THE LINK BETWEEN FINANCIAL LITERACY AND LEVEL OF DEBT: A STUDY OF JUNIOR PERFORMANCE BANK EMPLOYEES

by

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Submitted in accordance with the requirements
for the degree of

MASTER OF COMMERCE

In the subject

BUSINESS MANAGEMENT

at the

UNIVERSITY OF SOUTH AFRICA

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FEBRUARY 2017

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Jabulile Eugenia Malaza

Dedication

This dissertation is dedicated to my late grandmother, Ntombizodwa Bellina Nkosi, and my entire family for the support and encouragement without which I would not have completed this study.

Acknowledgements

There are a number of people I am greatly indebted to – without whom this dissertation might not have come to success.

To my mother, Johanna Malaza, I extend special thanks to you for nurturing me throughout the journey of my social, religious and academic path. You have represented yourself as a source of strength, encouragement and inspiration to me throughout my life. You made me find determination and realise my potential during times I experienced difficulties.

To my dear partner Abinere Albert Mohale who consistently demonstrated unconditional support during the struggle with my studies, a very special thank you, my dear. You showed me great consideration and love.

I would also like to thank my supervisor and co-supervisor, Mr Charles Nyoka and Prof. Joseph Chisasa, for their wonderful guidance and pearls of wisdom and, more importantly, for amazingly providing timely feedback and encouragement whenever I experienced challenges.

Lastly, I extend great thanks to Tony Chipedza for being a pillar of support and offering technical and expert support, guidance and direction on statistical analysis during the course of undertaking this research study. Your support played a great role in making this study a success.

Abstract

This study assessed the link between financial literacy and levels of debt among junior permanent bank employees. Based on the mixed purposive and simple random sampling approach, a structured questionnaire was used to collect primary data from a sample of 275 junior permanent bank employee participants. Frequencies, descriptive statistics and binary logistic regression techniques were applied to analyse data using the SPSS 23 statistical package. The Cronbach's alpha criterion and Keiser-Meyer-Olkin measure of sampling adequacy results indicate that the research instrument's items were statistically reliable and statistically valid. The descriptive statistics results on the financial behaviour and attitude dimension indicate that permanent junior bank employees on average pay reasonable attention to their financial affairs. The classification summary statistics indicate that financial literacy and financial behaviour and attitudes were significant predictors of the debt level. The Nagelkerke R-square indicates that some significant amount of overall variation in debt level was accounted for by financial literacy and financial behaviour and attitudes. Based on the odds ratios results, a statistically significant relationship between financial literacy and debt level was found in the study. Conversely, the estimated odds ratios results indicate a statistically significant negative relationship between financial behaviour and attitudes, and the level of debt.

Keywords: *financial literacy, financial behaviour and attitude, debt level, junior permanent bank employees, odds ratios*

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LIST OF ABBREVIATIONS AND ACRONYMS

ABSA	Amalgamated Banks of South Africa
BASA	Banking Association of South Africa
CI	Cost to Income
CR4	Four Firm Concentration Ratio
FNB	First National Bank
HHI	Herfindahl-Hirschman Index
NBFC	Non-Banking Financial Companies
NCA	National Credit Act
NCAA	National Credit Act Amendments
NCR	National Credit Regulator
NGO	Non-Governmental Organisations
NGO-MFI	Non-Governmental Organisations in Micro Finance
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessments
RBI	Reserve Bank of India
RSA	Republic of South Africa
ROA	Return on Assets
ROE	Return on Equity
UK	United Kingdom
USA	United States of America
SARB	South African Reserve Bank

CHAPTER 1
INTRODUCTION AND BACKGROUND

1.1. Introduction

The global attention to financial literacy and the current economic conditions make it imperative for research that would assist in determining the relationship between financial literacy and debt level. Although substantial research on financial literacy has been conducted, no study has focused on South Africa, specifically on junior permanent bank employees. Moreover, although some research evidence to date provides consensus on the importance of financial literacy in managing household debt levels, existing research studies have not addressed high household debt levels that exist among employees in the banking sector and how the respective debt levels are related to levels of financial literacy, financial behaviour and attitudes.

This study focused on the levels of individual debt in relation to their corresponding degree of financial literacy among junior bank employees. Historical developments in household debt levels were analysed in comparison to real interest rate trajectories for both the pre-democracy and the post-apartheid eras. In the background to the study, a general review of the South African credit market was conducted, specifically in relation to the previous Usury Act (No. 73 of 1968) (RSA, 1968), the Credit Agreements Act (No. 74 of 1980) (RSA, 1980) and the National Credit Act (NCA) (Act No. 34 of 2005). Against the backdrop of the developments in household debt levels in the country, in this chapter the problem statement is defined, together with the associated research objectives, research questions and research hypotheses. Lastly, the layout of the overall study is presented at the end of this chapter.

1.2. Background to the study

The subject of the relationship between household debt levels and degree of financial literacy in South Africa has begun to gain significant attention due to the existence of high proportions of households who are becoming over-indebted. Statistics from the South African Reserve Bank (SARB) indicate that household debt as a ratio of disposable income averaged 47.3% during the period 1969 to 1994. In the period 1995 to 2013, the household debt-to-disposable income ratio averaged 68.3%, indicating an increase in household indebtedness SARB(2015). According to Ganyaupfu (2014), some of the major drivers of such increases in household debt levels include rising unemployment, inflation and labour

market tensions, coupled with low levels of household financial literacy, poor financial planning and poor financial behaviour.

Coupled with the financial recession, high unemployment and lack of sound financial literacy, the household debt level as a ratio of disposable income reached approximately 84.7% in 2007 before gradually declining to nearly 78.3% in 2014 SARB (2014). During the respective periods, the number of distressed consumers or households with impaired credit records has been reported to be increasing on annual basis. As a result of low levels of financial literacy and poor financial behaviour and attitudes, most households have subjected themselves to high levels of debt in the country. Until today, the majority of South African households are experiencing the effects of the 2008 global financial meltdown, although the country has been commended for its sound banking regulatory and compliance measures, which indeed helped to mitigate the effects of the financial recession. Pieterse (2009) notes that the country's financial institutions managed to endure the global financial recession largely due to sound application of the NCA in examination and approval of all credit applications for easily accessible credit facilities.

The sound regulation of the financial sector in the country was noted to have been promulgated by the need to address market imperfections and market failures. Information problems, externalities, conflicts of interest and agency problems highlighted the fact that financial services did not operate in competitive financial and credit markets. Consumers frequently possessed insufficient information and as such, they were not adequately well informed about the possible repercussions of the credit decisions they made. Furthermore, not all consumers had the ability to assess the quality of credit offerings, as most financial products remain technical in nature. According to Jamine (2008) the ultimate rationale for the aspect of regulation designed to protect the consumer remains the need to correct market imperfections that potentially compromise consumer welfare in a regulation-free environment.

Ineffective credit regulation standards for borrowers had been regarded to be among the primary causes of the difficulties experienced by financial markets in previous years Jamine (2008). Against this background, the Basel Committee on Banking Supervision (2010A) established that in order for financial institutions, mainly banks and insurance companies, to operate efficiently, it was recommended that they operate under well-defined sound credit-lending criteria. The credit-lending criteria clearly indicate who could be deemed eligible for credit, the category under which the credit falls, how much could be granted and the terms and conditions taking into account the borrowers' risk and credit profiles.

As such, skills in financial planning have become more important in the current years than before, as the financial arena is ever-changing and offers complex products. The 2008 global recession is evidence of this development, making it essential for the majority of clients to be educated on financial products and other terms that could affect their debt levels.

The Organisation for Economic Co-operation and Development (OECD) (2008B) defines financial literacy as when an individual has knowledge and understanding of financial concepts, skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in the economic life.

Consistent with the above stated definition, McKenzie (2009) indicates that it is worth noting that a financially literate individual can make incorrect financial decisions that can lead to a debt trap. For that reason, Aron, Muellbauer and Murphy (2006) accentuate the need to consistently conduct research to check on household financial behaviour and debt levels in order to mitigate financial risks associated with default in repayment and non-performing loans. It is against this background that history in the country indicates that financially illiterate households are at a relatively higher risk of using higher cost credit lines, suffer from high debt payments and also normally have high default in making repayments of their credits.

Past developments in consumer credit in South Africa have therefore not received considerable attention, as it has been since the inception of the NCA in 2007. Prior to September 2005, when the NCA was enacted, the process of obtaining a credit facility was not considered as a serious financial obligation that could have had detrimental repercussions, especially when the consumer could have entered into the credit contract without adequate knowledge of the associated legal conditions. This scenario points to one of the major drivers that led numerous financial institutions to experience liquidity problems over the years due to lenient credit standards for borrowers and lack of adequate knowledge about the legal conditions incorporated into the credit arrangements.

In respect of the structure, the banking sector in South Africa is considered highly developed and well regulated, and the sector compares favourably with many developed and emerging countries in the global economy. The South African banking sector was ranked third out of 148 countries in the 2013/14 World Economic Forum Global Competitiveness Survey (BASA, 2014). The financial regulation legislation, technology and products and the number of competing firms have changed levels of the competition landscape in the sector. According to the Banking Association of South Africa BASA (2014), the South African banking sector during the calendar year 2012 consisted of 17 registered banks, 2 mutual banks, 12 local branches of foreign banks and 41 foreign banks, all with approved local representative offices that were under financial regulation by SARB.

Based on a World Bank (2013) report, South Africa's financial sector is described as being fairly inclusive, with some 54% of adults reported to be using a formal account enabling both deposits and withdrawals at banks, credit unions, cooperatives, post offices or microfinance institutions. FinScope (2012) further indicates that the figure of banked adults stood at 75% in as much as it includes individuals who receive government-to-person social welfare payments for children, disabled people and the elderly. As such, the World Bank (2013) indicated that South Africa is more in line with high-income countries than developing countries in terms of financial inclusion, as depicted in Figure 1.1.

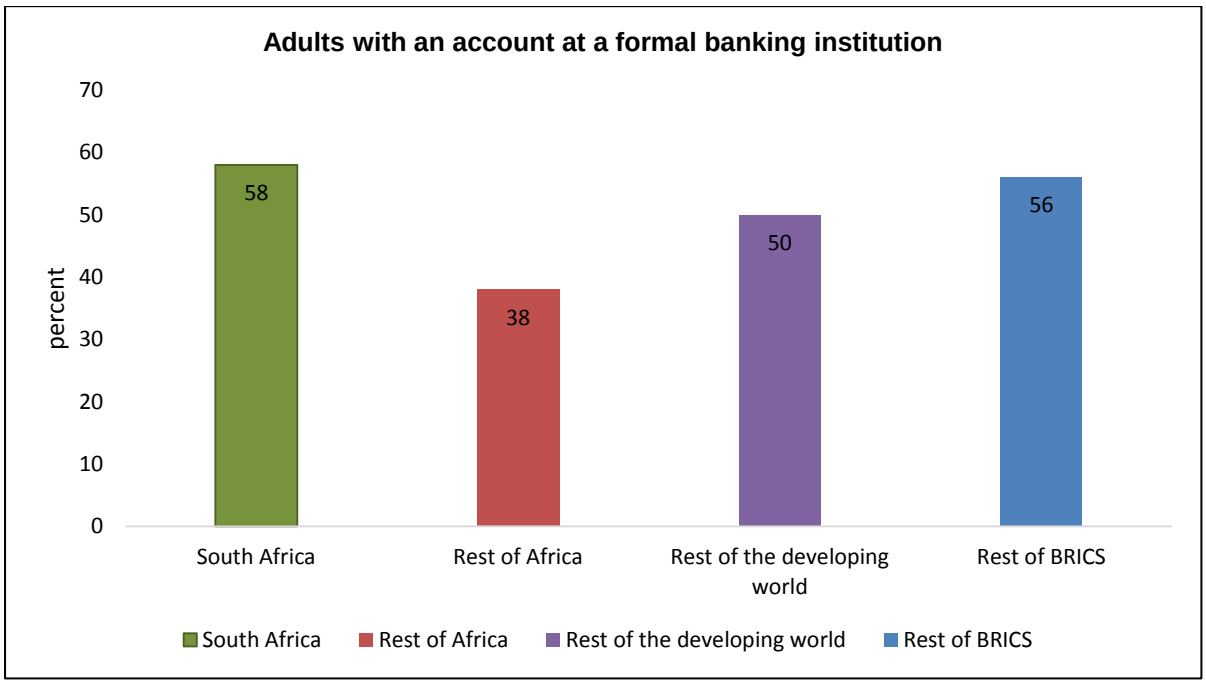


Figure 1.1: Adults with an account at a formal banking institution (Source: World Bank, 2013)

The banking sector in South Africa is much more concentrated and dominated by the four largest banks, namely ABSA Bank, Standard Bank, First National Bank (FNB) and Nedbank. The respective four banks account for approximately 84% of banking sector total assets, while smaller banks account for the remaining 16% BASA (2014). These large banks are equipped with operations and technology systems, sector compliance structures and procedures. The decision-making processes are better aligned to providing services to middle- to high-income population segments than to lower-income markets World Bank (2013). Standard Bank, the largest bank in terms of assets, had a market share of 25%, followed by an equal share of ABSA and FirstRand Bank at 20%. Nedbank had a market share of 17%, which was shared among the smaller banks in the sector (BASA, 2014).

Depicted by Figure 1.2 below are bank market shares provided by BASA during 2014. The banks offer banking services with different transactional features to customers in different segments (ABSA, 2014; FirstRand, 2014; Nedbank, 2014; Standard Bank, 2014).

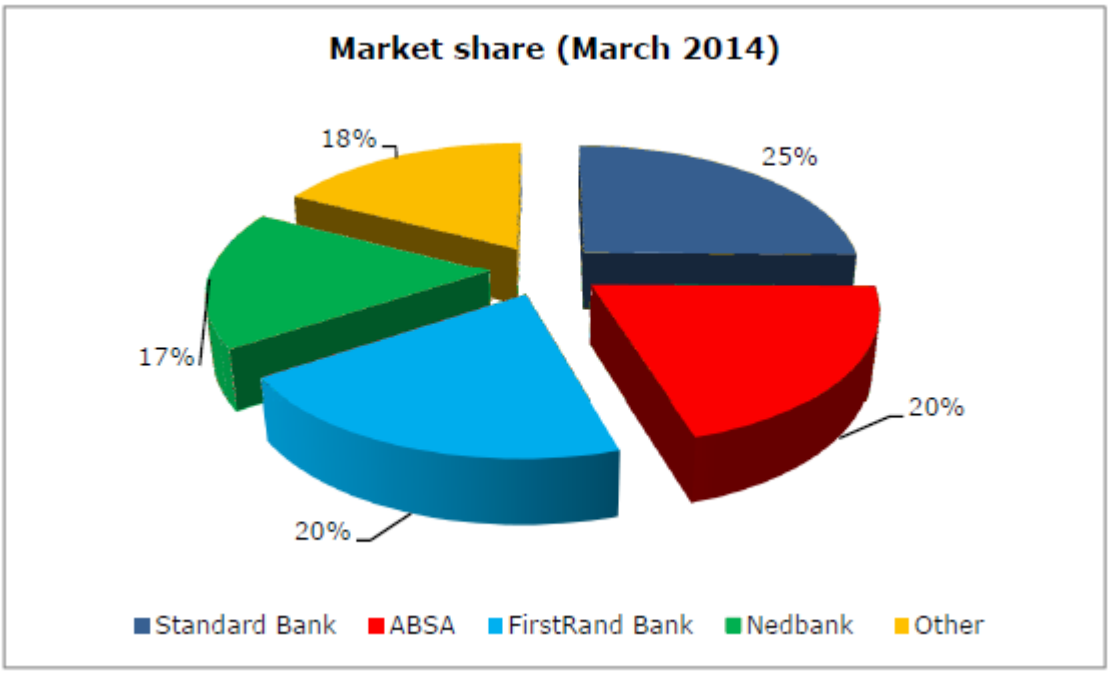


Figure 1.2: Market share of the major four South African banks in March 2014 (Source: BASA, 2014)

As indicated in Figure 1.2, Standard Bank had the highest market share of 25%, both ABSA and FirstRand Bank held equal shares at 20%, while Nedbank had the least market shares of 17%, with 18% distributed among other banks in South Africa. By virtue of the market shares accounted for by the four major banks indicated above, the banking giants have

some significant degree of market power in the respective sector due to the high market shares they each hold PWC (2012). From the competition point of view, dominance is essentially a ‘legal’ rather than an ‘economic’ concept, given that economic experts in the field of competition analysis focus on the subject of market power rather than dominance, as well as the legislative and regulatory framework controlling conduct of banking institutions.

Looking back commencing from the apartheid era around 1948, the South African banking industry was largely regulated. Banking sector operations were centred on soliciting deposits and lending transactions PWC (2012). Against the backdrop of protests in respect of the country’s system of apartheid, the banking sector together with other key sectors of the economy experienced massive disinvestment from the 1960s to the mid-1970s. PWC (2012) points out that between the mid-1970s and mid-1980s, the banking sector suffered high risk exposures, which precipitated the implementation of the first drastic changes in the industry in the 1980s to contain possible risk hazards from detrimentally impacting on bank operations. Deregulation progressively grew and drastically widened a range of products and services offered by banks. Most banks diversified their operations away from their normal core lines of business. The major reason for deregulation was to facilitate transfer of responsibility for banking supervision from the Department of Finance (National Treasury) to SARB in 1987 Falkena et al, (2004)and also to bring relief to the banking sector from exposure to free-market principles. In response to that, the large-scale deregulation and rationalisation were brought into force to reduce banks’ previously high cash reserves and liquid asset requirements (Odhiambo, 2012).

During the same period of late 1980s, the big five banks, namely First National Bank, Standard Bank of South Africa, Nedbank, Volkskas and Trust Bank, became increasingly challenged by building societies, which had listed holding companies on the Johannesburg Stock Exchange and had set up general banking arms which offered similar products to the traditional banks mentioned above . The Deposit-taking Institutions Act of 1991 formalised the overlapping of functions between the banks and the building societies that had existed for more than a decade. The Act brought to an end the policy of the South African authorities to ban the entry of new foreign banks into the country. The foreign exchange inflow ban policy was reversed during the financial liberalisation era following the implementation of the Deposit-taking Institutions Act of 1991, and shareholding restrictions on foreign banks operating in South Africa were removed. In addition, other restrictions on entry of new foreign banks were lifted SARB (2014).

In February 1991, four of the country's leading banking institutions, namely Allied Bank, United Bank, Volkskas and Sage Banks, merged to create the largest banking group in the country, the Amalgamated Banks of South Africa (ABSA), with assets of R56 billion. ABSA, which merged with PG Investment Bank Holdings in 1992, was jointly controlled by the Rembrandt tobacco group and the South African National Life Assurance Company (Sanlam) The country's second-largest insurance group .However this changed in 2005 when Barclays acquired a major stake of 55.5 % of Absa group giving it a controlling stake into the South African established bank.

The banking industry underwent further reorganisation in the mid-1990s to establish banking services in poor communities that were neglected under apartheid.

The emergence of new banking sector market opportunities and products in the mid-1990s stimulated the growth of earnings from sources other than from the pure lending activity through intermediation this is according to the Contemporary Economic Policy of 2014. Value-added services such as advisory services, structured transactions, mergers and acquisitions, project finance, derivative trading and off-balance sheet activities developed at a rapid pace.

In banking, risk taking generates higher expected earnings through various mechanisms Mabwe and Webb, (2012). According to KPMG, (2013) granting high-margin loans to risky customers may increase earnings in the short term, but also increases the credit risk profile and the probability of future losses. Figure 1.3 below shows the profitability performance of the South African banking sector for the period 2005 to 2009, measured in terms of return on assets (ROA), return on equity (ROE) and cost-to-income (C/I) ratios.

