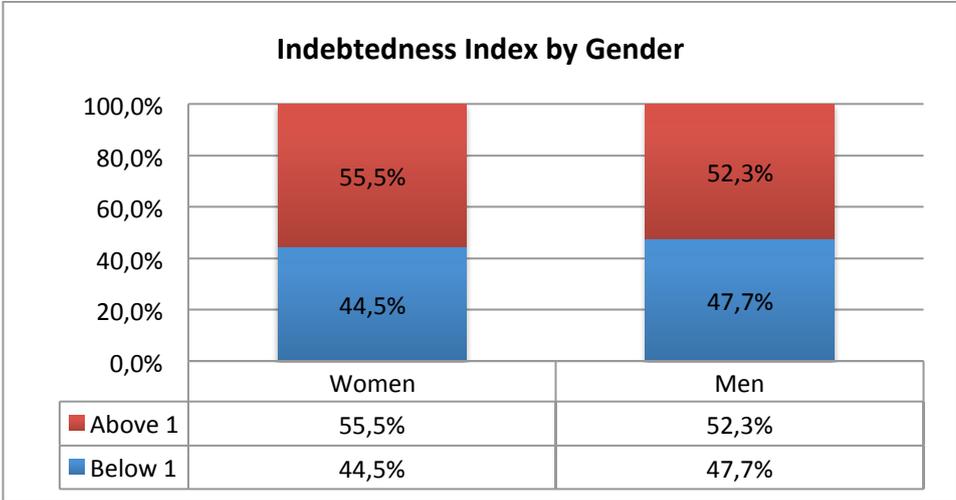
Table 9: Indebtedness Index

Indebtedness Index	General Population	%	Government Employees	%
0.4-0.6	1 239 060	5,9%	25 915	4,3%
0.6-0.8	2 181 932	10,3%	70 482	11,7%
0.8-1	10 080 000	47,7%	180 361	30,0%
1+	7 619 707	36,1%	325 096	54,0%
	21 120 699	100,0%	601 854	100,0%

Source: Authors estimates from research data

The indebtedness index indicates that 55% of women and 52% of men who are public servants are over-indebted.

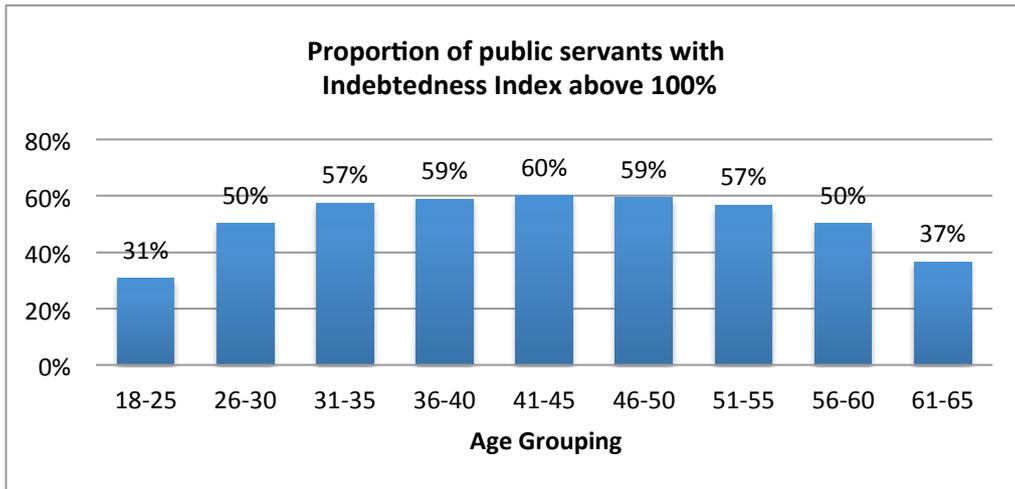
Figure 7: Indebtedness Index and Gender



Source: Authors estimates from research data

The findings estimate that the majority of public servants between the ages of 31 and 55 are over-indebted. Public servants between the age 61 and 65 are not over-indebted. This finding is consistent with the income lifecycle hypothesis, which postulates that people at younger ages incur more debt, and those in older age groupings tend to reduce their debts.

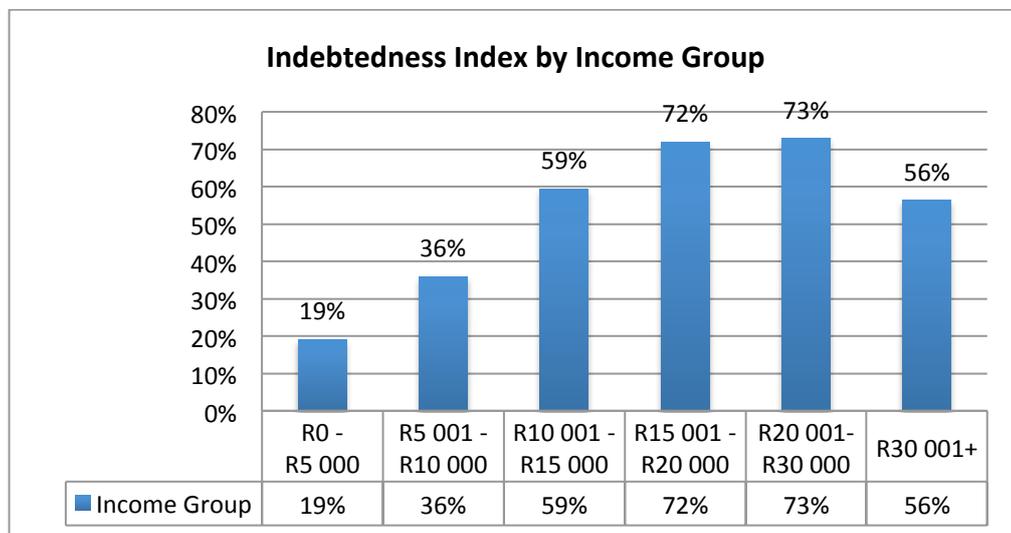
Figure 11: Indebtedness index by age group



Source: Authors estimates from research data

The most over-indebted income level is between R20 001 and R30 000 a monthly. About 73% of this income level has an indebtedness index that is above 100%. This income level is closely followed by the 72% over-indebted R15 001 - R20 000 category.