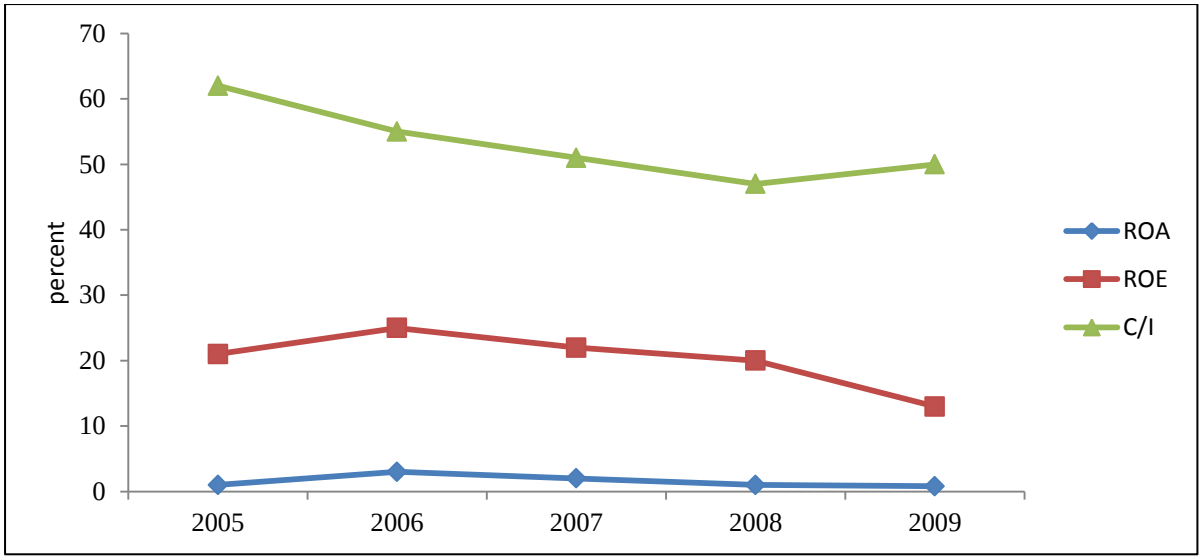


Figure 1.3: Banking sector profitability trends (Source: SARB, 2014)

Figure 1.3 shows an increasing profitability (ROE) trend from 2005 to 2006 with a slight decrease in 2007. ROA increased by 5.14% from 1.36% in 2005 to 1.43% in 2006, before slightly falling to 1.40% in 2007. Banks' profitability remained favourable during 2005 to 2006 due to strong asset growth as the total assets grew from R1 474 billion in 2005 to R1 847 billion in 2006, registering an increase of 25.3% Mabwe and Webb, (2014). The increase in assets was linked to increases in mortgage loans and advances. The higher ratios indicate better prospects, as the high net interest margin was feeding through greater net income, thereby increasing the ROA and ROE.

Nonetheless, on the onset of the economic downturn, bank performance deteriorated slightly. ROA decreased from 1.40% for the year 2007 to 1.17% in 2008, before finally settling on a low 0.80% for the year 2009, a consequence of the global financial crisis and a slowing down in the domestic economy. The downward trend is also reflected in the ROE, which decreased from 24.01% in 2007 to 20.33% in 2008, before drastically decreasing to 13.65% in 2009, reflecting a decline of 35.56%. The downward trend is attributable to a decrease in loans and advances to customers as well as increased credit impairments owing to defaults that negatively impacted on the profitability of the banking institutions.

The trend reflected by the ROA and ROE is also reflected in the C/I ratio, which improved by 9.2% from 60.93 in 2005 to 55.32 in 2006, indicating better efficiency and profitability performance. The ratio continued to show signs of improvement: It strengthened by 6.79% from 51.53 in 2007 to 48.03 in 2008. The steady improvements in C/I are predominantly ascribed to increasing net income reported by the banks, which rose by 63% from R17 813

million in 2005 to R29 038 million in 2006, consequent of the lower loan loss provisions and relatively lower operating expenses experienced by the large banks during that period. The decline in the C/I ratio is as a result of improvement in cost-efficiency levels in South African banks. (Ncube, 2012). However, from 2008 the C/I ratio continued to fall at a decreasing rate and finally increased to 49.65 in 2009.

Since after the attainment of democracy in 1994, the South African banking industry grew and became oligopolistic in nature; dominated by five large banks currently accounting for more than 90% of deposits BASA, (2014). Banking is that portion of a bank's business that involves deposit taking from lending to handling the transactions of the general public and corporations Odhiambo,(2012). In light of the fact that the process involves deposit transactions, every bank is mandated to observe compliance with the Banks Act and maintain the required ratio of capital to total assets. SARB consistently monitors such capital levels to ensure protection of depositors' funds, and the capital level is determined based on international best practices.

In respect of the view that banks conduct all lending transactions to the general public and corporations, the bulk of their capital resources are related to their banking activities. Currently, the bulk of banking, approximately 90%, is done by the country's four major banks. Despite such developments, historically the banking sector in South Africa experienced high cost ratios due to its dependence on large branch networks, combined with significantly rising information technology costs. Furthermore, the sector was reliant on margin income as its main source of revenue. This has been exacerbated by the fact that a large proportion of the funds held by the banks to finance the loans they grant are short-term in nature Ncube, (2012).

In April 1994, trading on the Johannesburg's financial market reached a new all-time high, reflecting the buoyant mood of voters of all races who were about to participate in the country's first democratic elections. As the country progressively emerged from the economic stagnation and international isolation of the apartheid era, the new government and its theme of economic reconstruction received international acclaim and encouragement PWC, (2012). At the same time, however, it faced conflicting pressures to speed economic growth to strengthen South Africa's standing among international investors in the banking and the entire financial sector.

In late 1998, a comparative analysis of banks' performance between lending and non-lending activities for the four largest banks revealed that much of the respective banks'

profits were generated from lending activities. For prudential purposes, the estimated benchmark of the risk premium for the banking industry was set to range between 4% and 6% to ensure a safe and sound keeping of depositor funds. Until then, banks did not deal with transactions related to services such as personal loans, property leasing and credit card facilities. New institutions, including discount houses, merchant banks and general banks, emerged to meet this demand. In reaction to such changes in banking sector, banks increasingly entered into medium-term credit arrangements with commerce and industry and acquired interests in hire-purchase firms and leasing activities (Alliance for Financial Inclusion, 2012). In addition, banks extended operations into insurance, manufacturing and enterprises.

Growth in the banking sector profitability levels posted significant margins due to improved market conditions. In 1997, the industry's average return on assets (ROA) stood at 1.39% for the four major banks, up from 1.24% for four major banks in 1996. In addition, the industry's average ROE in South Africa was 18.90% (21.55% for four major banks) compared with 17.10% (19.94% for four major banks) in 1996 SARB,(2014). For the banking sector alone, the net interest margin average rate paid on funds by the four major banks stood at 12.46% in 1996.

By the end of the year 2001, approximately 43 banks were registered in the country. The announcement of Saambou Bank Limited's financial troubles in 2002, however, resulted in a run on smaller banks, which led to a number of banks not renewing their banking licenses and others seeking financial assistance from foreign shareholders. Saambou Bank experienced a liquidity crisis, emanating from negative market perceptions, a profit-warning announcement and the sale of Saambou shares by two of the bank's executive directors Ncube, (2012). At the same time, Saambou was the seventh-largest South African bank and had both a large retail deposit base and a well-established branch network. In order to prevent a crisis of confidence in the small to mid-sized banking sector, Saambou was placed under curatorship. Unfortunately, this led to further withdrawals, not only from the smaller banks but also from larger banks. This loss of confidence significantly affected the sixth-largest bank at the time, indicating that the lack of confidence could move up the scale and not only down the scale. Other banks such as Regal Bank also experienced financial difficulties during that period and were placed under curatorship Odhiambo, (2012).

Nonetheless, although the banking sector went through a process of volatility and drastic changes in the past, it attracted considerable interest from abroad, with a number of foreign banks establishing banking operations in the country, while others acquired stakes in major

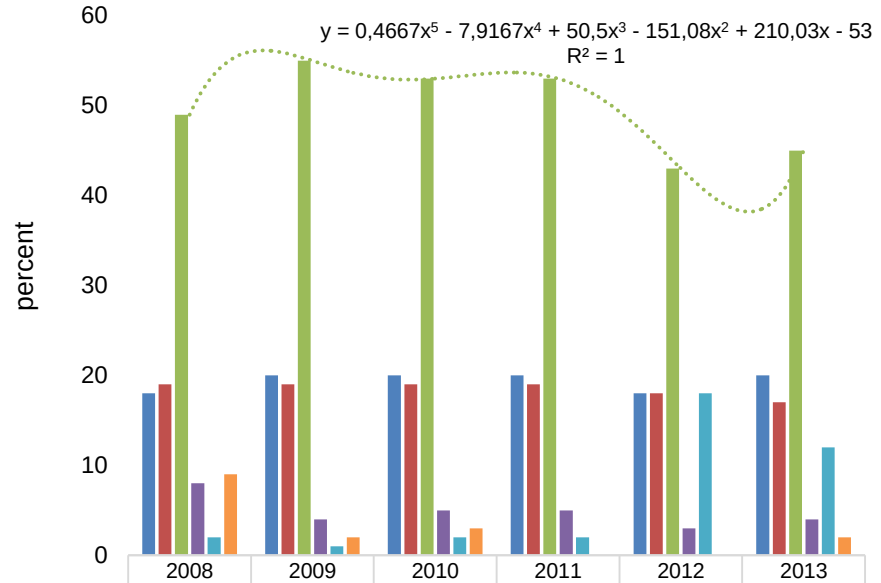
banks, such as the Barclays–ABSA and Standard Bank deals. In early 2013, South Africa's banking sector comprised of 32 banking institutions. The banking institutions included ABSA, African Merchant Bank, Allfinanz Boutique, Allied Bank, the Development Bank of Southern Africa, FNB, FNB BOB Bank, Investec Group, Marriott Merchant Bank, Mercantile Lisbon Bank Holdings, MLS Bank, NBS Bank, Nedbank, the Nedcor Group, NRB Group (New Republic Bank), Old Mutual South Africa, Rand Merchant Bank, SCMB (Standard Corporate and Merchant Bank), Southern Bank of Africa Limited, Stanbic Africa (Standard Bank Africa Banking Group), Standard Bank of South Africa, Standard Chartered, Trust Bank, United Bank, Volkskas Bank and Wesbank PWC,(2012).

Out of these banks, the locally controlled ones are African Bank Limited, Bidvest Bank Limited, Capitec Bank Limited, FirstRand Bank (a subsidiary of First Rand Limited), Grindrod Limited, Imperial Bank South Africa, Investec Bank Limited, Nedbank Limited, Sasfin Bank Limited, Ubank Limited and Standard Bank of South Africa. Controlled banks include ABSA Bank Limited, Albaraka Bank Limited, Habib Overseas Bank Limited, Habib Bank AG Zurich, Mercantile Bank Limited and South African Bank of Athens Limited World Bank,(2014). Although there has been a sizeable presence of foreign banks in the banking sector, they have had minimal impact on banking, as many of them have focused on treasury and capital markets dealings Napier,(2005). Barclays Bank, a giant United Kingdom (UK) retail bank, was granted approval in 2005 to acquire shareholding in ABSA, a local bank. This deal signified the entrance of big players in the South African banking arena, which increased competition in the banking sector market.

Growth and expansion in the banking sector were coupled with a number of changes in respect of the legislative and regulatory environment, product offerings and level of competition from smaller banks such as Capitec bank and African Bank, which penetrated the market by targeting the low-income segments. According to the World Economic Forum Competitiveness Survey (2012/13), South African banks stood second out of 144 countries in terms of soundness and governance in respect of the country's banking sector market and competitive structure, the World Economic Forum (2012) granted a clean opinion that the South African banking sector is highly concentrated with four major banking groups characterised by high levels of concentration determined from the Herfindahl-Hirschman Index (HHI) and the Four Firm Concentration (CR4) Ratio. The HHI is the summation of squares of market shares of all firms in the market and the CR4 is the aggregate of market shares of the first four largest firms in the relevant market.

In South Africa, the Reserve Bank computes the HHI for the banking industry in the conventional way, but then divides the result by 10 000. As at December 2011, the HHI for the South African banking sector stood at 0.189, which shows high concentration in the sector SARB,(2014). The HHI has remained high due to the continued dominance in terms of market share by the five largest banks in the country, which held more than 90% of the entire banking sector assets as of December 2011. This level of concentration is linked to the drop in registered banks, which were 61 in 2000 and declined to 32 in 2011, thereby contributing to the decline in employment in the banking sector.

In respect of the employment trends, BASA,(2014) highlights that the banking sector in South Africa employs over 160 000 individuals, mainly in administrative and clerical capacities BankSETA,(2013). Figure 1.4 shows the proportions of employees in the banking sector in different categories between 2008 and 2013, for which the major four banks account for approximately 85% of the total employees in the sector.



	2008	2009	2010	2011	2012	2013
Managers	18	20	20	20	18	20
Professionals	19	19	19	19	18	17
Clerical and Administrative workers	49	55	53	53	43	45
Services and Sales	8	4	5	5	3	4
Technical and Associate Professionals	2	1	2	2	18	12
Other	9	2	3	0	0	2

Figure 1.4: Employment trends in the South African banking sector (source BASA, 2013)

The highest proportion of employees in the South African banking sector remained in the clerical and administrative workers category. The proportion of employees in this category ranged from a low of 43% during 2012 to a high of 55% during 2009. The R-squared value (R-squared = 1) of the polynomial trend line demonstrates that there was marginal variation in the rate during the period 2008 to 2013. The trend line of employees in this category shows a marginal decline in employment. The employee categories that occupied the second and third positions in the sector are the managers and professionals, respectively.

1.3. Problem statement

Financial literacy has remarkably become a concern to most organisations and governments in both emerging and established economies. Most consumers have become subjected to persistent financial distress due to high levels of debt. The importance of financial literacy has been highlighted by the Programme for International Student Assessment (PISA) (2012), namely that financial literacy is a significant factor that determines household debt levels. The consumer survey by FinScope in 2012 also indicates that many South African consumers are in a debt spiral and hence are in need of serious interventions to reduce their debt. The lack of financial literacy can result in making bad financial decisions, which could lead to unmanageable levels of debt and bankruptcy. This has both personal and economic implications in that continued high debt levels without good service and repayment history eventually reduce household consumption, which comprises almost 60% of the economy's gross domestic product. Furthermore, financial literacy is like a cancer, which has far-reaching implications for both governments and individuals and unless arrested, this could lead to the collapse of the financial system's credit market.

1.4. Objectives of the study

The objectives of the study were to:

- Determine the level of financial literacy of junior permanent bank employees in South Africa;
- Determine the level of indebtedness of junior permanent bank employees in South Africa;
- Examine the link between financial behaviour and levels of household debt among junior permanent bank employees; and
- Examine the link between financial literacy and levels of household debt among junior permanent bank employees.

1.5. Research hypotheses

Following the research objectives enunciated above, the following null hypotheses were postulated:

- There is no supported relationship between financial literacy and household debt levels among junior permanent bank employees in South Africa.
- There is no supported relationship between financial behaviour and household debt levels among junior permanent bank employees in South Africa

1.6. Significance of the study

As not much theoretical and empirical research has been conducted in this thematic subject, particularly on households working in the banking segment of the financial sector, the findings of this study will contribute to the existing body of knowledge on the relationship between financial literacy and household debt levels. To the knowledge of the researcher, this study is the first one that jointly analyses the effect of household financial behaviour and attitudes on household debt levels together with levels of financial literacy as another covariate. As such, the findings will generate new insights into the relationship between the level of debt of banking sector employees and financial literacy and establishing how this affects their financial behaviour in South Africa.

1.7. Format of the study

The rest of this dissertation is structured as follows.

Chapter 2 provides literature on the realm of the relationship between financial literacy and household debt levels at local and global levels. The primary dimensions relating to financial literacy and debt level discussed include the definition of financial literacy, linkages between financial literacy and debt levels, individual and household financial management, financial knowledge, financial behaviour and attitudes, financial planning, as well as issues related to debt dynamics. The chapter also provides findings from relevant previous similar studies.

Chapter 3 presents the historical development and regulatory structure of the South African banking sector.

In Chapter 4, the research methodology is outlined. This chapter discusses the research instrument, target population and sampling approach. The reliability and statistical validity of data are also discussed. The statistical estimation technique applied to analyse data and

derive and infer the results to the established study's research hypotheses are also presented in this chapter.

Chapter 5 presents analyses and interprets the results of the findings of the study. The results discussed include both descriptive and binary logistic regression inferential statistics.

Finally, Chapter 6 provides a summarised account of the key findings of the research. Some policy recommendations as well as areas for further research are made based on empirical findings derived from the study.

CHAPTER 2
LITERATURE REVIEW

2.1. Introduction

Rising life expectancies and falling fertility rates are straining employer-sponsored pensions and Social Security systems around the world. In response, several countries have transformed their retirement schemes by remaking their traditional defined benefit (DB) pensions into individual-account defined contribution (DC) schemes. This transformation shifts many of the decisions about financing retirement away from *institutions* – firms and governments –toward *individuals*, imposing on workers the responsibility to save, invest, and spend wisely over the lifecycle Lursadi and Mitchell, (2011).

Miller et al, (2013) reiterated that an important reason for the increased attention in financial literacy is the global financial crisis of 2008 which highlighted the importance of financial knowledge. In the light of the assertion by Miller,et al,(2013), Brown et al,(2014) noted that the rationale for this emphasis on financial literacy is that better informed consumers might engage in more prudent credit behaviour which would be a good thing for financial markets. Fernandes, Lynch and Netemeyer,(2014) further assert that policy makers have embraced financial education as a necessary remedy to the increasing complexity of consumers' financial decisions.

The above assertions indicate how important the study of financial literacy and even its measurement has become for governments, investors and policy makers.

This Chapter seeks to uncover what other researchers who have carried out studies on the relationship between financial literacy and indebtedness have had to say both on the local and global scale. This chapter also gives the definitions of financial literacy and indebtedness as well as the conceptual framework. It also seeks to uncover the key themes related to the study in question. The Chapter will also go as far as revealing the differences on views of researchers as well as common areas of thinking. This literature review will be critical in improving the proposed research methodology, stated objectives and the availability of gaps in the previous studies that this research can then take care of.

Personal financial budget, personal financial management, financial behaviour and attitudes of consumers are explored, as well as the empirical literature on the link between financial literacy and debt levels.

2.2. Definition of financial literacy

The subject of financial literacy has increasingly gained substantial attention of individuals, investors, pensioners, government and the stability of countries' financial sectors. Louw,(2009) and Shuttleworth,(2009B) regard financial literacy as the amount of financial knowledge and understanding individuals possess as well as the ability to make effective use of the financial information in making informed decisions regarding financial matters. Similarly, Jorgensen and Salva, (2010) define financial literacy as individuals' capacity to study and understand personal financial matters or situations in order to better manage their individual financial affairs. The definitions strongly reflect that gaining financial knowledge enables individuals to engage in their respective personal financial matters in making routine financial decisions and to react appropriately to any prevailing financial circumstances with greater control Chinen and Endo,(2012).

The OECD INFE Toolkit (2015) defines financial literacy as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve sound financial wellbeing. Klapper, Lusardi and Panos,(2012) deemed financial literacy to include such variables as numeracy, knowledge of interest compounding, understanding of inflation as well as the use of financial services (eg use of banks and formal credit). This view is slightly wider and more explicit in terms of components than the one offered by the OECD (2015).

In their study of financial inclusion in the Southern African region, Fanta and Mutsonziwa, (2016) narrowed financial literacy to "a reasonable understanding about the language used by banks, benefits of owning a bank account and how to apply for it". This is a slightly narrower definition especially motivated by the specifics the researchers intended to uncover. Miller, et al. (2013) indicated "financial knowledge" which is closely related to financial literacy should have the components of compound interest calculation, understanding of inflation and diversification of risk. This definition is similar to the one highlighted earlier as given by Klapper, Lusardi and Panos,(2012).

Extending further, Shuttleworth,(2009A) regards financial literacy as individuals' magnitude of understanding personal financial planning affairs and take control in managing short-term, medium-term and long-term financial commitments. Shuttleworth,(2009 A) further elaborates that financial literacy refers to an individual's or household's capacity to make well-informed financial decisions in order to manage financial resources efficiently and take appropriate

financial measures to ensure financial well-being and increased financial net wealth. Consistent with Shuttleworth,(2009b), Chinen and Endo,(2012) accentuate that financial literacy comprises of comprehensive understanding of the need to increase individual savings and decrease individual spending in order to reduce future debt burden. Financial literacy can therefore be regarded or conceptualised as having two broad dimensions, namely understanding and application of the knowledge possessed Huston, (2010).

Dahmen and Rodriguez (2014) quoting Remund (2010) defined financial literacy as a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finance through appropriate short term decision making and sound long range financial planning, while mindful of life events and changing economic conditions. This is an impressive definition which is wider than the few highlighted above. In measuring financial literacy for business people, Dahmen and Rodriguez (2014) assert that financial literacy should be defined as the ability and willingness by business people to read financial statements.

According to Remund (2010), various definitions of financial literacy are categorised into five broad classes, which include knowledge of financial products, ability to communicate financial concepts, aptitude of managing personal financial affairs, ability to make appropriate financial decisions and confidence to plan effectively for future financial needs. Huston (2010) and Remund (2010), however, acknowledge the non-existence of techniques for universal measurement of financial literacy. Due to the existence of different definitions of financial literacy, divergent techniques applied in measurement of financial literacy therefore also further depend on the specific definition used, as most financial literacy studies are survey-based Huston,(2010).

An important concept that is very closely related to financial literacy is “debt literacy”. Lusardi and Tufano (2009) define debt literacy as the ability by consumers to make simple decisions regarding debt contracts, applying basic knowledge about interest compounding to everyday financial choices. This definition does not however stray far from the other definitions given by other researchers. It just demonstrates how closely linked debt literacy is to financial literacy.

The assessment of wide ranging literature has revealed something crucial. There is no single definition of financial literacy. Instead, the definition of financial literacy is based on the components that a given researcher is seeking to uncover during a study. Definitions are varying from country to country and especially due to the context in which the study is being carried out. The required literacy for investors and business people is different from that of ordinary consumers because of the varying decisions that have to be made. It is also important to note that a number of researchers tend to agree on a given definition driving everything towards a single definition of financial literacy. Literature has revealed some terms closely related to financial literacy. These are “debt literacy” and “financial knowledge”. Many researchers use the terms debt literacy and financial knowledge” interchangeably with “financial literacy” while a number do emphasise that “debt literacy” is a component of financial literacy which is a view that this researcher subscribes to.

For the purposes of this study, financial literacy is defined as the ability to read, analyse, manage and communicate about the personal financial conditions affecting material well-being. This is the definition adopted by Anthes (2004), who later extends this definition by stating that financial literacy includes the ability to discern financial choices, discuss money and financial issues without discomfort, plan for the future and respond competently to life events affecting daily financial decisions as well as primary trends with impacts on financial decisions in the general economy.

The study not only looks at financial literacy, but also the relationship between financial literacy and the level of debt.in particular household debt incurred personally by the participants .

2.3. Definition of household debt

According to Hake and Urvova,(2013), household debt refers to debt incurred by the household sector in the economy. In general, debt, including household debt, refers to an obligation or liability arising from borrowing money or taking goods or services on credit, that is, against an obligation to pay later in the future. It is essential to note that household debt may contain a component of corporate debt that is not factored into the measurement of household debt. In South Africa, many households chose to set up a close corporation to own their fixed property, rather than to own it directly. Should a loan be required to acquire such property, it would generally be a loan to the close corporation, which forms part of the corporate sector.

However, the household would have to pay the instalments on such loan from the household income, and would often also in their personal capacity guarantee that the close corporation will honour its commitments. Additional information on loan guarantees given by the household sector, and on the extent of lending to close corporations, is however currently not available in the South African credit landscape. There is also the issue of advances to households by insurers and pension funds. Life insurers frequently lend money to individuals against the security of life policies, with loans usually repayable in instalments. Life insurers also extend mortgage advances. In South Africa in certain instances employees may also borrow part of their accumulated savings from their own retirement fund to acquire fixed property. Repayments are generally made on a monthly basis at a market-related interest rate and are spread over many years, much like the repayment of a mortgage loan. There are different types of household debt, which necessitated research for defining each type according to its contractual agreement, as discussed under the conceptual framework section below.

2.4 .Conceptual framework

According to Barnard, Peters and Muller,(2010), household debt generally refers to an obligation or liability that arises from credit or borrowing financial resources, commonly money, or the use of goods and services on credit with the commitment to pay at a later date or some specific point in the future. In this respect, debt forms a legally binding contractual agreement between the lender and the borrower that states specific terms and conditions that relate to the interest to be paid in addition to the borrowed amount or redemption amount, repayment tenure as well as the collateral that the borrower should provide should such collateral be required. Where both security and collateral requirements form part of and are factored into the debt process, such debt is generally regarded as secured debt. In circumstances where security and collateral requirements do not form part of the debt process on the part of the borrower, such debt is generally regarded as non-secured debt Ansong and Gyensare,(2012).

Following Prinsloo (2002), the practical logic behind personal debt is that individuals commit themselves to entering into credit transactions to sacrifice future consumption by consuming today with the promise to pay later for the financial resources, goods or services used in the current period. Following Hake and Urvova, (2013), such practice of having consumption at the current period with the commitment to pay later at a future date is referred to as the lifecycle process. Several factors have been identified in the literature as determinants of household debt, and these are discussed below.

2.5. Factors that influence household debt

Household total debt is generally divided into secured debt (mortgaged) and unsecured debt (personal loans, car loans overdrafts and credit card facilities). Household demographic characteristics, which include family size, level of education, age and income, all influence the amount of debt incurred by households. Based on the consumer's current income, the lifecycle model by Blau,(2007) predicts that individuals consume their lifetime income smoothly either through access to credit anchored on expected future income in the early stages of the lifecycle, or through consumption of savings in retirement, which are accumulated during their working lives.

Blau,(2007) in the lifecycle model reiterates that households maximise utility subject to the budget constraint by smoothing consumption over time. To validate the model, household saving, consumption and disposable income should therefore have a long-run trend. Starting with borrowing, the lifecycle model can be formulated within the framework of two periods: current period (t) and future period (t+1), and with a default option such that households maximise their lifetime expected utility and consumption preferences. This is given in equation (1) below:

1. $V(C_t, C_{t+1}) = U(C_t) + \frac{1}{1+\delta} E[U(C_{t+1})]$

where: C_t represents consumption in the current period (t), δ denotes the subjective rate of time preference, *E*(• is the expectation operator conditional upon information available in time period (t), and U represents the constant relative risk aversion utility function characterised by $U' > 0$, $U'' < 0$ and $U'(0)$ equal to ∞. Linking the current consumption to current total income (Y), which comprises of income from labour and own wealth, total income (Y) in the future period remains uncertain, hence corresponding consumption also remains uncertain. Under such conditions, total income is assumed to be a stochastic process, with probability ρ period t+1 income equal to Y_L (lower income) and probability 1-ρ period t+1 income equal to Y_H (high income); hence households can borrow and lend at a risk-free rate. Borrowers can increase current consumption by X_1 units by sacrificing X_2 of future consumption, with $x_2 = (1+R)x_1$.

Turning the attention from borrowing, the model correspondingly allows analysis of saving decisions of households. In the way similar to borrowers, savers sacrifice X_1 units of current period consumption in return for X_2 units of the future period (t+1). As the future period (t+1)

remains uncertain due to uncertain income, households maximise their expected utility based on equation (20 given below:

2. $$V(x_1, x_2) = U(Y_1 + x_1) + \left(\frac{1}{1+\delta}\right)[\rho U(Y_L + x_2) + (1-\rho)U(Y_H + x_2)]$$

;

Subject to the budget constraint: $x_2 = (1+R)x_1$,

where: X_1 represents the amount lent ($X_1 < 0$) or borrowed ($X_1 > 0$) in the current period (t), and X_2 denotes the amount received as repayment ($X_1 > 0$) or given as repayment ($X_2 < 0$) in the future period (t+1).

Factoring in the default option in which the borrowing rate exceeds the risk-free rate, a borrower who accepts X_1 in the current period has to sacrifice X_2 units of future period consumption with probability 1-ρ. Therefore, borrowers maximise expected utility subject to the budget constraint, following the specification in equation (3) below:

3. $$V(x_1, x_2) = U(Y_1 - I + x_1) + \frac{1}{1+\delta}[\rho U(Y_L) + (1-\rho)U(Y + I)_H + x_2]$$

where: $x_2 = -(1+r)$, I denotes the investment in financial or real assets made in the current period; the minus sign shows that part of the income is not consumed in the current period.

Once the factors have been identified and a consumer reached a decision to seek credit, the household may be entering into debt.

Based on the above it is evident that financial literacy requires some knowledge of household debt, including the contractual obligations per credit type than an individual or household will agree upon when taking debt: however without the ability to manage its own budget the household may find itself in financial distress. These necessitate the element of personal financial budgeting as part of financial literacy.

2.6. Personal financial budget

According to Anon,(2009) a personal financial budget can be regarded as an effective instrument for managing personal finances and better understanding of financial matters. Wagoner,(2012) further accentuates that personal financial budgeting provides a critical mechanism for sound financial management, especially under poor macro-economic conditions characterised by volatile exchange rates, price fluctuations and low economic output. Swart,(2009) draws a clear emphasis on the importance of understanding the distinction between a budget and budgeting. The distinction drawn regards a budget as a plan in financial or monetary terms, whereas budgeting consists of a process followed in drawing the personal budget by a rational individual or household.

From the concepts defined so far, a budget can therefore conceptually be regarded as a mechanism used to exercise effective financial control with the motive of achieving planned objectives Swart,(2012). Correspondingly, previous studies by Koh and Fong,(2011) regard a personal financial budget as a wide-ranging short-term financial plan of an individual's or household's income and spending plans prepared for purposes of controlling financial transactions. Furthermore, the financial budget also covers financial commitments related to savings and investment plans in given periods Botha et al, (2012). According to Swart (2009), financial planning also largely depends on sound financial budgeting, which remains a critical component of financial planning. These assertions are consistent with that of Willmott (2012), who states that budgeting should be observed as the initial step towards successful personal financial planning, which depends on the behaviour and attitudes of individuals. Swart,(2009) further underscores that although personal financial budgeting can be a difficult task, the process instils financial discipline and hence helps to ensure that the household survives within the budget limit by avoiding reckless borrowing and spending. The next step is to establish how financial literacy is measured which is detailed below

2.7. Measuring financial literacy

Van Rooij,(2007) as quoted in Jappelli and Padula,(2011) used specific measures of financial literacy available in a special module of the Dutch DNB household survey to measure financial sophistication and wealth. The measures involved simple calculations and understanding of compound interest, inflation, and money illusion and more advanced questions on the functioning of the stock market, characteristics of stock, mutual funds, and bonds, equity premiums and the benefits of diversification.

A more simplified approach in the measuring financial literacy is that used by Lursadi and Mitchell,(2011) which focused on three economic concepts that individuals should have knowledge on namely compounding interest, inflation and risk diversification. An even narrower approach is that employed by Lursadi, Mitchelle and Curto,(2009) that focused on the knowledge of interest rates as one sole measure of financial literacy.

In measuring “debt literacy” which is closely linked to financial literacy, Lursadi and Tufano ,(2009) in their research on US households’ assessed respondents’ knowledge about the power of interest compounding and the workings of credit card debt and their ability to choose the most advantageous means of payment, given two options. Compared to the above notions, this is a slightly different measure. This does not however imply contradiction. In fact, it is critical to note that the components involved in measuring financial literacy are derived from the definition of financial literacy as given by a given researcher. In the research in question, the researcher will employ the approach proposed by Athens,(2004) in which financial literacy is defined as the ability to read, analyse, manage and communicate about the personal financial conditions affecting material well-being.

2.8. Financial literacy and income

Reviewed literature revealed a lot about the relationship between financial literacy and the levels of income. Klapper, Lursadi and Panos,(2012) in their study of financial literacy in Russia concluded that financial literacy was not only low in the Russian population but was particularly severe among specific groups such as women, those with low income, low educational attainment and those living in rural areas. Lursadi and Tufano,(2009) also bring in something similar when they concluded in their research that “debt literacy” which is very closely related to financial literacy does increase sharply with levels of income. In other words, the higher the income, the higher the level of financial literacy.

Miller et al, (2013) widened the idea in their research to conclude that there was ample evidence that financial literacy levels are relatively low across a wide range of countries with performance correlated with per capita income. Countries with low per capita income were likely to show low levels of financial literacy. The literature reviewed above is in agreement; those with higher incomes are less likely to be in debt. This is measured in this particular research

2.9. Financial literacy and specific population groups

International research carried on financial literacy by Lursadi and Mitchell,(2011) indicated that financial literacy differs by population subgroup. Age patterns are notable, in that financial knowledge follows an inverted U-shaped pattern, being lowest for the young and the older groups, but peaks in the middle of the life cycle.

Another remarkable finding by Lusardi and Mitchell (2011) during the same research revealed persistent international sex differences in financial literacy: in most cases, women are less financially knowledge than are men. Financial literacy was also found to be higher among those who are working, and in some countries among the self-employed, compared to those who do not work.

According to Lusardi and Mitchell, (2011), some countries report interesting patterns along other dimensions. For example, in the U.S., there are large racial/ethnic differences in financial knowledge: Whites and Asians are consistently more likely to be financially knowledgeable compared to African Americans and Hispanics.

Klapper, Lusardi and Palmer,(2011) further assert that in their studies, univariate tests did find out that financially literate individuals in Russia were more likely to be males, married or cohabiting, younger and residents of the Russian urban regions. They further assert that those financially literate are more likely to have vocational/technical or some level of higher education, and be employed in skilled or non-manual occupation.

To further strengthen this view, Lursadi and Tufano,(2009) from their study in the U.S found out that debt literacy was particularly severe among women, elderly, minorities and those that are divorced or separated. Lursadi, Mitchelle and Cuto,(2009) make it even more interesting, in the research they carried out, they found out that respondents who smoked when they were teenagers or whose peers smoked were less likely to be financially literate.

As noted above, prior researches indicate varying financial literacies among different population groups. In fact, results of these researches are consistent in terms of their results. The researcher is in agreement with the notion and believes studying of the South African Junior banking employees will reveal similar or at least close results.

2.10. Financial literacy and financial decisions

Various forms of literature reviewed indicated that there are certain decisions and behaviours that were somehow unique to those that are financial literate. Klapper, Lursadi and Panos,(2011) quoting Chistelis et al.(2010), ANZ Banking Group (2003), Cercasi et al., (2008),Van Rooij, et al., (2011), OECD (2005) (Japan and Korea) and Hastings and Tajeda-Ashton,(2008) respectively as having noted that the relationship between financial literacy and better financial decisions had been supported in a number of countries that included United Kingdom (UK), Australia, Italy, Japan, The Netherlands, Japan, Korea and Mexico. Consistent with the above view is the notion of Stago and Zinman (2009) who noted that consumers with lower financial literacy were likely to underestimate the returns to long term investment. This would ultimately affect their ability to make sound financial decisions.

Brown, Collins, Schmeiser and Urban (2014) quote Lusardi and Mitchelle (2014, 2007), Lusardi et al, (2010), Lusardi and Tufano (2009), Meier and Sprenger (2010) and Van Rooij et al., (2012) who were all in consensus that individuals' levels of financial literacy are associated with lower rates of planning for retirement, lower rates of asset accumulation, using higher cost financial services, lower participation in the stock market and higher levels of debt.

Acquah-Sam and Salami (2013) brought a different argument. According to them, one may argue that low financial literacy does not necessarily imply that households will make poor financial decisions given the availability of financial advisers who can make investment decisions on behalf of the households. Acquah-Sam and Salami (2013) further note that alternatively, word of mouth education offered by acquaintances through social interactions may support rational investment decisions. This view indicates therefore that lack of financial literacy will not always result in poor financial decisions as advisers and acquaintances can help in the decision making process.

Lusardi and Tufano (2009) are of similar views as Klapper, Lusardi and Panos (2011) in which they highlight the knowledge of economics and finance was related to financial decisions related to savings, retirement planning and portfolio choices. Though the views of Acquah-Sam and Salami (2013) cannot be underestimated, the researcher holds the view as many other prior researchers that financial literacy has a strong effect upon the financial decisions that consumers make.

The behaviour and attitudes of households towards debt can give an indication of their financial literacy levels, discussed in the subsection below.

2.11. Financial behaviour and attitudes

The nature of financial behaviour and attitudes towards personal financial planning has been observed in numerous studies to be associated with levels of personal or household debt. According to Schiffman et al. (2008), financial behaviour is regarded as the manner in which an individual makes common spending decisions in terms of readily available financial information and other information related to financial and material products and services within given personal or household budget constraints. Correspondingly, financial attitudes refer to the manner in which an individual or household reacts towards financial information and products in light of given personal or household budget constraints Falahati and Paim,(2011). Furthermore, De Jahasz, Dowd and Schneider (2012) accentuate that individuals react either positively or negatively to financial objects and information available in the market.

Following Kempson, Collard and Moore (2005), an individual's level of financial literacy and financial skills to some degree influence the respective individual's financial behaviour and attitudes. Although the level of financial literacy and knowledge may have some considerable influence on individuals' or households' management of financial resources, Gitman and Joehnk (2008) additionally emphasise that psychological notions of values, emotion and personality are critical components of behaviour and attitudes that further influence individuals' financial planning and debt levels. Accordingly, Falahati and Paim (2011) elaborate that households or individuals should be made aware of the importance of integrating and making effective use of financial knowledge and apply financial skills, financial behaviour and attitudes in making financial decisions relating to financial planning, spending and saving or investment.

Garman and Forgue (2008) further highlight that financial behaviour and attitudes also relate to the individual's value system, which encompasses the fundamental beliefs about what is important to the individual, what the individual specifically desires, and what the same individual perceives to be worthwhile doing with the available financial resources and opportunities. Accordingly, Falahati and Paim (2011) underscore that individual attitude towards personal or household financial matters plays an essential role in determining an individual's or household's financial management and levels of financial well-being. Joo and Grable (2004) confirm that individuals with generally stronger perceptions and positive financial attitudes tend to be more satisfied with financial judgements and manage financial

resources more effectively than individuals characterised with negative financial attitudes that experience financial difficulties.

A study by Du Plessis and Du Toit (2003) suggests that there are 13 personal financial attributes that affect an individual's personal financial attitude, namely trust, involvement, emotionality, pride, altruism, power, self-determination, work ethic, reflectivity, spending, contentment, confidence and risk-taking. Venter (2008) identified various financially related personal attributes, with each personality being different in ensuring financial security with emotional stability. These characteristics include achievers, hunters, safety players, entrepreneurs, optimists, money masters, high rollers, perfectionists and producers. According to Garman and Forgue (2008), financial plans should convey the individual's financial attitude and values to ensure optimal personal financial satisfaction and an increased standard of living.

Along the same dimension, Gitman and Joehnk,(2008) emphasise that attitudes towards personal financial management may be favourable or unfavourable due to fear of insecurity and hence recommend that individuals should become attentive with regard to attitudes towards financial matters. Studies conducted by Edwards, Allen and Hayhoe,(2007), Falahati and Paim,(2011) and Goldsmith and Goldsmith,(2006) on financial attitudes and behaviour disaggregated the results based on gender differences. The studies report that women are more likely to prepare a budget than men. However, men have been reported to have more positive attitudes towards credit facilities than women, even though women are in possession of more credit arrangements than men. Therefore, understanding different attitudes towards personal financial management provides appropriate knowledge concerning individuals' financial needs and education.

In all studies the current credit market and regulations play a significant role in ensuring that the consumer and their rights are protected when they enter into credit agreements therefore emphasising the need for credit regulations

2.12. The need for credit regulation

Consumer credit used not to be given as much consideration as given Alferoff and Signoretta,(2004). Wirtz (2009) underscores that the ease of access to credit facilities in the past largely resulted in many consumers entering into debt recklessly. A lack of sound lending criteria for credit facilities that were not priced optimally in line with the underlying risks was seen to be the cause of the financial difficulties experienced in most countries in

the world (Wirtz, 2009). According to Bobo, (2007) the application for credit has to be conducted responsibly in order to prevent regulation from impacting negatively on the efficient functioning of financial institutions.

Ineffective credit regulation standards for borrowers have been regarded to be among the primary reasons that caused financial markets to experience difficulties in previous years Jamine, (2008). The Basel Committee on Banking Supervision (2010a) indicates that in order for financial institutions such as banks to operate efficiently, they need to operate under well-defined, sound credit-lending criteria. The credit-lending criteria should also clearly indicate who could be eligible for credit, the category under which the credit falls, how much could be granted and the terms and conditions. Hence, it is imperative that financial institutions obtain sufficient information in order to adequately assess borrowers' risk profiles.

The Basel Committee identified that, at a minimum level, the following information must be available in order for a sound credit assessment to be made:

- The purpose of the credit and source of repayment
- The integrity and reputation of the credit applicant
- The current risk profile of the borrower and its sensitivity to developments in economic and market conditions
- The borrower's repayment history and current capacity to repay
- A forward-looking analysis of capacity to repay based on numerous scenarios
- The legal capacity status of the credit applicant to assume the liability
- For commercial credit, the borrower's business expertise and the state of the borrower's economic sector
- The proposed terms and conditions of the credit, including covenants designed to limit changes in the future risk profile of the borrower
- Where applicable, the adequacy and enforceability of collateral or guarantees under various scenarios.

Danielsson (2002) contend that financial institutions relied too heavily on credit ratings provided by rating agencies that undertake credit assessments. These agencies have been shown to provide conflicting and inconsistent forecasts of consumers' creditworthiness, as they are unregulated and the quality of their risk estimates are largely unobserved. Barron (2007) indicates that a credit operation should be responsive to both internal and external forces acting upon it. This can be confirmed by the tightening up of credit requirements by

banks across the United States of America (USA) in response to market signals of the credit crunch in mid-September 2008.

Accordingly, higher collateral requirements, increased interest rates and shorter repayment periods or tenure commonly resulted in more documentation and higher upfront down payments. More questions were raised and overall turnaround times increased significantly. As a result of the increased focus on credit standards, credit institutions reported more applications from customers who had conventionally banked with other financial institutions (EIU, 2008).

In the USA, Wirtz (2009) reveals that a financial institution survey conducted by the Federal Reserve Bank of Minneapolis found that banks and other financial institutions were not necessarily short of capital to lend, but that borrowers were more reluctant to apply for credit as their uncertainty about what the future would hold for them increased. That uncertainty, coupled with higher credit standards, led to substantial declines in credit facilities granted in the economy. Furthermore, Ironfield-Smith et al .,(2005) report that a combination of several factors resulted in UK consumers being more wary of continued spending in those factors were:

- interest rate rises, which impacted largely on consumers with accrued debt;
- the weakening housing market, which impacted negatively on consumer confidence, while declining property prices made it more difficult to raise capital;
- the growing UK fiscal budget deficits, which increased likelihood of tax rises; and
- The large USA current account deficits, which posed a threat to global financial soundness and stability.