Figure 12: indebtedness Index by income level



Source: Authors estimates from research data

Concluding summary

The indebtedness index estimates that the majority of (54%) public servants are over-indebted. The majority of women are over-indebted. The finding, which estimates that, older public servants are not over-indebted, is consistent with the income lifecycle hypothesis. The findings estimate that public servants who earn more than R20 000 per month are over-indebted.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusion about the analysis on the over-indebtedness of public servants in South Africa. It includes recommendations for public policy and possible future research topics about the over-indebtedness of public servants in South Africa.

5.2 Summary of the study

The purpose of this research study is to estimate the level of over-indebtedness of public servants in South Africa using quantitative measures. The objective of the study is to examine the financial over-indebtedness of public servants in South Africa. The aim of the study is to describe measures of over-indebtedness and estimate its prevalence amongst public servants in South Africa.

The primary hypothesis of this study is that a significant proportion of public servants in South Africa are over-indebted. The secondary hypothesis is that the debt profile of public servants is consistent with the life-cycle hypothesis in that it increases at younger ages, peaks in the middle age groups and declines among the older age groups. The study had one primary research question and two secondary questions. There were two sub-questions from the primary research question. This study has attempted to answer all the research questions that were stated.

5.3 Findings and conclusions

The overall findings of this study are presented in summary as a response to all the research questions that were tabled.

Primary research question:

- What is the level of over-indebtedness amongst public servants in South Africa?

Based on the findings of this study, there is a high level of over-indebtedness amongst public servants in South Africa. The indebtedness index shows that 54% of public servants are over-indebted. Approximately 53% of public servants are over-indebted when using the cost of debt servicing. The number of credit commitments also that 80% of public servants had more than four credit commitments and therefore are over-indebted.

Primary research sub-question one:

- How many public servants are currently over-indebted?

It is estimated that approximately 54% of public servants are over-indebted when using the cost of debt servicing.

The measure of over-indebtedness of four or more credit commitments shows that approximately 80% of public servants are over-indebted.

The indebtedness index shows that approximately 53% of public servants are over-indebted.

Primary researches sub-question two:

How many public servants are at risk of becoming over-indebted?

The risk of becoming over-indebted can be measured by the consumers credit score and their affordability. The findings of this study estimate that 38% of public servants have a credit score between very poor and average.

The indebtedness index estimates that 20% of public servants have an indebtedness index between 0.8 and 1. This estimate indicates a risk of over-indebtedness.

Secondary research question one:

- Are public servants relatively more or less over-indebted than the average consumer in South Africa?

The findings of this study estimates that public servants are relatively more indebted than the general public based on the indebtedness index, the percentage of gross income spent on debt repayments and the number of credit commitments held.

Secondary research question two:

- What is the relationship between age and gender and the level of over-indebtedness of public servants?

The indebtedness index estimates that the majority of women who are public servants are over-indebted. The findings about age grouping and over-indebtedness show that youngest (18-25) and the oldest (61-65) age grouping are less over-indebted than other age groupings. This finding is consistent with the life-cycle hypothesis.

The findings of this study estimate that the majority of public servants in South Africa are over-indebtedness based on quantitative measures such as the indebtedness index, the debt repayment

ratio to gross income and the number of credit commitments held. The overall conclusion of this study is that majority of public servants in South Africa are over-indebtedness based on two quantitative measures and the indebtedness index. The results of this study should be considered as exploratory given the limitations that were described.

5.4 Policy recommendations

Based on the findings of this study, a number of policy recommendations are tabled for consideration by the DTI and the PSC.

This study has described how South Africa has experienced an increase in the incidence of over-indebtedness even after the promulgation of the NCA. The following policy recommendations are tabled for the DTI:

1. Develop a formal definition of relevant quantitative measures for over-indebtedness and an indebtedness index for the country.
2. An evaluation of the effects of credit policy on the level of consumer over-indebtedness in South Africa.

The findings of this study estimate that the majority of public servants are over-indebted. The following policy recommendations are tabled for the PSC:

1. A policy that obligates public servants to immediately declare to authorities if they become over-indebted.

5.5 Recommendations for future research

This study evaluates the level of over-indebtedness using a very large sample of proxy data about credit-active public servants from a credit bureau, two quantitative measures and the indebtedness index.

The following recommendations are tabled for future research about the over-indebtedness of public servants in South Africa:

1. A future research study about the level of over-indebtedness of public servants in South Africa should include statistical test of significance on the data in order to draw statistically valid inferences.

2. Future research should be conducted in collaboration with the PSC that can provide direct and verified data of public servants in various departments and geographical locations. The use of such data would have enhanced the accuracy and credibility of the research study. The PSC can develop a monitoring and reporting system that identifies risk of over-indebted and respond to this matter effectively where it exists.
3. Future research should include data for all commonly agreed quantitative measures and the over-indebtedness index to draw conclusions that may generalizable. The measures of number of accounts in arrears and the percentage of income spent of repayment of unsecured debt would enrich the insights about the level of over-indebtedness.
4. Future research should include the amount of debt and type of credit commitments held by public servants and an in-depth qualitative research on the effects of over-indebtedness on public servants.

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