According to Stigler (1971), the classic assumption on protecting consumers argues that efficient markets are much more effective than formal regulations. It therefore appeared to be a case for taking action and introducing statutory regulation in monitoring and governing retail financial services Richards, Palmer, and Bogdanova (2007). Most lenders in the UK were affiliated to voluntary trade associations, for instance the Association for Payment Clearing Services and the British Bankers' Association, whereby they committed themselves to follow those associations' codes of conduct. However, Cowton (2008) found that not all lenders were interested in following the prescribed responsible lending practices. Therefore, formal legislation rather than self-regulation was deemed to be desirable Cowton,(2008).

On the other hand, those in favour of a higher level of social equality argued that a less regulated credit environment allows consumers in lower-income brackets to access overdraft and credit facilities. It enables them to obtain funds that could be applied towards academic studies, which would improve their employability levels, thereby allowing them to break free from the poverty trap Richards ,Palmer, and Bogdanova (2007). It is also argued that the first principle of social policy should be to treat users of consumer credit as adults who are entirely capable of managing their own financial affairs, and not to restrict their freedom of access to it in order to protect the relatively small minority who get into difficulties (Crowther Committee, 1971). Ironfield-Smith ,Keasey ,Summerss and Duxbury (2005) found that, with the changes taking place in the global credit economy, the increase in those consumers with real difficulties and who were unable to service their loan payments suggested that some form of sound credit-lending regulation might be required to protect vulnerable groups.

The South African debt market is reviewed in detail in the chapter that follows with the sole focus on acts that govern this particular market.

2.13. Empirical literature

2.13.1. Relationship between financial literacy and debt

In South Africa, the level of debt has increased substantially relative to individual or household incomes as a result of low levels of financial literacy Debelle,(2004). Borrowing from Prinsloo,(2002) the ratio of personal debt-to-disposable incomes provides an effective indicator of the levels of financial literacy in terms of individuals' capacity to manage their financial affairs under different personal financial conditions.

In South Africa, personal debt fluctuated between 75.4% and 83% throughout the period 2009–2013. From a macro-prudential viewpoint, Louw (2009) indicates that such personal debt trends reflect the degree to which individuals are financially literate in relation to financial knowledge. Studies that are consistent with that of Louw (2009) include Mandell and Klein (2009), Barnard, Peters and Muller(2010), Shuttleworth (2009A), Ansong and Gyensare (2012), Botha et al. (2012), Carlin and David(2012), Bobo (2007) and Deventer M (2013).

Financial skills have become more important in the past ten years than before, as the financial arena is ever-changing and offers complex products. The 2008 global recession is

evident of this development, making it essential for the majority of clients to be educated on financial products and other terms that could affect their debt levels.
Following McKenzie (2009), financial literacy levels have been reported to have no impact on debt levels, with the finding being explored with respect to credit cards and student loans among US university students. McKenzie (2009), however, indicates that a financially literate person can also make incorrect financial decisions that can lead to a debt trap. This view conveys the important element of behaviour of an individual even though he/she may be equipped with the necessary skills, hence the consumer may not always make better financial decisions.

On the contrary, Disney and Gathergood (2011) argue that financially illiterate households use higher cost credit lines, make higher debt payment ratios to given levels of debt and normally have higher arrears, hence the measures of debt literacy are powerful indicators of household behaviour towards debt levels. The research findings indicate that the provision of financial education rather than addressing financial behaviour has the potential to yield an increase in the knowledge that helps manage debt at sustainable levels. Similarly, the study on financial literacy by Atkinson and Messy (2012) indicates that approximately 15% of consumers in South Africa never or rarely pay their debt on time, while 32% of them barely keep an eye on their financial affairs and approximately 43% of consumers use their budget completely without savings.

Piprek, Dlamini and Coetzee (2004) report that different financial education and literacy programmes undertaken by non-governmental organisations (NGOs), employers and financial institutions revealed that most South Africans remain underserved by programmes offering financial education. In another study by Louw (2009), it was found that it is necessary for the definition of financial literacy to include the concept of behaviours such as paying bills on time, having manageable levels of credit, setting financial goals and having a way of achieving those goals through saving, investing and spending wisely. The other study that supports this finding is that of Lusardi and Mitchell (2007), which concluded that the more financial literate a person becomes, the more likely that person becomes able to plan for retirement from formal employment.

Lusardi and Mitchell (2010) also conducted a study among older Americans and concluded that financial knowledge and planning are indeed interrelated. Therefore, keeping track of spending and budgeting appears conducive to retirement saving. Although the study's focus group was older Americans, it was also necessary to cover for junior employees in particular banks as well. On the other hand, Atkinson and Messy (2012) indicated that although most

people have basic financial knowledge, understanding other financial concepts is still a challenge. The study established an association between attitude and behaviour and found that people with positive attitude towards the longer term are more likely to be exhibiting good financial behaviours than those with a preference for the short term, especially when it comes to savings.

Letkiewicz (2012) observed a significant relationship between conscientiousness and financial outcomes. The study concluded that financial literacy programmes should simultaneously focus on both financial education and consumer behaviour towards their financial affairs rather than separately. In support of the finding by Letkiewicz (2012), Lusardi (2008) found that understanding the basic mechanics of debt is limited among the elderly, certain minorities as well as people with lower incomes.

In this regard, the existence of low levels of financial literacy among individuals and households has been established to be associated with poor financial decisions that commonly lead to over-indebtedness Paile,(2013). Following Roberts, Struwig, Gordon, Viljoen and Wentzel (2012), a study undertaken on financial literacy in South Africa reveals that approximately 44% of households experience some difficulty in meeting their spending commitments relative to their respective disposable incomes.

Paile (2013) postulates that households who experience budget constraints in striking a balance between their incomes and spending levels supplement their financial positions by making choices that vary from borrowing from friends, family or financial institutions to cutting down on some of their expenses and depleting their financial savings. In a similar study by Roberts et al. (2012), households are reported to have been characterised by the ability to understand how inflation and compounding interest affect their financial decisions. Furthermore, Lusardi (2008) report that numerous households entrapped themselves into high debt levels due to lack of understanding of debt contracts, interest and how numerous credit facilities operate.
Klapper, Lusardi and Palmer (2011) went further to quote Lusardi (2008, 2009); Lusardi and Tufano (2009) and Van Rooij, et.,al (2011) as having found out that lower financial literacy was linked to lower household savings as well as higher reported over-indebtedness.

On the implications of lack of financial literacy on financial decisions of prospective investors, Acquah-Sam and Salami (2013) quoted Bernheim, Garret and Marki (2001) and Bernheim and Garret (2003) in Rooij, Lusardi and Alessie (2007) concluding that those who were exposed to financial education in high school or in the work place save more. This further

strengthens the initial belief of the researcher that lower or lack of financial literacy results in over-indebtedness.

To further strengthen this notion, Acquah-Sam and Salami (2013) emphasised that since savings led to investment, with all other things held constant, knowledge about financial market activities would lead to investment in financial assets. In other words, financial literacy enables individuals to save money towards their retirement and earn income during their retirement. Saving implies less likelihood for debt.

According to Jappelli and Padula (2011), financial literacy and savings are positively correlated, and this is consistent with a number of studies carried out in South Africa, where savings and financial literacy were reported to be low. Conclusions derived from such studies indicate that individuals or households that do not have sufficient levels of financial literacy have higher probabilities of vulnerability to vicious cycles of debt and are more disposed to over-indebtedness. A descriptive study by Roberts et al. (2012) reveals from the sample surveyed in South Africa that approximately 67% of the households have no emergency funds, while only 29% have emergency funds and 4% indicated having no knowledge of what emergence funds are. The results indicated the existence of low financial literacy levels in South Africa, hence high debt levels among households.

Moitse (2014) assessed the household literacy levels of the NCA when purchasing vehicles using balloon payment method reports. The author found low levels of financial literacy among participants. The descriptive study by Moitse (2014) indicates that 59% of the participants indicated that the NCA provisions on consumer credit were not easily understandable, while 39% indicated that the provisions were to a small extent easily understandable. Against this background, the study reveals that on average, the NCA provisions were not easily understandable, hence the reason why most households or individuals are and remain in debt.

In measuring the extent of understanding of credit plans, Moitse (2014) reports that nearly 61% of the participants surveyed revealed that different consumer credit plans contained in the NCA were to no extent clearly explained. Furthermore, 34% of the participants indicated that consumer credit plans were clearly explained only to a small extent, while only 4% perceived that the credit plans contained in the NCA were to a moderate extent clearly explained. On average, the participants perceived that different credit plans in the NCA were not clearly explained.

On the relationship between financial literacy and indebtedness, there is a tendency of researchers to be in agreement. This strengthens the notion that the research has always had that lack of financial knowledge results in indebtedness.

2.13.2. The relationship between household income and debt

In practice, individuals increase their debt levels by entering into credit transactions even if they do not further increase their commitments to income growth. Based on the lifecycle model, there is a negative link between the level of household debt and expected future incomes. Given that financial markets are imperfect, the prevalence of asymmetric information between borrowers and lenders causes adverse selection and moral hazards difficulties. The lifecycle model states that households maximise utility subject to the budget constraint by smoothing consumption over time. To confirm the proposition of this model, household saving, consumption and disposable income should be co-integrated.

2.14. Chapter summary

This Chapter sort to find the realm of relationships between financial literacy and household debt levels at both local and international levels. Furthermore, it also sorts to reveal on the definitions of financial literacy and household debt from both the South African perspective and the international level. The following Chapter then seeks to uncover the nature and development of the credit market with emphasis on the South African environment; it covers periods before, during and after the apartheid era.

CHAPTER 3
EVOLUTION OF THE DEBT MARKET IN SOUTH AFRICA

3.1. Introduction

This chapter outlines the nature and development of the South African credit market. The chapter commences with an overview of the consumer credit market, followed by a discussion of trends in household debt and the impact of real interest rates on debt levels spanning the period before and after the attainment of democracy in 1994. The following section investigates credit regulations in South Africa and other countries, followed by a summary of this chapter.

3.2. Overview of the consumer credit market in South Africa

According to the World Economic Forum Competitive Survey (2012/13), the South African financial sector is rated among the best in the world. Results of the survey rated South African banks second out of 144 countries for soundness, while the country was rated third for financial sector development., the South African banking industry consists of 17 registered banks, 3 mutual banks, 12 local branches of foreign banks, and 41 foreign banks with approved local representative offices BASA,(2014). In 2015 a number of organisations had approached SARB for a new banking license, including Discovery Limited. However, no new licenses have been issued by 2015.

The banking sector regulation in South Africa aims to achieve a sound and efficient banking system in the interest of the depositors of banks and the entire economy. SARB has a responsibility for promoting the soundness of the domestic banking system through the effective and efficient application of international regulatory and supervisory standards to minimise systemic risk. Therefore, SARB issues banking licenses to banking institutions and monitors their activities in terms of either the Banks Act, 1990, or the Mutual Banks Act, 1993.

The banking regulations include the following:

- The Banks Act
- The National Payment System Act
- The Financial Intelligence Centre Act
- The Financial Intermediary and Advisory Services Act
- The NCA
- The NCAA
- The Consumer Protection Act

- The Home Loan and Mortgage Disclosure Act
- The Competition Act
- Basel II and III to be implemented in January 2018.

In light of the level of reckless lending practices portrayed by credit providers, the adverse consequences therefrom and the focus of this study, this chapter explores regulations pertaining to credit, especially the NCA. Particular attention is drawn to the NCA because the easy access to, and utilisation of, credit facilities have largely resulted in consumers taking credit recklessly. As shown in Table 3.1 below, the percentage of impaired records by consumers remained high (above 40%) since March 2013 until June 2014, indicating the distress being experienced by consumers in the country.

(#) Millions	Mar'15	Jun'15	Sep'15	Dec'15	Mar'16	Jun'16	Sep'16
Good standing (#)	12.70	12.84	13.53	13.87	14.33	14.41	14.40
Current (#)	9.75	10.00	10.82	10.94	11.37	11.62	11.55
1-2 months in arrears (#)	2.95	2.84	2.71	2.93	2.96	2.79	2.85
Impaired records (#)	10.41	10.53	9.91	9.87	9.55	9.67	9.85
3+ months in arrears (#)	5.17	5.02	5.08	5.24	5.32	5.33	5.42
Adverse listings (#)	2.82	3.15	2.78	2.61	2.40	2.59	2.75
Judgments and administration orders (#)	2.41	2.37	2.06	2.02	1.82	1.76	1.68
Credit-active consumers (#)	23.11	23.37	23.45	23.74	23.88	24.08	24.25

Table 3.1: Consumer credit outlook in South Africa: March 2015to September 2016(Source: National Credit Bureau, 2016)

Based on Table 3.1, the number of consumers of good standing gradually increased from 12.7 million (52.5%) in March 2015 to 14.4 million (55.0%) in September 2016, reflecting a marginal improvement by 1.7 million consumers%. The proportion of consumers with one to two months in arrears declined from 2.95 million% in March 2015 to 2.85 million in September 2016, while the impaired record decreased from 10.41 million in March 2015 to 9.85 million in September 2016. Moreover, the proportion of transactions in 3+ months in arrears increased from 5.17 million in March 2015 to 5.42 million in September 2016, resulting in a small gain in the number of credit-active consumers from 203.11 million in March 2015 to 24.25 million in September 2016. The statistics presented above reveal that

the credit market has been distressed, as evidenced by the increase in the number of transactions with 3+ months in arrears March 2015 to September 2016.

In practice, individuals increase their debt levels by entering into credit transactions even if they do not further increase their commitments to income growth. According to Carlin and Robinson (2012), the two primary components of debt households commonly commit themselves to due low levels of financial literacy are household or personal credit and mortgage advances. Personal credit is further sub-grouped into open accounts, personal loans, credit card facilities, instalment sale transactions and lease agreements.

The 2016 Consumer Credit Report as published by the National Credit Regulator (NCR) with summary statistics presented in Table 3.2 below indicates that South African consumers are getting into debt mainly because of unsecured lending products (33.48% of all credit agreements concluded are for credit facilities, unsecured credit and short-term credit).

Agreements	2015: Q3 R000	2015: Q4 R000	2016: Q1 R000	2016: Q2 R000	2016: Q3 R000	2016:Q3 % Distribution	% change (Q3/Q2)
Mortgages	39,389,513	39,638,417	33,117,940	35,867,070	36,578,163,	31.13%	1.98%
Secured credit	39,234,177	41,772,337	34,162,984	35,956,471	37,566,481	31.97%	4.48%
Credit facilities	17,551,427	13,967,635	13,308,871	12,051,903	13,573,384	11.55%	12.62%
Unsecured credit	20,655,901	22,466,738	18,878,324	20,603,334	22,647,455	19.27%	9.92%
Short-term credit	4,069,338	4,492,852	3,214,364	2,919,345	3,129,516	2.66%	7.20%
Developmental credit	3,034,431	1,809,053	5,648,723	922,157	4,017,809	3.42%	335.70%
Total	123,934,786	124,147,032	108,331,207	108,320,278	117,512,808	100.00%	8.49%

Table 3.2: Major credit categories taken by South African consumers (Source: National Credit Bureau, 2016)

The total amount of loans on mortgages increased by 1.98% from R35 867 070 billion in 2016 Quarter 2 to R36 578 163 billion in 2016 Quarter 3. On a year-to-year basis, mortgages decreased by 7.40% from R39 389 513 in 2016 Quarter 3 to R36 578 163 in 2016 Quarter 3. While secured credit grew by 4.48% between Quarter 2 and Quarter 3 in 2016 and unsecured credit by a high 9.92 % which is a cause for concern as this type of credit has higher interest rates approximately 31.5% per annum (RSA, 2015), in comparison to secured and mortgage credit%, growth in developmental credit increased by 32.41% year on year

between 2015 Quarter 3 (R3 034 431) and 2016 Quarter3 (R4 017 809). With customers aggressively seeking unsecured loans consumers are distressfully left with less disposable income monthly, leading them to more unmanageable debt levels. This also highlights the shortcomings of the NCA; in 2015 the National Credit Regulator initiated the NCA amendments which now stipulated how credit providers should calculate affordability when consumers apply for credit. The NCAA has now provided “Minimum Living Expense Criteria” which credit providers have to include as part of the affordability calculation.

The minimum living expense criteria that are made mandatory as per income group categorised in the below table.

Gross monthly Income		Fixed amount	Variable amount
Minimum	Maximum		
R 0.00	R 800.00	R 0.00	100.00%
R 801.00	R 6 250.00	R 800.00	6.75%
R 6 251.00	R 25 000.00	R 1 167.88	9.00%
R 25 001.00	R 50 000.00	R 2 855.38	8.20%
R 50 001.00+		R 4 905.38	6.75%

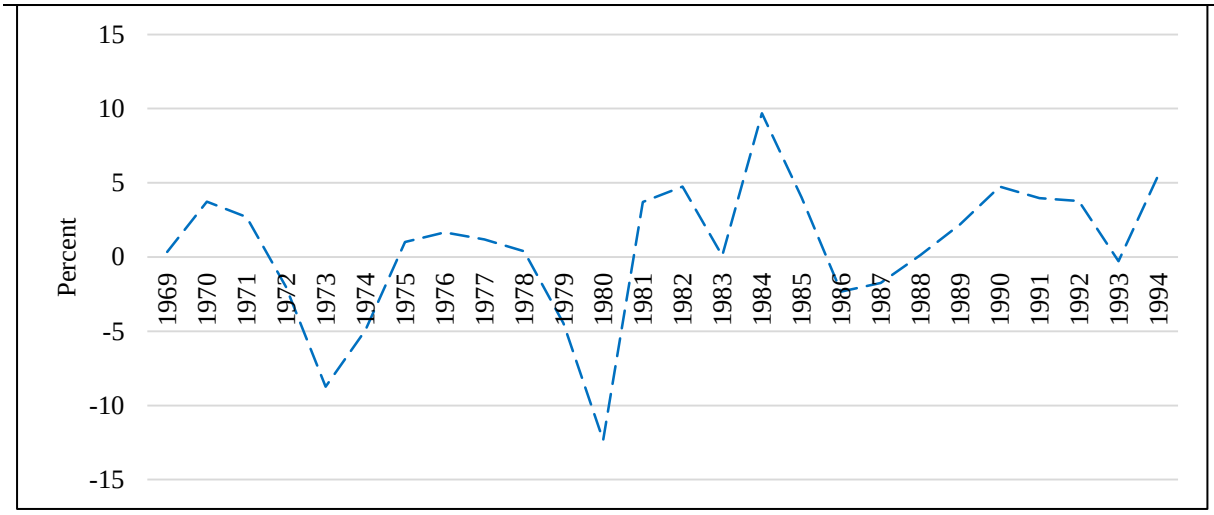
Table 3.3: The New minimum living expenses criteria as per gross monthly income

This is another method that regulations have passed to protect consumers and compel credit providers to be more responsible when conducting affordability assessments on credit applications. The statistical evidence on unsecured lending either indicates industry has not fully tabled this in their affordability calculations or consumers are still advancing for the same credit type which unfortunately yields high debt levels due to the interest rates charged on this credit type .

3.3. Trends in real interest rates

Historical developments in household debt as a ratio of disposable income in South Africa were analysed in comparison to the trends in the real interest rate, as presented in Figure 3.1 below. The real interest rate used is the lending interest rate adjusted for inflation as measured by the gross domestic product deflator.

Panel A: Real interest rate trajectory in the pre-democracy epoch



Panel B: Real interest rate trajectory in the post-apartheid epoch

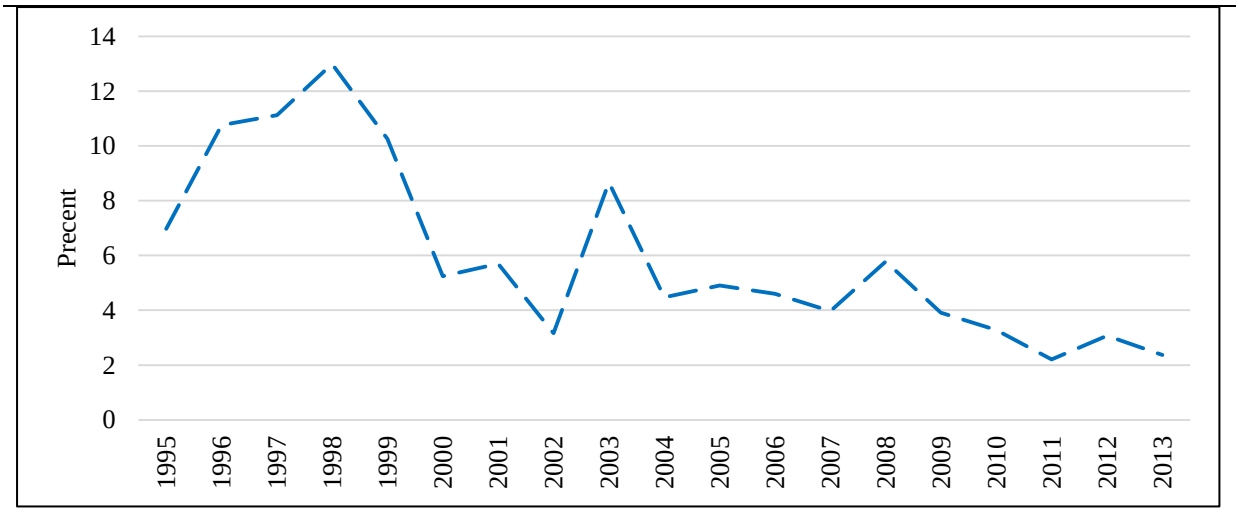


Figure 3.1: Real interest rate developments (Source: IMF, 2015)

From Figure 3.1 presented above, Panel A shows the trails of real interest rate in the pre-democracy era from 1969 to 1994. The graph indicates that adjustments in the real interest rate have been considerably volatile during the respective period. The highest real interest rate of approximately 12.99% was experienced in 1998 due the Reserve Bank's efforts to fight the weakening exchange rate.

It is important to distinguish between real interest rates and the more common nominal rates of interests which are reported by banks and the financial press. The nominal rate includes the effects of inflation and is therefore not an accurate measure of the cost of borrowing and the benefits of lending.

The real rate is calculated using the “Fisher equation” ($r^e = i - p^e$)
Where r^e is the expected or ex ante real interest, i is the nominal interest rate and p^e is the expected inflation. Higher nominal rates and lower inflation therefore result in higher real rates of interest. According to Cecchetti (1986), real interest rates influence investment and saving decisions and determine the allocation of resources overtime. Cecchetti (1986) further highlights that factors that affect real rates include; restrictive monetary policy, changes in total savings brought about by a reduced saving rate and high budget deficit and increases in profitability.

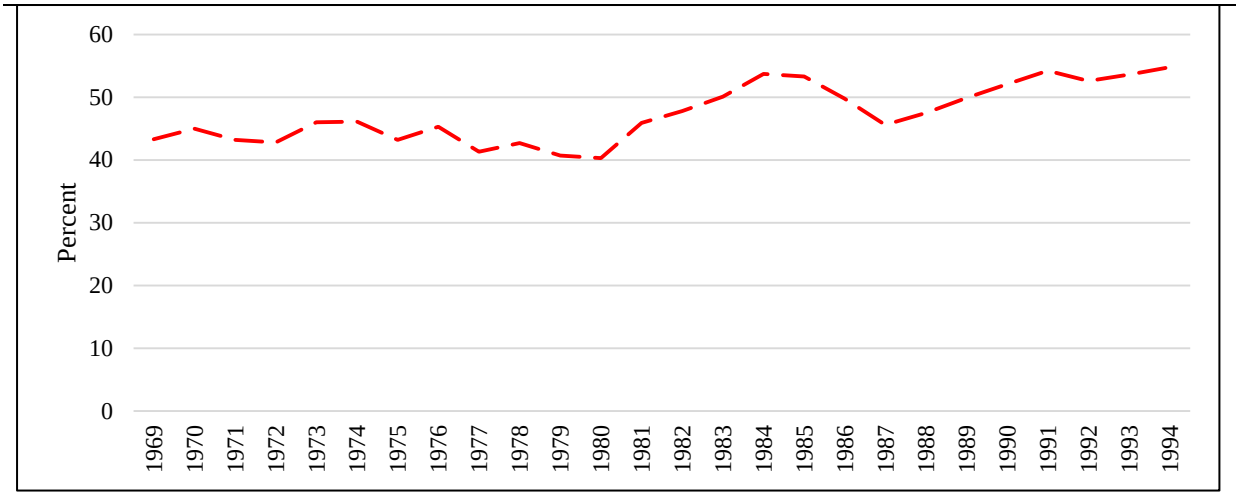
The relationship between real interest rates and the exchange rate has not always been straight forward. An increase in the rate of interest is likely to see the value of a currency going up as a result of the floor of hot money and also the incentive on international investors to save in local banks because expected higher returns. This then would see the demand for the local currency going up resulting in the appreciation of the currency.

In the post-apartheid era as demonstrated in Panel B, the interest rate increased from 5.4% in 1995 to 12.9% in 1998. Thereafter, the interest rate continuously declined to approximately 3.2% in 2002 and increased to 8.6% in 2003. Between 2004 and 2008, the interest rate fluctuated between 4.4% and 5.7% and further generally declined to 2.3% in 2013, creating some room for consumer borrowing. Cost of credit contributes to the repayment per month on a credit agreement. When interest rates increase, the burden is felt by consumers who experience an increase in their monthly repayments, and consumers are therefore left with less disposable income.

3.4. Trends in household debt

The figures below reveal the trends in household debt in the pre-democracy period and the period after. The pre-democracy era considered stretches from 1969 to 1994 while the post democracy era under consideration is the years between 1995 and 2014.

Panel A: Household debt trajectory in the pre-democracy epoch



Panel B: Household debt trajectory in the post-apartheid epoch

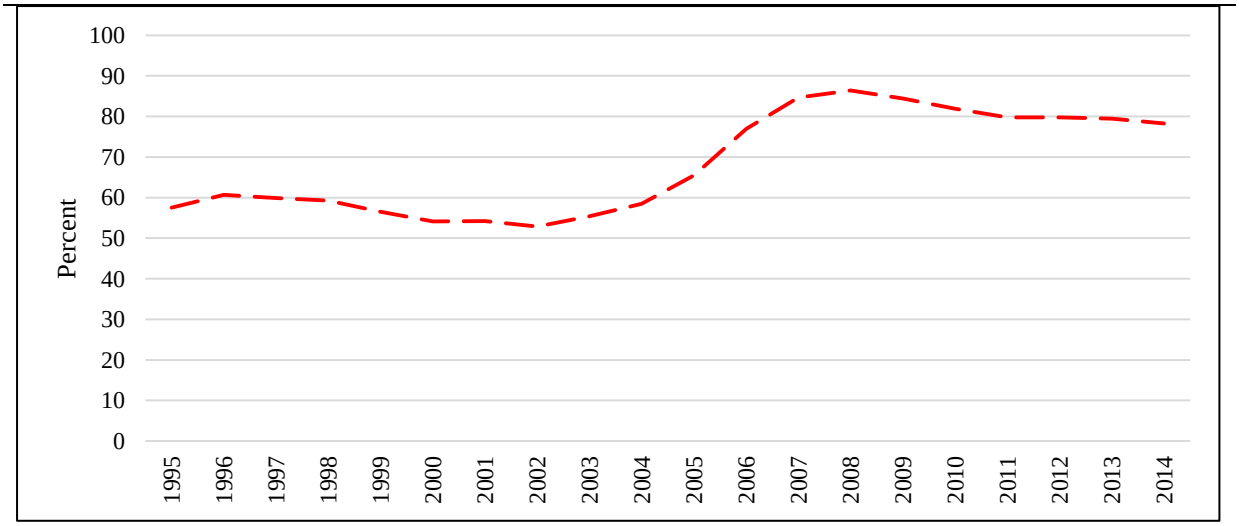


Figure 3.2: Household Debt Developments (Source: IMF, 2015)

In the pre-democracy era represented by Panel A, household debt as a ratio of disposable income (debt-to-income ratio) remained below 55% throughout the period 1969 to 1994. From 1969 to 1980, the household debt-to-income ratio fluctuated between 40.3% and 46.1% before rising to 53.7% in 1984. Thereafter, household debt declined to 45.6% in 1987 and steadily increased to 54.8% in 1994. In the post-apartheid era to date, household debt however remained above 50%. In 1995 post-apartheid era as denoted in Panel B, the debt ratio was 57.5%, gradually declining to 54.1% in 2000 before increasing exponentially to 86.4% in 2008, quite possibly due to the prevalence of the global financial crisis. Since 2008, household debt-to-income levels have remained above 78%, characterising increased indebtedness of households in the country.

In order to promote a fair credit industry that looks at the interests of consumers and promotes responsible lending, it is important for government to regulate the credit industry, which is discussed in the section below.

3.5. Credit regulation in South Africa and selected countries in different continents

Credit is important in growing the economy and in promoting economic activity and freedom, if used wisely and correctly; however, it also has an evil of promoting a culture of living beyond household needs. The credit arena has many operators, from banks to non-banking societies, which offer various services and credit products to a variety of consumers. For the purpose of the study the focus was on household debt (credit) despite the various credit types offered to individuals and commercial entities.

Due to the negative use of credit and its implications on the financial wellbeing of consumers it is therefore necessary for the regulation of the credit industry in order to protect consumers' interest as well to monitor and regulate the different providers of credit. In South Africa, the NCA was introduced primarily to promote and advance the social and economic welfare of South Africans consumers, promote a fair, transparent, competitive, sustainable, responsible, efficient, effective and accessible credit market and industry, and to protect Consumers. The same principle was adopted in various countries with a similar aim as per the NCA. The sections below look at this in detail.

3.5.1 Credit regulation in South Africa

Following the revision of the Usury Act by the South African Law Reform Commission in 1994, the need for a review of consumer legislation was recognised. Accordingly, the NCA of 2005 was then born out of the need for a single system that could regulate the credit industry in South Africa. The Act repealed and replaced the previous Credit Agreements Act (No. 74 of 1980) and the Usury Act (No. 73 of 1968), in order to regulate the demands of a complex consumer market. In consideration of poor lending and borrowing practices that proved to have existed in the country, the fundamental purpose of the NCA was therefore to achieve integrity in the credit market, given that the Act intended to remove unfair practices, inappropriate disclosures and anti-competitive practices from the market.

Certain provisions of the NCA were designed to enhance the chances of those in lower-income groups to obtain credit. The Act also imposes significantly more stringent conduct requirements and regulations on credit providers and requires them to strengthen their credit policies and lending criteria. As such, the NCA requires a credit provider to ensure that

consumers can afford the credit for which they apply before actually approving the credit application. Where a credit provider neglects this responsibility, the consumer tribunal established in 2014 has the authority to deem such agreements as reckless and the consumer be released from contractual obligations, setting aside all or part of the consumer's rights and obligations in terms of the agreement.

As part of regulatory compliance measures to credit regulation in the country, all credit providers, credit bureaus and debt counsellors are required to register with the NCR, which is the sole legal body mandated with the constitutional responsibility to promote resolution of disputes arising between any of the above-mentioned parties, without intervening or adjudicating such disputes. The NCR, in addition to the core functions set out in the NCA, receives, investigates and evaluates complaints with regard to alleged contraventions of the NCA, and monitors the market and industry to ensure that any conduct that is prohibited is prosecuted.

The NCR also safeguards that national and provincial registrants comply with the Act, issues and enforces compliance notices, and refers concerns regarding market share, anti-competitive behaviour or conduct that may be prohibited by the Competition Act (No. 89 of 1998), as amended. Relevant matters in which the Competition Commission faces challenges for ruling out a decision are referred to the National Consumer Tribunal, which is also an independent body, tasked with the adjudication of matters concerning allegations of prohibited conduct against credit providers, debt counsellors and other persons registered with the NCR.

The importance of levelling the credit field is not a developing world problem only, but a global issue. This makes it important for the study to review the international perspective regarding credit regulations.

3.5.2 Perspectives on international credit regulation

The past six to ten years have produced numerous sections of credit regulatory legislation introduced across the globe. Some examples are the Consumer Credit Act of 2006 in the UK, the Credit Contracts and Consumer Finance Act of 2003 in New Zealand and the NCA of 2005 in South Africa. Since the deregulation of the USA credit industry in the late 1980s, there has been no single regulatory body controlling the industry in that country. Instead, a

series of acts covering various aspects of the industry was entrusted with regulating consumer credit in the USA Fentem and Walker, (2009).
The next section looks at credit regulations in the United Kingdom.

3.5.2.1. Credit regulation in the United Kingdom

The Consumer Credit Act of 2006, which was fully implemented on 1 October 2008, replaced the Consumer Credit Act of 1974, and was the first Act to cover all forms of instalment credit in the UK. Cooper and Schindler,(2008) indicates that the new Credit Act strengthened the regulator's arm and addressed certain weaknesses of the previous Act, for instance, the extortionate credit-bargaining rules.

The 2006 Act's major objectives were to achieve the following:

- Establish an independent ombudsman service, allowing consumers to challenge agreements without having the added burden of going through a court battle
- Make it easier to challenge unfair lending practices and loan agreements
- Require lenders to provide better information regarding their credit accounts
- Improve the powers of the Office of Fair Trading to take action against rogue companies and to institute financial penalties
- Introduce a more targeted licensing system, limiting the burden on reputable businesses and freeing the Office of Fair Trading for analysis in unscrupulous organisations.

The major shortcoming of the 2006 Act was identified as its failure to require the lender to disclose certain information, such as the main contributing factors that could lead to a credit application being declined. By not divulging this information, consumers would be unable to rectify the problem and improve their credit standing. This could lead to consumers being driven out of the credit market.

3.5.2.2. Credit regulation in the United States of America

The deregulation of the US credit industry in the late 1980s was motivated by the need to respond to multiple bodies and pieces of legislation that were controlling the credit sector. A series of acts covering various aspects of the industry was entrusted with regulating consumer credit in the country. As most of the regulatory acts applied in the USA were mainly focused on disclosure, privacy, anti-terrorism, anti-money laundering, fraud

prevention, anti-usury lending and promoting credit accessibility to lower-income groups, consumers were not adequately protected against the exploits of unscrupulous credit providers.

3.5.2.3. Credit regulation in New Zealand

The Credit Contracts and Consumer Finance Act of 2003, which came into full force in April 2005, covers student loans, mortgages, credit cards, personal loans, hire purchase agreements, long-term leases and electronic commerce. One of the major objectives that motivated the formulation of the Act was to provide consumers with information about the contracts into which they entered, and therefore to make disclosure provisions much more effective than before. The principal aims were to conclude agreements that were clearer and to provide useful information.

The key objectives of the Act were to:

- promote efficient credit markets that are conducive to voluntary transactions;
- enhance effective information disclosure so that consumers can distinguish between different credit products and, as far as possible, make rational choices between those products and cash purchases
- allow for innovation in the design of credit products;
- provide adequate incentives for compliance with the law by all parties to a credit transaction; and
- discourage oppressive conduct by lenders.

3.5.2.4. Credit regulation in India

The credit regulatory structure in India consists of a variety of state legislation and the partial implementation of the Malegam Report in 2011. The legal structure has different formation requirements and privileges, registered as one of the following five entities:

- NGOs engaged in microfinance (NGO-MFIs), comprised of societies and trusts
- Cooperatives registered under the conventional state-level cooperative acts, the national level Multi-state Cooperative Legislation Act of 2002, or under the new state-level Mutually Aided Cooperative Act
- Section 25 of the Companies Act (not for profit)
- For-profit non-banking financial companies (NBFCs).

The mainstream financial sector in India is primarily divided into two categories: banks and NBFCs. Banks adhere to much more stringent regulations than NBFCs because they are permitted to accept public deposits and are considered to possess systemic risk. The NBFC

category encompasses many different types of financial companies, which are all subject to the same regulatory requirements. From another dimension, very little regulation exists for NGO-MFIs and cooperatives, aside from registration with a local or state authority. We may also note that by the year 2015 there was no regulator that oversaw NGO-MFIs, cooperatives and Section 25s. The Reserve Bank of India (RBI) is the regulator for NBFCs and such NBFCs are subject to some prudential regulation, including a minimum capital requirement, a capital adequacy requirement and foreign investment restrictions. As NBFCs encompass many types of financial institutions, microfinance institutions operating as NBFCs are not subject to any specific regulation related to lending, pricing and operations.

3.5.2.5 Credit regulation in Brazil

In Brazil, low-income consumers have access to credit through specialised financial institutions, some of which operate largely via store credit operations with retailers of consumer durables. Appliance stores in the country, such as Casas Bahia, Ponto Frio, Electro and many others, are the major sources of credit in the economy. In certain cases, these stores consider lending to be their primary business. One of the most common forms of credit for low-income consumers is instalment payments for goods, typically distributed over four to twelve months. Low-income consumers are often unaware of the very high rates of interest implicit in these instalment plans, which can exceed 100% per annum.

Once a consumer falls behind with his/her payments, the fees that are charged make it even more difficult for the person to get out of debt. Some of the main financial intermediaries serving the low-income consumer segment in Brazil are Cacique, Panamericano, Losange and Fininvest. Cacique offers a service where they will bring loan funds to the door of the consumer, in amounts of two to three times their monthly salary. Loans to consumers tend to be highly decentralised. Loan requests are handled automatically through statistical methods based on information supplied by the client or available from public records. This process is applied to overdraft facilities consumer instalment credit, leasing, credit card loans and secured or unsecured personal loans (World Bank, 2014).

According to the World Bank (2014), the levels of consumer protection and credit regulation in a country can be assessed based on the ease of access to loans indicator and the credit depth of information index. The ease of access to loans indicator measures how easy it is to obtain bank loans on a scale of 1 to 7, with higher values suggesting easiest access and low values indicating hardest access. Congruently, the credit depth of information index measures rules affecting the scope, accessibility and quality of credit information available through public or private credit registries. The credit depth information index ranges from 0 to

6, with higher values indicating availability of more credit information. Table 3.4 provides information on the above indicators for selected major economies in the world.

Country	**Consumer credit legislation**	**Ease of access to credit (0 = hardest to 7 = easiest)**	**Credit depth of information index (0 = low to 6 = high)**
UK	Consumer Credit Act (2006)	4.8	6
USA	Consumer Credit Protection Act (1969)	4.8	6
India	Consumer Protection Act (1986)	3.9	5
Brazil	Consumer Protection Code (1990)	3.2	5
South Africa	Consumer Protection Act (2008)	4.2	6
New Zealand	Credit Controls and Consumer Finance Act (2003)	4.8	5

Table 3.4: Selected countries' consumer protection legislation, ease of access to loans and credit depth of information index (2013) (Source: World Bank, 2014)

Table 3.4 above shows that Brazil stands to be the country with relatively hard access to credit. In the middle band, South Africa (score = 4.2) and India (score = 3.9) have moderate access to credit. In the upper band, the UK, USA and New Zealand demonstrate equal levels (score = 4.8) of access to credit. Regarding the credit depth of information, all countries covered in the analysis demonstrate high availability of credit information in their economies (World Bank, 2014).

3.6 Conclusion

Regulations in the credit arena are important particularly to establish a fair playing field to guide against the violation of consumer rights and to regulate the law regarding terms and conditions, cost of credit as well as what the credit providers can do when promoting credit to their customers. What has also been highlighted is the importance of making the right decision when it comes to the type of credit a consumer advance, for these touches on the element of financial literacy, which has a link with household debt levels. Interest rates have a bearing on the total repayment of credit advanced. However, a large percentage of all concluded credit transactions in South Africa are for unsecured lending, which attracts the highest interest rate SARB (2014). Despite the high interest charged on unsecured credit, consumers lack the knowledge in making better financial decisions, highlighting the level of financial literacy to their current household debts Falahati and Paim (2011). Regulations have been in existence for many years and all with the intention of protecting the consumer. This is not a developing country phenomenon, but a worldwide one, despite that all consumers are still accessing the type of credit with the highest interest rates (unsecured credit).

The following chapter tackles the research methodology used to answer the research questions and objectives of this study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1. Introduction

This chapter focuses on the methodological approach employed in addressing the research problem in order to find answers to the research questions in line with the objectives of this study. Research methodology refers to a strategy of enquiry, which takes account of the underlying assumptions and develops through to research design and data collection Myers, (2009). This chapter presents the research design employed in the study, the target population, sampling procedure, research instrument and questionnaire design. It also discusses the validity of the research instrument, the structural validity, scale reliability, administration of the questionnaire and the elimination of bias. Lastly, the chapter presents the data-analysis techniques applied in the study as well as a conclusion of the chapter.

4.2. Research design

According to Saunders, Lewis and Thornhill (2003), there are two broad research approaches or research designs, namely qualitative research and quantitative research. On the one hand, qualitative research is a form of research that is conducted in a natural setting, which involves building a complex and holistic picture of the phenomenon of interest. Moreover, qualitative research is commonly applied in settings in which the primary goal is to understand the functioning of social or human phenomena from multiple perspectives.

On the other hand, the quantitative research approach is applicable when there is an inquiry into an identified problem that involves testing theory and/or hypotheses measured with numbers and analysed using quantitative techniques. According to Mason, Gunst and Hess (2003), the goal of the quantitative method is to determine whether generalisations of a theory hold true based on the following assumptions:

- Developed generalisations are in line with theory in order to understand and explain the phenomenon of interest.
- Reliable and misleading conclusions on the problem investigated can be obtained without bias.
- The researcher’s opinions do not influence results found from the analysis.

Research designs are determined or chosen based on their distinct suitability for the primary objective of the study. The numerous broad types of research designs include causal, correlational, explanatory, descriptive and exploratory research Wyk,(2012).

Causal research is applied when the objective is to prove an idea put forward about a certain phenomenon. The two major goals of causal research are to understand the variables that are the cause and those that are the effect, and to determine the nature of the relationship between the causal variables and the effect predicted.

Correlational research design involves the measurement of two or more factors to determine or estimate the extent to which the values of variables are related or change in an identifiable pattern. In practice, the magnitudes of the relationships are assessed by computing the correlation coefficient, which is a statistic that measures the strength and direction of a linear relationship.

Explanatory study also referred to as analytical study, primarily aims to identify any causal links between the factors or variables that pertain to the research problem. The research design is very structured in nature.

Exploratory research design is applied where the study aims to address a subject about which there are high levels of uncertainty and ignorance about the subject, and when the problem is not very well understood. Such research is commonly characterised by a high degree of flexibility and lacks a formal structure. Therefore, exploratory research primarily aims to identify the boundaries of the environment in which the problems and opportunities of interest are likely to reside, and to identify the salient factors that might be found there and be of relevance to the research.

Descriptive research mainly aims to provide an accurate and valid representation of the factors or variables that pertain, or are relevant, to the stated research question. The study gathers quantifiable information that can be used for statistical inference through data analysis.

Given that the survey data collected were numerical in measurement, the research design for this study was a quantitative correlational approach (Kabir, 2013). The design comprised of interviewing research participants to derive answers to the phenomena of interest. The interviewing process was performed in order to understand the participants' perceptions of

the multiple interactions of the numerous factors that influence individual and household debt levels for a specific defined group of participants. In conducting the exploratory measurement of the factors influencing individual and household debt, descriptive, exploratory and inferential statistical techniques were used to analyse data to decide whether results could be generalised.

4.3. Target population and sample

The target population for this research study was a case study of the South African-based Ubank Limited employees, who specifically comprised of 746 junior permanent bank employees within the bank in numerous regions across the country. The primary data were collected from the relevant participants by means of a structured questionnaire. A sample of 275 participants was drawn using the simple random sampling technique from the total population of 746 employees within the regions in which Ubank operates in the country. All 275 questionnaires distributed were returned, of which 198 questionnaires were fully completed, yielding a 72% effective response rate.

4.4. Sampling procedure

The bank selection criteria were informed by the fact that it is the bank within which the researcher was an employee; hence it was easy to request for and obtain permission to conduct the study. The mixed purposive-based simple random sampling approach was applied based on the specification below:

$$n = \frac{\chi^2 N \hat{p}\left(1-\hat{p}\right)}{d^2\left(N-1\right)+\chi^2 \hat{p}\left(1-\hat{p}\right)} \qquad (4.1)$$

where:

n = calculated sample size

N = the given population

$\hat{p}$ = population proportion; assumed to be 0.5

d = the degree of ccuracy set at 0.05

χ^2 = table value of chi-square (= 3.841 for 95% confidence interval)

The selection and application of the simple random sampling approach was based on the rationale accentuated by Kang'ahi, Indoshi, Okwach and Osido (2012) that all cases or elements in the defined population are given an equal chance of selection for participation in the study. The sampling approach was hence considered effective due to the absence of bias in selection of cases that participated in the study.

4.5. Research instrument and data collection

Primary data collection was conducted through electronic distribution of the structured self-administered questionnaires to research participants. The structured questionnaires were distributed by e-mail in order to effectively manage the cost of data collection. Moreover, structured self-administered questionnaires were used in light of the rationale that they are less intrusive than face-to-face interviews and ensure that participants respond to all questions truthfully Cooper and Schindler, (2008)

4.6. Questionnaire design

The questionnaire used (see Appendix A) for data collection from the research participants was designed with questions based on the following constructs:

- Section A: Demographic information
- Section B: Financial literacy information
- Sub-section B1: Day-to-day money management
- Sub-section B2: Financial planning
- Sub-section B3: Knowledge of products and key concepts
- Sub-section B4: Consumer rights
- Section C: Financial behaviour and attitudes
- Section D: Levels of debt

Consistent with Cooper and Schindler (2005), the research instrument was subjected to validity and reliability tests.

4.7. Validity of the research instrument

The validity of the research instrument refers to the extent to which the research instrument measures what it was actually intended to measure (Zohrabi, 2013). In other words, validity measures the research instrument's fitness for purpose. Specific types of validity tested in this study included internal validity, content validity and structural validity.

4.7.1 Internal validity

Internal validity measures the extent to which a study has been conducted in respect of the operational definitions of the dimensions and questionnaire items used. In this study, internal validity was tested by examining the responses from the pilot study. The participants who participated at the pre-test stage were not included in the final study to avoid duplication of

responses. The process of validity testing included defining the constructs. For purposes of this study, internal validity was conducted to determine the research participants' understanding of the operational definitions used in the study (Saunders et al., 2003).

4.7.2. Content validity

Content validity measures the scores of the research instrument and further enables examination of the operationalisation of the items under each construct. In other words, content validity was used to systematically analyse questionnaire items to determine whether the questions were adequate. This test was performed using a panel of statisticians and research experts to review the research instrument specifications. The experts reviewed the instrument's items and provided comments on whether the items were adequate to precisely measure the research phenomena of interest.

4.8. Structural validity

The structural validity of the measurement instrument was examined through factor analysis, a process by which total correlation analysis of items is evaluated. Prior to conducting factor analysis, the Keiser-Meyer-Olkin measure of sampling adequacy (KMO-AMS) analysis was undertaken to determine the suitability of the size of sampling for factor analysis. The KMO value was used to indicate whether the data were suitable for factor analysis Beavers et al ,(2013). The KMO value was computed in the statistical program based on the functional specification indicated below:

$$\mathrm{KMO}=\left(\sum\sum r_{ij}^{2}\right)/\left(\sum\sum r_{ij}^{2}+\left(\sum\sum a_{ij}^{2}\right)\right);\text{where}\, a_{ij}=\left(r_{ij}\bullet 1,2,3,...,k\right) \qquad (4.2)$$

Whereas ≈ 0.0, then the variables are measuring a common factor and the KMO value ≈ 1.0. Conversely, where a_{ij} ≈ 0.0, then the variables are not measuring a common factor and the KMO value ≈ 0.0.

The Bartlett's test of sphericity was also conducted to determine whether factor analysis could sufficiently be performed on the surveyed data. Computation of the KMO was based on the function of exploratory factor analysis, which is a multivariate statistical method used to examine the dimensionality of a set of variables, for which latent variables are unobserved constructs referred to as factors or dimensions. Operationally, the technique explores the dimensionality of a measurement instrument by finding the smallest number of factors that are needed to explain the correlations among a set of variables.

$$\begin{bmatrix} X_1 \\ \dots \\ X_n \end{bmatrix}_{nx1} = \begin{bmatrix} \lambda_{11} \dots \lambda_{1m} \\ \dots \quad \dots \quad \dots \\ \lambda_{n1} \dots \lambda_{nm} \end{bmatrix}_{nxm} \begin{bmatrix} F_1 \\ \dots \\ F_m \end{bmatrix}_{mx1} + \begin{bmatrix} e_1 \\ \dots \\ e_n \end{bmatrix}_{nx1} \tag{4.3}$$

The matrix of the factor analysis model shown above (Equation 4.3) indicates that given n variables X_1, X_n measured on a sample of m subjects was modelled based on the following assumptions:

a) The measurement error has a constant variance and on average equals zero.

$$Var(e_j) = \sigma_j^2 \;\; ; \;\; E(e_j) = 0 \tag{4.4}$$

b) There is no association between the factor and the measurement error.

$$Cov(F, e_j) = 0 \tag{4.5}$$

c) There is no association between errors.

$$Cov(e_j, e_k) = 0 \tag{4.6}$$

Given the factor, observed variables are independent of one another such that …

$$Cov(X_j, X_k \mid F) = 0 \tag{4.7}$$

The exploratory factor analysis method specifies only latent variables by placing no structure on the linear relationships between the observed variables and on the linear relationships between the observed variables.

4.9. Scale reliability

In order to evaluate the degree to which the chosen set of items measures a single one-dimensional latent construct, internal consistency or scale reliability of the research instrument's items was examined using Cronbach's alpha criterion. In other words, the Cronbach's alpha value was computed to examine the homogeneity of internal consistency of the underlying items given by the function Cronbach,(1951):

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} \sigma^2_{Y_i}}{\sigma^2{}_X}\right) \tag{4.8}$$

Where:

K = number of items

$\sigma^2{}_X$ = variance of observed total scores

$\sigma^2{}_{Y_i}$ = variance of item i for the current sample

4.10. Administration of questionnaires

The questionnaires were e-mailed to the relevant participants, together with a letter containing confirmation of the purpose, ethical considerations of confidentiality and the assurance that the anonymity of participants would be guaranteed. In administering the questionnaire, the ethical considerations provided below were addressed.

4.11. Ethical considerations

Apart from instrumentation and procedural concerns, the collection of data from research participants raises ethical concerns that need to be observed with a high degree of diplomacy. Such concerns include avoidance of harm to participants, observing due respect for participants' privacy, respecting participants as individuals and avoidance of subjecting participants to unnecessary research. Against this background, consent from all participants was obtained prior to commencing distribution of the questionnaires. All the targeted research participants were briefed clearly on the purpose of the research prior to conducting the actual data gathering, in a manner that no influence was exerted on them.

Overall, the following ethical issues were observed during the research:

- Right to privacy: The participants were given the opportunity to choose whether or not to participate in the study and whether or not to complete the questionnaire.
- Right to anonymity and confidentiality: The informants remained anonymous and the responses of all participants were kept confidential. Codes were used instead of participants' names and surnames.
- Right to full disclosure and informed consent: The participants were given an informed consent form explaining the details of the study after adequate, truthful and accurate information about the study had been provided.
- Right to fair treatment: All participants were treated fairly, without discrimination, and the researcher was accountable for upholding the participants' rights.

4.12. Elimination of bias

There are two main causes of bias, namely non-response and inappropriate sampling methods. Non-response is regarded as a serious problem that should be avoided in the sense that the views of participants who volunteer to respond to a survey may differ from the views of those who choose not to participate. To eliminate this kind of bias in the sampling process, sample elements were selected from the entire sampling frame in such a manner that the sampling technique used provided an equal chance of selection for each participant,

or, if for some reason the probabilities of selection become different, this was taken into account during the analysis.

4.13. Data-analysis techniques

The survey data collected were processed and analysed using the SPSS version 23 statistical program for Windows. Prior to the final analysis, data quality assessments were performed using frequencies, cross-tabulations and descriptive statistics, specifically minimum and maximum values, arithmetic means and standard deviations. In determining structural validity and scale reliability, KMO-MSA and Cronbach's alpha criterion were examined respectively. Given that the responses on the dependent variable were binary in nature, the binary logistic regression technique was applied for estimation of the results to determine the odds of financial literacy and financial behaviour and attitudes.

4.13.1. Estimation function

The binary logit regression statistical modelling technique was applied in the study. Considering a binary response variable modelled on a set of one explanatory variable based on the binary logit regression model, debt level was the binary response variable coded (no = 0; and yes = 1) for specified based on whether the participant has or does not have a credit contract, while knowledge of products and key concepts, consumer rights and financial behaviour and attitudes were the covariates in the model. Binary logit regression analysis was performed to estimate the effects of covariates with 95% confidence intervals based on the function:

$$\pi = \Pr(Y_i = 1 | X_i = x_i) = \frac{\exp(\beta_0 + \beta_1 x_i)}{1 + \exp(\beta_0 + \beta_1 x_i)} \qquad (4.9)$$

Where: Y represents the binary response variable (such that Y_i=1 denotes presence of debt derived from self-reported existence of a credit contract, and Y_i= 0 designates absence of debt derived from self-reported non-existent credit contract), and X_i represents a set of explanatory variables, knowledge of products and key concepts, consumer rights and financial behaviour and attitudes.

$$\Rightarrow \text{logit}(\pi_i) = \log\left(\frac{\pi_i}{1 - \pi_i}\right) = \beta_0 + \beta_1 x_i \qquad (4.10)$$

To determine the proportion of overall variation in debt levels that was accounted for by knowledge of products and key concepts, consumer rights and financial behaviour and

attitudes, the pseudo R-square was computed. The respective test statistics were performed based on the function:

$$\text{Pseudo } R^2 = 1 - \left(\frac{-2LL_{null}}{-2LL_k} \right)^{\frac{2}{n}} \tag{4.11}$$

Where: $-2LL_{null}$ symbolises the likelihood for the logit model with only an intercept, and $-2LL_k$ represents the model with the predictor.

To determine whether or not adding the covariate could fit the model better, comparison was made between the log likelihood values of the two nested models: the base model and the model with a predictor. As log likelihood values are typically negative, improvement in the log likelihood to a less negative value indicates that adding a predictor fits the data better. Moreover, model fit was assessed based on the likelihood ratio test, computed based on the function:

$$G^2 = -2\ln\left(\frac{L_0}{L_1} \right) = \left(-2\ln L_0\right) - \left(-2\ln L_1\right) \tag{4.12}$$

Where: -2ln symbolises the likelihood for the base model with only a constant, and $-2LL_k$ represents the model with the predictor. Significance of the likelihood ratio at 5% level could indicate that adding a predictor could yield a significantly better model. Similarly, the pseudo R-square was used to measure the proportion of observed variation in debt level accounted for by the covariates in the model.

Furthermore, classification summary statistics were computed to determine the sensitivity and specificity of the model, as well as the overall rate of correct classification. Classification statistics were computed to measure the proportion of cases that were correctly classified. Sensitivity is the fraction of observed positive outcome cases that are correctly classified and specificity refers to the fraction of observed negative outcome cases that are correctly classified. To examine the predictive power of the model, the area under the non-parametric receiver operating characteristic curve was computed. The curve, which is a graph of sensitivity versus 1 minus specificity, was derived at the cut-off point given as c = 0.5 probability.

4.14. Conclusion

This chapter addressed the methodological approach used in addressing the research problem in order to find answers to the research questions in line with the objectives of this study. The primary aspects discussed under the chapter included the research design, target population and sample, research instrument, questionnaire design, pilot study, validity of the research instrument, scale reliability and data-analysis techniques used in the study. The next chapter focuses on data analysis and presentation and interpretation of the results from the research study.

CHAPTER 5

RESULTS AND INTERPRETATION

5.1. Introduction

This chapter presents and discusses the results obtained from the statistical analysis undertaken on the link between financial literacy and level of debt among junior permanent bank employees in South Africa. The chapter consists of seven sections. It presents the results on the structural validity of the measurement tool obtained using exploratory factor analysis and alpha factoring analysis techniques, as well as, on the scale reliability or internal consistency of the items of the research instrument following the performance of structural validity. The frequencies of the research instrument's primary dimensions and an analysis of the descriptive statistics are presented, as well as, the results of the binary logistic regression undertaken in the study.

5.2. Structural validity of items

The structural validity of the items of the research instrument was tested using alpha-factoring based analysis data- reduction techniques. In concurrence with the assessment of sampling adequacy, factor analysis was performed to measure the underlying structure and patterns and hidden dimensions within the data set. Correspondingly, alpha factoring analysis was undertaken to enhance the elimination of redundancy and to focus on a smaller set of composite dimensions while still accounting for most of the observed variance variability of the data set. In undertaking factor analysis, the sampling adequacy of the items of the research instrument was measured based on the (KMO) criterion with the computed results of the final iterations presented in Table 5.1 and Table 5.2 below.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.610
Bartlett's Test of Sphericity Approx. Chi-Square (Sig; d.f)	4984.49
Df	406
Sig	0.000

Table 5.1: KMO and Bartlett's Test

The (KMO) test is a statistical measure used to assess the extent of sampling adequacy in order to perform factor analysis. Given that the computed overall KMO value (=0.610) exceeds the minimum acceptable KMO value of 0.6; the results of the structural validity indicates evidence of sampling adequacy of the items of the research instrument used in the study. The computed probability associated with the Bartlett test is < 0.001, which satisfies this requirement. The probability of the Bartlett's test of sphericity of the survey items of the research instrument (4984.49.79; p < 0.01) confirmed that alpha factoring analysis could be performed.

Proceeding further, the latent root criterion was applied to examine how evenly distributed the variance was across extracted factors prior to rotation of the extracted items; with results presented in Table 5.2 below.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.790	13.070	13.070	3.348	11.544	11.544	2.623	9.044	9.044
2	3.279	11.308	24.378	2.927	10.093	21.637	2.577	8.887	17.932
3	2.979	10.272	34.650	2.696	9.298	30.935	2.576	8.884	26.816
4	2.739	9.446	44.096	2.678	9.233	40.168	2.540	8.760	35.576
5	2.355	8.122	52.218	1.926	6.640	46.808	2.064	7.118	42.695
6	1.943	6.701	58.919	1.730	5.966	52.774	1.817	6.267	48.962
7	1.754	6.049	64.968	1.501	5.174	57.948	1.797	6.195	55.157
8	1.449	4.998	69.966	1.213	4.181	62.129	1.603	5.528	60.685
9	1.300	4.483	74.449	.947	3.267	65.396	1.493	5.147	65.832
10	1.207	4.161	78.611	.918	3.167	68.563	.792	2.731	68.563
11	.983	3.390	82.001						
12	.962	3.316	85.317						
13	.829	2.860	88.177						
14	.637	2.196	90.373						
15	.548	1.890	92.263						
16	.492	1.697	93.960						
17	.387	1.335	95.295						
18	.322	1.111	96.406						
19	.215	.741	97.147						
20	.184	.636	97.783						
21	.156	.536	98.319						
22	.140	.484	98.803						
23	.102	.352	99.155						
24	.082	.282	99.436						
25	.059	.202	99.639						
26	.045	.157	99.795						
27	.035	.122	99.918						
28	.016	.056	99.974						
29	.008	.026	100.000						

Extraction Method: Alpha Factoring.

Table 5.2: Total variance explained

Table 5.2 provides results for the total variance explained computed based on exploratory factor analysis (EFA). The method is a data/variables reduction technique that identifies the number of latent dimensions and causal structure of a set of variables Suhr,(2010). Each factor extracted is actually a set of questionnaire items that measure the underlying dimension which could not be measured directly by observable data. The results from the final iteration indicate presence of ten eigenvalues greater than 1, hence ten factors were extracted from the total twenty nine items in the data set. Based on the rotation sums of squared loadings; approximately 69% of the total variance in the entire dataset was accounted for by 10 factors. From the total 67% variance, factor 1, factor 2, factor 3 and factor 4 each individually accounts for approximately 9%; while component 5 individually accounts for 7.1% variance in the data set. Factor 6, factor 7 and factor 8 each individually accounts for about 6% of the variance in data set; while factor 9 and factor 10 each accounts for approximately 5% and 3%; respectively. The Rotated Factor Matrix is provided in the appendices.

The factors that were included in providing the cumulative variance are the once that were statistically significant (question item 1-10) in the study based on the KMO iteration process. However, those that were not included in computation of the cumulative variance (question item 11 – 29) were not statistically significant based on the KMO iteration process.

5.3. Scale reliability

The internal consistency of the survey instrument items was examined based on Cronbach's alpha criterion. Technically, the scale reliability test was undertaken to statistically determine the degree to which the chosen set of survey items measured a single one-dimensional latent construct. In other words, Cronbach's alpha coefficient is a statistical measure that assesses the extent to which the same responses can be obtained if the same questions are asked to the same respondents under the same conditions. Cronbach,(1951).

Cronbach's Alpha	N of items
0.706	29

Table 5.3: Reliability statistics

The value of Cronbach's alpha coefficient (α = 0.706) for the selected 29 questionnaire items exceeded the minimum acceptable (α = 0.7) score condition of overall reliability (Cronbach, 1951). The results therefore indicate that the survey instrument's items were statistically

reliable therefore the survey items measured a single one-dimensional latent construct of the study. Based on the item-total statistics, no item could further be eliminated from the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Does your household have a budget	50.67	28.000	.011	.712
Do you stick to the budget drawn up	50.66	27.992	.012	.712
S22Saving_money	50.80	27.946	.006	.714
S23Credit_report_free	50.74	26.669	.277	.696
S23Miss_six_payments	50.57	27.486	.106	.707
S23Loan_provider_feedback	50.51	27.398	.128	.705
S24Credit_agreement_explanation	50.70	27.073	.191	.701
S24Fees_explanation	50.75	26.728	.266	.697
S24Debt_reschedule	50.66	27.019	.200	.701
S24Credit_bureau	50.70	27.053	.195	.701
S24Debt_counselling	50.73	26.715	.266	.696
S24Consolidating_debt	50.62	26.957	.211	.700
S3Bills_payment	48.91	23.998	.432	.679
S3Watch_financial_affairs	49.06	21.941	.552	.661
S3Financial_goals	49.39	23.458	.356	.689
S3Income_insufficient	50.91	27.108	.236	.699
S3Alternative_income	50.02	25.522	.241	.700
S4Store_card	50.73	26.207	.370	.690
S4Cellphone_contract	50.68	27.611	.085	.708
S4Loan_from_friend	50.25	27.032	.343	.695
S4Personal_loan_bank	50.67	26.883	.226	.699
S4Personal_loan_microlender	50.24	26.997	.370	.695
S4Personal_loan_others	50.18	27.537	.332	.699
S4Lay_by_store	50.37	26.549	.359	.692
S4Store_no_card	50.30	26.860	.338	.694
S4Loan_stokvel_club	50.27	27.580	.165	.703
S4Loan_informal_lender	50.26	27.512	.196	.701
S4Vehicle_finance_bank	50.49	27.754	.063	.709
S4Vehicle_finance_microlender	50.26	27.037	.328	.696

Table 5.4: Scale if item deleted

Results presented in Table 5.4 show that none of the items could be eliminated since elimination or deletion of any of those items could lead to statistically unacceptable low scale reliability Tavakol and Dennick,(2011).

5.4. Frequencies

This section presents the results on the frequencies on the participants' background information and responses to knowledge of key products and concepts and consumer rights with respect to financial literacy. The components covered under background information include gender, age, level of education, and region of work.

5.4.1. Background information

5.4.1.1. Gender

Based on Figure 5.1, of the total 198 valid responses analysed, 51% (n = 101) of the valid responses were from female participants while the remaining 49% (n = 97) were male. With the median participant being number 101, the distribution of the participants reveals that the number of female participants were 2% more than male counterparts.

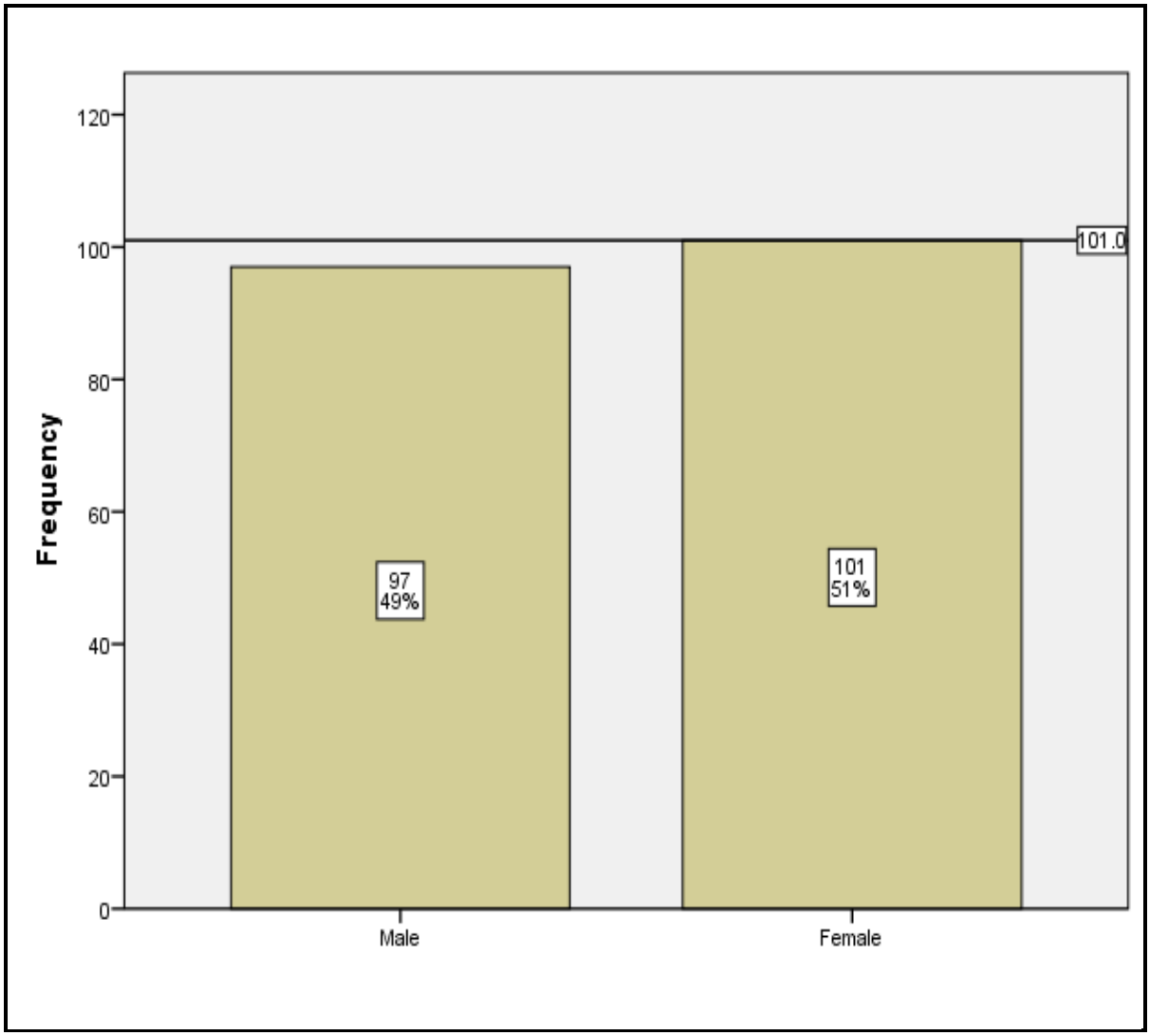


Figure 5.1: Gender (see Sub-section 5.4 for consistency)

5.4.1.2. Age

As shown in Figure 5.2, the age groups of the participants did not follow normal distribution. The relative majority 43% (n = 86) of the participants were in the age group 29-39 years, followed by participants in the age group 18-28 years who constituted 33% (n = 65) of the sample drawn. The age groups that constituted the least proportions of the sample are the 40-50 years and 50+ years, which accounted for 20% (n = 39) and 4% (n = 8) of the sample size respectively. When combined , the age groups 18-28 years and 29-39 years accounted for 76% (n = 151) of the entire sample, while only 24% (n = 37) of the respondents were aged 40 years and above. The results therefore indicate that the study largely constituted of participants below 40 years of age.

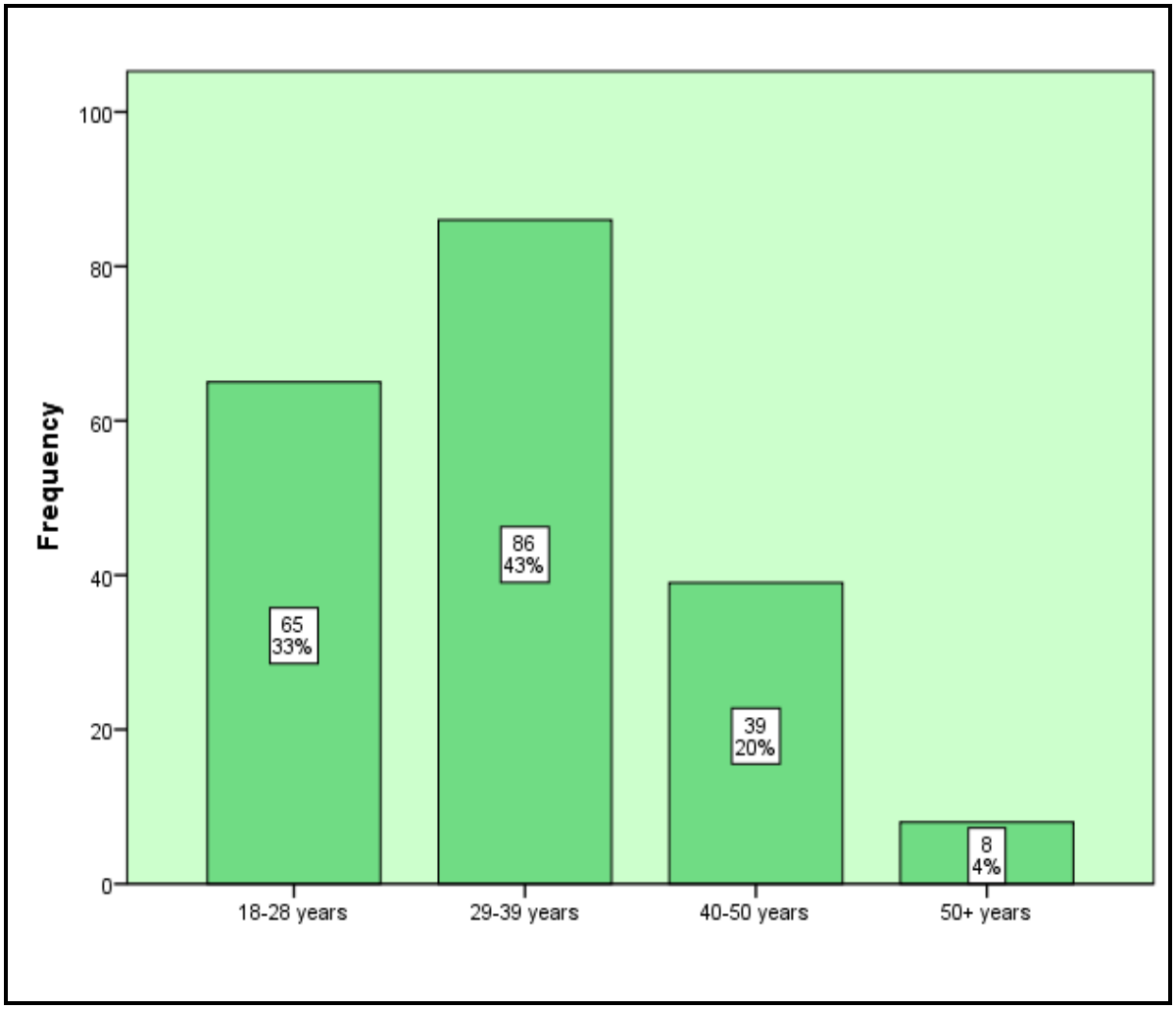


Figure 5.2: Age group

5.4.1.3 Level of education

Figure 5.3 indicates that the majority of the participants did not have a bachelor's degree. From the total 198 participants in the study, 50% (n = 99) hold either a post matric certificate or a diploma. Participants with matric/Grade 12 were 2% below participants with bachelor's degrees. Participants with matric/grade 12 accounted for 21% (n = 42) of the sample while participants who achieved a bachelor's degree accounted for 23% (n = 45) of the sample used in the study. Furthermore, only 5% (n = 10) of the participants in the sample indicated that they hold an honours degree. When combined, 72% (n = 143) of the participants do not hold a bachelor's degree. The results indicate that approximately 72% of the participants surveyed have basic educational qualifications.

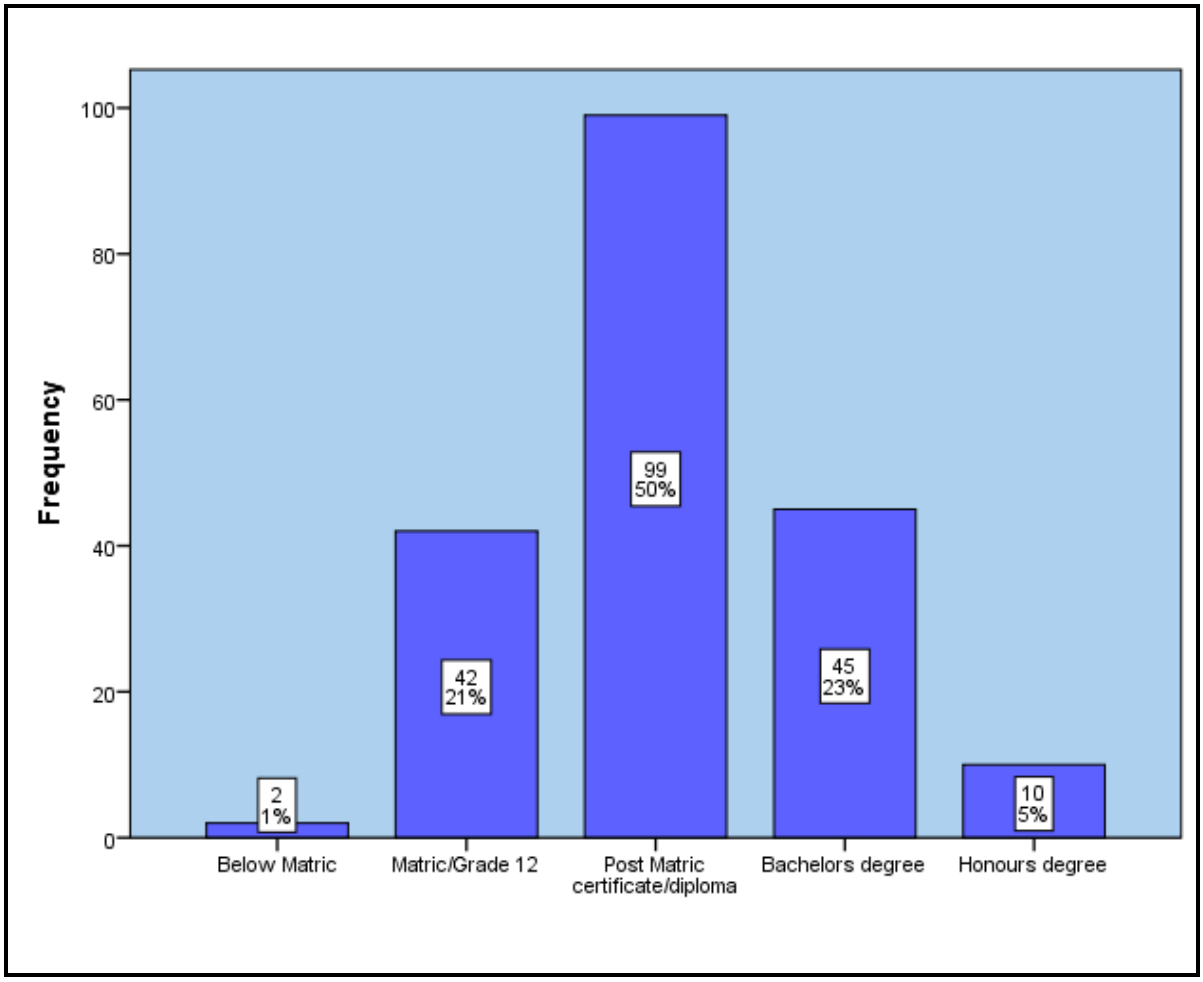


Figure 5.3: Education level

5.4.1.4. Region of work

As indicated in Figure 5.4, 38% (n = 75) of the participants were based in Gauteng South followed by Gauteng North with 24% (n = 47) of the participants. Cumulatively, respondents from Gauteng province represented 62% (n = 122) of the sample. Participants from Free State and Eastern Cape North represented 12% (n = 24) and 9% (n = 18) of the sample respectively. Participants from the remaining regions, namely Mpumalanga, Northam, Eastern Cape South and North West constituted 18% (n = 34) of the sample in the study.

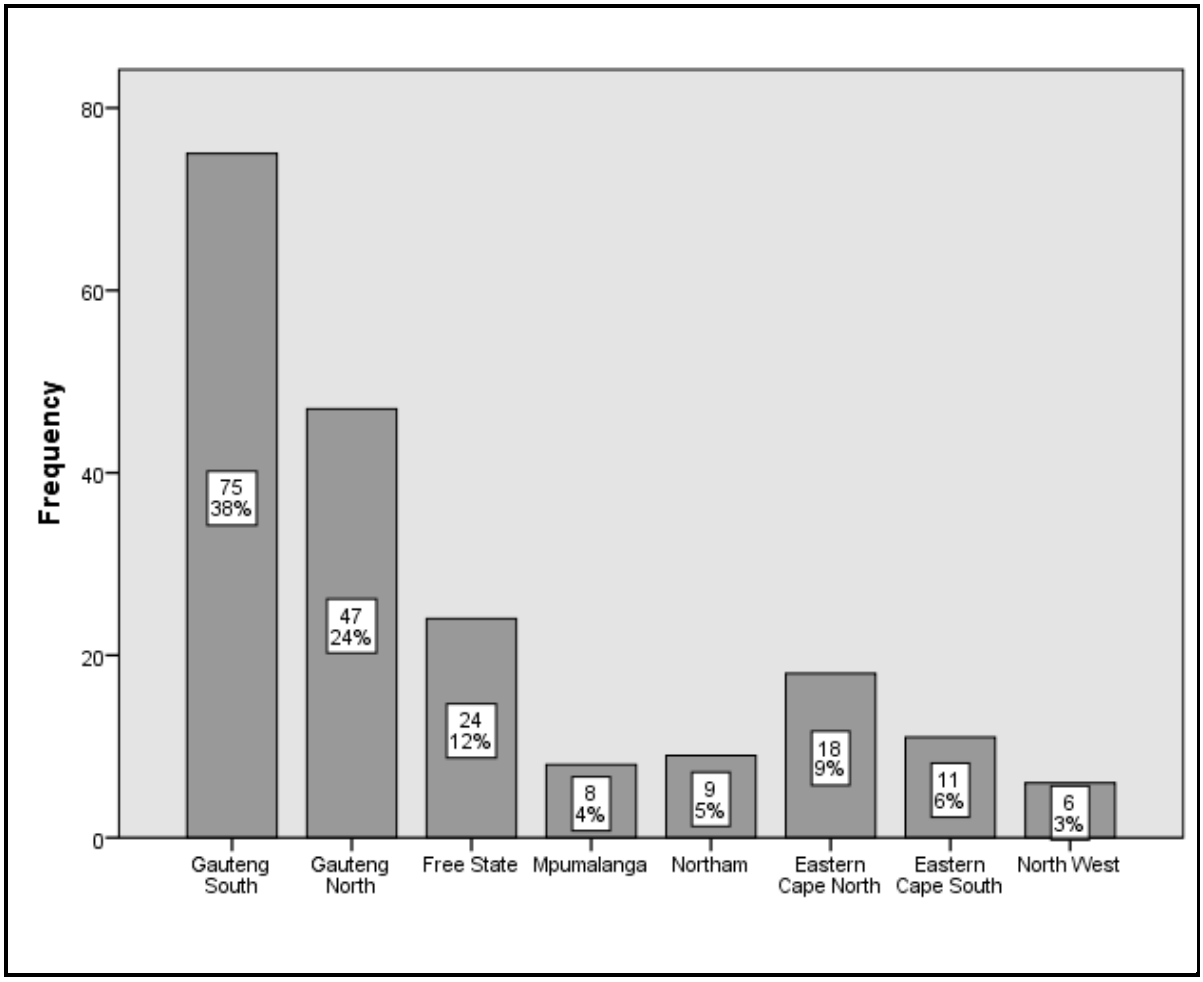


Figure 5.4: Region of work

5.4.2. Knowledge of key products

Objective 1; Determine the level of financial literacy of junior permanent bank employees in South Africa;

The first objective of this study was to determine the level of financial literacy of junior permanent bank employees in South Africa. The results presented in Table 5.4 below provide information on whether or not the participants understood the questions that were asked in relation to knowledge of key products and concepts. In testing the participants'understanding of each question, the two options (Yes or No) were given to answer the questions. Each incorrect response given by the participants was coded 0 (0 = Not knowledgeable) while each correct response given was coded 1 (1 = knowledgeable) in the SPSS statistical program.

		Frequency	Percentage	Valid percentage	Cumulative percentage
You have the right to a free credit report					
Valid	Not knowledgeable	77	38.9	38.9	38.9
	Knowledgeable	121	61.1	61.1	100.0
You have the right to a free credit report once per month					
Valid	Not knowledgeable	90	45.5	45.5	45.5
	Knowledgeable	108	54.5	54.5	100.0
You have the right to miss up to six payments in a yearly cycle					
Valid	Not knowledgeable	87	43.9	43.9	43.9
	Knowledgeable	111	56.1	56.1	100.0
Having telephonic reminders on regular basis is a good thing					
Valid	Not knowledgeable	75	37.9	37.9	37.9
	Knowledgeable	123	62.1	62.1	100.0

Table 5.5: Knowledge of key products and concepts

The frequency statistics in Table 5.4 indicated that 61% of the participants reported that they were knowledgeable that they have the right to have a free credit report. From the 198 participants, approximately 55% were knowledgeable that they have the right to a free credit report once per month. In terms of repayment, 56.1% of the participants were knowledgeable that they have the right to miss up to six months in a yearly cycle. Approximately 62% indicated that having telephonic reminders on regular basis is a good thing. The responses on all the questions testing the knowledge of key products and concepts indicate that junior bank employees are financially literate.

5.4.3. Knowledge of consumer rights

		Frequency	Percent	Valid Percent	Cumulative Percent
You have the right to five quotes before you take credit					
Valid	Not knowledgeable	84	42.4	42.4	42.4
	Knowledgeable	114	57.6	57.6	100.0
You have the right to full explanation of your credit agreement					
Valid	Not knowledgeable	85	42.9	42.9	42.9
	Knowledgeable	113	57.1	57.1	100.0
You have the right to full explanation of fees and interest rates					
Valid	Not knowledgeable	76	38.4	38.4	38.4
	Knowledgeable	122	61.6	61.6	100.0
You have the right to have your debt rescheduled or restructured					
Valid	Not knowledgeable	94	47.5	47.5	47.5
	Knowledgeable	104	52.5	52.5	100.0
You have the right to challenge your personal information at the credit bureau					
Valid	Not knowledgeable	85	42.9	42.9	42.9
	Knowledgeable	113	57.1	57.1	100.0
You may apply for counselling for your debt					
Valid	Not knowledgeable	79	39.9	39.9	39.9
	Knowledgeable	119	60.1	60.1	100.0
Consolidating your debt makes financial sense					
Valid	Not knowledgeable	97	49.0	49.0	49.0
	Knowledgeable	101	51.0	51.0	100.0

Table 5.5: Consumer rights

Based on results in Table 5.5, approximately 58% (n = 114) of the participants were aware that they have the right to five quotes before one takes credit. Correspondingly, 57% (n = 113) of the bank employees surveyed were knowledgeable that they have the right to full explanation of their credit agreements as well as the right to challenge their personal information at the credit bureau. Nearly 62% (n = 122) of the respondents were aware of their right to full explanation of fees and interest rates while 60% (n = 119) are knowledgeable that one may apply for debt counselling. Nonetheless, only 51% (n = 101) of the participants were knowledgeable that consolidating debt makes financial sense.

5.4.4 Level of indebtedness

Objective 2: Determine the level of indebtedness of junior permanent bank employees in South Africa;

In the second objective, the study sought to determine the level of indebtedness of junior permanent bank employees in South Africa. The frequencies in Table 5.6 indicate that 86% (n = 171) had no credit arrangements with any service provider while the remaining 14% (n = 27) had credit arrangements up to the time the survey was conducted. The results given below reveal that the majority of the permanent junior bank employees were not in debt. The credit arrangements covered during the study included cell phone contracts, loans from numerous sources, store accounts and vehicle financing through a bank loan.

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Credit arrangement absent	171	86.4	86.4	86.4
	Credit arrangement present	27	13.6	13.6	100.0
	Total	198	100.0	100.0	

Table 5.6: Debt level

5.5 Descriptive statistics

This section presents descriptive statistics on how the participants make their financial decisions in respect of their financial behavior and attitudes. The options given to provide answers to the questions on the research instrument were based on a four-point Likert scale: 1 = seldom; 2 = sometimes; 3 = agree to a certain extent; and 4 = strongly agree.

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
I pay my bills on time	198	3.22	.060	.848
I keep a close personal watch on my financial affairs	198	3.08	.073	1.027
I set long term financial goals and strive to achieve them	198	2.74	.076	1.072
Valid N (listwise)	198			

Table 5.7: Financial behaviour and attitudes

Results in Table 5.7 indicate that the participants on average agreed to a certain extent that they pay their bills on time (mean = 3.22), keep a close personal watch on their financial affairs (mean = 3.08), and set long-term financial goals and strive to achieve them (mean = 2.74 ~ 3.00). With the exception of the first item, the standard deviations show moderate dispersions of the data. The other six questionnaire items under this construct/dimension were eliminated when the exploratory factor analysis (EFA) procedure was performed due to the low factor loading scores (loading < 0.4) they distinctly displayed Suhr,(2010).

The three questions on which the descriptive statistics were provided in table 5.7 above are the only ones that were statistically significant in explaining respondents' financial attitude and behavior based on the KMO iteration process.

5.6 Estimation of empirical results: Binary logistic regression

Based on the base rates of the two self-reported debt level status outcomes (credit arrangement being either present or absent) with no other information provided, the classification statistics in Table 5.8 reveal that it could be correct 13.6% (27/198) of the time that a selected junior bank employee could be in debt. In other words, 13.6% of the observed participants in debt were correctly classified. Inversely, approximately 86.4% of the junior bank employee participants surveyed was not in financial debt.

-2 Log likelihood			274.486		
Observed			Predicted		
			Debt level		Percentage correct
			Credit arrangement absent	Credit arrangement present	
Debt level	Credit arrangement absent		0	171	0.0
	Credit arrangement present		0	27	100.0
Overall percentage					13.6

Table 5.8: Step 0 – Iteration history and classification summary[a, b]

a. Constant not included in the model

b. The cut value is 0.5

Based on the base rates of the two self-reported debt level status outcomes (credit arrangement being either present or absent) with no other information provided, the classification statistics in Table 5.8 reveal that it could be correct 13.6% (27/198) of the time that a selected junior bank employee could be in debt. In other words, 13.6% of observed participants in debt were correctly classified. Inversely, about 86.4% of the junior bank employee respondents surveyed were not in financial debt.

Observed			Predicted		
			Debt level		Percentage Correct
			Credit arrangement absent	Credit arrangement present	
Debt level	Credit arrangement absent		164	7	95.9[d]
	Credit arrangement present		27	0	0.0[e]
Overall Percentage					*82.8*

Table 5.9: Step 1 – Classification summary [c]

c. Constant not included in the model

d. Sensitivity at the cut value 0.5

e. Specificity at the cut value 0.5

Based on results in Table 5.9, the improvement in the overall percentage from 13.6% in Step 0 to 82.8% in Step 1 of correctly classified participants with no debt (credit arrangement absent) indicate the significance of including financial literacy (knowledge of key products and concepts, and consumer rights) and financial behaviour and attitudes in the model as predictors. Therefore, financial literacy, and financial behaviour and attitudes are significant predictors of the debt level status given that adding the two respective predictors to the model significantly increased the power to predict the outcome of debt level status. The results on sensitivity indicate that 95.9% of the junior bank employee respondents with no debt (credit arrangement absent) were correctly classified. Specificity results reveal that 0.0% of the participants with debt (credit arrangement present) were correctly classified. The summary model fit statistics were given by the change in the -2 Log likelihood, Cox and Snell R-square and Nagelkerke R-square statistics.

-2 Log likelihood	Cox and Snell R-square	Nagelkerke R-square
131.020[f]	0.515	0.687

Table 5.10: Model summary[f]

f. Estimation terminated at iteration number 5 because parameter estimates changed by less than 0.001.

The decrease in -2 log likelihood from 274.486 in Step 0 to 131.020 in Step 1 (Table 5.10) indicates improvement in the predictive power of the model. Based on the Cox and Snell R square, approximately 15.5% overall variation in debt status was accounted for by financial literacy, and financial behaviour and attitudes. Alternatively, the Nagelkerke R^2 indicates that approximately 68.7% overall variation in debt level status was accounted for by financial literacy, and financial behaviour and attitudes up to the time the survey was conducted. Proceeding further, the Omnibus test of model coefficients, and the Hosmer and Lameshow test were performed to evaluate both the model fit and its significance (Table 5.11).

Test Statistic	Chi-square	df	Sig.
Omnibus test of model coefficients	143.466	2	0.000
Hosmer and Lameshow test	12.559	4	0.014

Table 5.11: Statistical tests for model goodness-of-fit

Given that χ^2 = 14545.615 (274.486 – 131.020) in the Omnibus test of model coefficients, the -2 log likelihood statistic for the null model was 274.486 (= 131.020 + 143.466). Therefore, the null hypothesis tested by the Omnibus test of model coefficients that adding financial literacy, and financial behaviour and attitudes variables did not significantly increase the power to debt status was rejected. Dividing subjects into deciles based on predicted probabilities, the Hosmer and Lameshow χ^2 (1) statistic (= 12.559; $p < 0.05$) computed from the observed and expected frequencies shows that the model with a predictor provided a better fit than the null model. Therefore, non-rejection of the null hypothesis (based on the Hosmer and Lameshow test) that predictions made by the model fit perfectly with observed group memberships confirm that financial literacy, and financial behaviour and attitudes were indeed significant predictors of debt level status up to the time the survey was actually conducted.

Research objective 3: The link between financial behaviour and levels of household debt among junior permanent bank employees

Based on the sensitivity results that approximately 96% of the junior bank employees were classified as having no debt. The estimated exponentiated beta of 0.369 presented in Table 5.12 show that the financial behaviour and attitudes of surveyed junior permanent bank employees respondents had a statistically significant (Wald-statistic = 37.888; $p < 0.05$) but negative relationship (exp β = 0.369) with their levels of debt. The odds ratio less than a unit reveals a negative relationship between the variables, while an odds ratio equal to unit reflects no relationship at all, and an odds ratio greater than unit shows existence of a positive relationship between variables.

	β	S.E.	Wald	df	Sig.	Exp(β)	95% C.I. for Exp(β)	
Financial behaviour and attitudes	-0.996	0.162	37.888	1	0.000	0.369	0.269	0.507

Table 5.12: The link between household debt and financial behaviour and attitudes – binary logistic regression

Research objective 4: The link between financial literacy and levels of household debt among junior permanent bank employees.

The odds ratio result presented in Table 5.13 indicate evidence of a statistically significant (Wald statistic = 5.261) and positive (exp β = 3.009) relationship between financial literacy and the level of household debt among the among the surveyed junior permanent bank employees. Due to the respondents' relative general financial literacy level, the estimated odds of 3.009 indicate that the surveyed respondents are 3 times likely to be in sound financial position than being in debt. In relation to theory, bad financial behaviour and attitudes significantly lead to increased debt levels McKenzie; 2009 and Letkiewicz, (2012).

	β	S.E.	Wald	df	Sig.	Exp(β)	95% C.I. for Exp(β)	
Financial literacy	1.102	0.480	5.261	1	0.022	3.009	1.174	7.716

Table 5.13: The link between household debt and financial literacy–binary logistic regression

	β	S.E.	Wald	df	Sig.	Exp(β)	95% C.I. for Exp(β)	
Financial literacy	1.102	0.480	5.261	1	0.022	3.009	1.174	7.716
Financial behaviour and attitudes	-0.996	0.162	37.888	1	0.000	0.369	0.269	0.507

Table 5.14: Variables in the equation – binary logistic regression results

The analysis in Table 5.12 above makes use of odds ratios. An odds ratio (OR) is a measure of association between an exposure and an outcome. The exposure in this scenario is the financial literacy level while the outcome is the level of debt. The odds ratios (Table 5.12) computed by exponentiating the estimated beta coefficients are all statistically significant at 5% level and lie within the respective 95% confidence intervals. Based on the sensitivity results that approximately 96% of the junior bank employees were classified as having no debt, the estimated exponentiated beta of 3.009 (Wald statistic = 5.261; $p < 0.05$) shows that the high financial literacy level of respondents significantly influence the level of debt.

Results therefore indicate a statistically significant relationship between financial literacy and debt level. In this study, high financial literacy level significantly reduced debt levels among junior bank employees. Due to the participants' relative general financial literacy level, the estimated odds of 3.009 indicate that the surveyed junior bank employee participants are 3 times likely to be in sound financial position than being in debt. Nonetheless, results indicate a statistically significant (Wald statistic = 37.888; $p < 0.05$) negative relationship ($\exp \beta = 0.369$) between financial behaviour and attitudes, and the level of debt. In relation to theory, bad financial behaviour and attitudes significantly lead to increased debt levels (McKenzie; 2009 and Letkiewicz, 2012).

5.7: Conclusion

This chapter discussed the results obtained from the statistical analysis undertaken on the relationship between financial literacy and debt level; and financial behaviour and attitudes and debt level among junior bank employees in South Africa. Factor analysis and scale reliability analyses were first performed to test for structural validity and internal consistency of the research survey items prior to undertaking logistic regression analysis. Based on the

KMO MSA and Cronbach's alpha values, the research instrument was valid to draw the results of the study. The frequencies and descriptive statistics of the retained factors were presented to indicate the responses of participants. To test the significance of the relationship between financial literacy and debt level; as well as the relationship between financial behavior and attitude and debt level, binary logistic regression analysis was performed. Results indicate that the predictor variables had significant relationships with debt levels.

The analysis above indicates that financial behaviour and attitudes of surveyed junior permanent bank employees in South Africa had a statistically but negative relationship with household debt. We would therefore reject the null hypotheses (H0) that there is no supported relationship between financial behaviour and household debt levels among junior bank employees in South Africa. Instead we will accept the alternative hypotheses (H1) that there is a supported relationship between financial behaviour and household debt levels among junior bank employees in this particular bank. This is consistent with a number earlier researchers that include Brown, Collins, Schmeiser and Urban (2014) quoting Lusardi and Mitchelle (2014,2007), Lusardi et al.,(2010) , Lusardi and Tufano (2009), Meier and Sprenger (2010) and Van Rooij et al,. (2012) in which they reiterated that indebtedness was associated with certain financial behaviours and attitude that included lower rates of planning for the retirement, lower rates of asset accumulation, using high cost financial services and less participation on the stock market.

This study has also revealed that there is a statistically significant relationship between financial literacy and debt among the surveyed permanent South African junior bank employees. We would therefore reject the null hypotheses (H0) that there is no supported relationship between financial literacy and household debt among junior bank employees but accept the alternative hypotheses (H1) that there is a supported relationship between financial literacy and household debt among junior bank employees in this particular bank. These findings are consistent with earlier researches by Lusardi and Tufano (2009) in which they concluded that there was a link between "debt literacy" (which is a component of financial literacy) and indebtedness. In support of this view are also Cole and Zia (2010) who reiterated that greater financial literacy can be an important component in efforts to increase saving rates and reducing indebtedness.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter provides conclusions and recommendations of the study on the levels of individual debt in relation to respective corresponding degrees of financial literacy among junior permanent bank employees of Ubank limited in South Africa. The chapter commences with the background to the study, research problem and research objectives. It then presents a summary of literature underpinning the study as well as a summary of the findings from the study, followed by the conclusion and recommendations for further studies.

In South Africa, the relationship between household debt levels and financial literacy has attracted major attention in the realm of financial management. SARB reported that household debt as a ratio of disposable income averaged 47.3% during the period 1969 to 1994. During the period 1995 to 2013, the household debt-to-disposable income ratio increased to an average of 68.3%, representing an increase in household indebtedness (SARB, 2015). The primary factors driving such increase in household debt-to-disposable income levels include rising unemployment, inflation and labour market tensions, low levels of household financial literacy, poor financial planning and poor financial behaviour.

Attached with the financial recession, high unemployment levels in the country and lack of financial literacy, the household debt-to-disposable income levels in the country reached 84.7% in 2007 before gradually declining to nearly 78.3% in 2014 SARB,(2014). During the respective periods, the number of distressed consumers or households with impaired credit records was reported as increasing on an annual basis. As a result of low levels of financial literacy and poor financial behaviour and attitudes, most households subjected themselves to high levels of debt. Until recently, the majority of South African households were experiencing the effects of the 2008 global financial meltdown, although the country has been commended for its sound banking regulatory and compliance measures, which indeed helped to mitigate the effects of the respective financial recession.

It is in light of this background that skills in financial planning have been noted to be more important than before, as the financial arena is ever-changing and offers complex products.

The 2008 global recession is evident of this development, making it essential for the majority of clients to be educated on financial products and other terms that could affect their debt levels. The OECD (2008) defines financial literacy as “knowledge and understanding of financial concepts, skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in the economic life profile”. Consistent with this definition, it has been noted that financially illiterate individuals can make incorrect financial decisions that can lead to debt trap.

6.2 Summary of background of the study, research problem and objectives

PISA (2012) emphasises that financial literacy is an important factor that determines household debt levels. The consumer survey by FinScope in 2012 further designates that many South African consumers are in a debt spiral and hence there is need for strong interventions to reduce their debt. Due to lack of financial literacy, many household consumers have been noted to be in the high risk segment of making bad financial decisions that lead to unmanageable levels of household debt and bankruptcy. Given that financial literacy is like a cancer, if not addressed properly it has far-reaching implications for both governments and individuals, which can lead to the collapse of the financial system.

The objectives of this study were to:

- Determine the level of financial literacy of junior permanent bank employees in South Africa;
- Determine the level of indebtedness of junior permanent bank employees in South Africa;
- Examine the link between financial behaviour and levels of household debt among junior permanent bank employees; and
- Examine the link between financial literacy and levels of household debt among junior permanent bank employees.

6.3. Summary of literature

Louw (2009) and Shuttleworth (2011) regard financial literacy as the skill to which individuals possess financial knowledge and understanding and their ability to make use of the same to make informed financial decisions. Likewise, Jorgensen and Salva (2010) regard financial literacy as individuals’ capacity to study and understand personal financial matters or situations in order to better manage their financial affairs. The respective definitions strongly reflect that adequate financial knowledge enables individuals to make sound and effective

financial decisions. Chinen and Endo, (2012).Hake and Urvova (2013) regard household debt as the debt incurred in the household sector of the economy. In essence, household debt is an obligation or liability that arises from borrowing money or taking goods or services on credit, that is, against an obligation to pay later in the future. It is therefore important to note that household debt may contain a component of corporate debt that is not factored into the measurement of household debt. In South Africa, many households choose to set up a close corporation to own their fixed property, rather than to own it directly. Should a loan be required to acquire such property, it would generally be a loan to the close corporation, which forms part of the corporate sector.

Generally, from a global standpoint, the level of debt has increased substantially relative to individual or household incomes as a result of low levels of financial literacy. Borrowing from Prinsloo (2002), the ratio of personal debt-to-disposable incomes provides an effective indicator of the levels of financial literacy in terms of individuals' capacity to manage their financial affairs under different personal financial conditions. In South Africa, personal debt fluctuated between 75.4% and 83% throughout the period 2009–2013. From a macro-prudential viewpoint, Louw (2009) indicates that such personal debt trends reflect the degree to which individuals are financially literate in relation to financial knowledge. Studies that are consistent with Louw (2009) include Mandell and Klein (2009), Barnard et al. (2010), Shuttleworth (2011), Ansong and Gyensare (2012), Botha et al. (2012), Carlin and Robinson (2012), Bobo (2007) and Deventer (2013).

According to McKenzie (2009), financial literacy levels have been reported to have no impact on debt levels, with the finding being explored with respect to credit cards and student loans among US university students. Nonetheless, McKenzie (2009) acknowledges that a financially literate person can also make incorrect financial decisions that can lead to a debt trap. This view conveys the important element of behaviour of an individual even though he or she may be equipped with the necessary skills, hence the consumer may not always make better financial decisions.

Piprek et al. (2004) report that different financial education and literacy programmes undertaken by NGOs, employers and financial institutions revealed that most South Africans remain underserved by programmes offering financial education. In another study by Louw (2009), it was found that it is necessary for the definition of financial literacy to include the concept of behaviours such as paying bills on time, having manageable levels of credit, setting financial goals and having a way of achieving those goals through saving, investing and spending wisely. The other study that supports this finding is that of Lusardi and Mitchell

(2007), which concluded that the more financial literate a person becomes, the more likely that person becomes able to plan for retirement from formal employment.

Lusardi and Mitchell (2010) also conducted a study among older Americans and concluded that financial knowledge and planning are indeed interrelated. Therefore, keeping track of spending and budgeting appears conducive to retirement saving. Although the study's focus group was older Americans, it was also necessary to cover for junior employees in particular those employed in the banking sector in a developing country. Atkinson and Messy (2012) indicate that although most people have basic financial knowledge, understanding other financial concepts is still a challenge. The study established an association between attitude and behaviour and found that people with positive attitude towards the longer term are more likely to be exhibiting good financial behaviours than those with a preference for the short term, especially when it comes to savings.

Letkiewicz (2012) observed a significant relationship between conscientiousness and financial outcomes. The study concluded that financial literacy programmes should simultaneously focus on both financial education and consumer behaviour towards their financial affairs rather than separately. In support of the finding by Letkiewicz (2012), Lusardi (2008) found that understanding the basic mechanics of debt is limited among the elderly, certain minorities, as well as people with lower incomes. Following Roberts et al. (2012), a study by Snyman (2014) on financial literacy in South Africa revealed that approximately 44% of households experience some difficulty in meeting their spending commitments relative to their disposable incomes.

Paile (2013) postulates that households who experience budget constraints in striking a balance between their incomes and spending levels supplement their financial positions by making choices that vary across borrowing from friends, family or financial institutions, cutting down on some of their expenses and depleting their financial savings. In a similar study by Roberts et al. (2012), households are reported to have been characterised by the ability to understand how inflation and compounding interest affect their financial decisions. Furthermore, Lusardi (2008) report that numerous households entrapped themselves in high debt levels due to lack of understanding of debt contracts, interest and how numerous credit facilities operate.

Another study conducted by Jappelli and Padula (2011) reported that financial literacy and savings are positively correlated. Conclusions can be drawn from here that individuals or households that do not have sufficient levels of financial literacy have higher probabilities of

vulnerability to vicious cycles of debt and are more disposed to over-indebtedness. A descriptive study by Roberts et al. (2012) revealed that from the sample surveyed in South Africa, approximately 67% of the households had no emergency funds, while only 29% had emergency funds and 4% indicated having no knowledge of what emergency funds are.

6.4. Summary of the results

Frequency statistics were computed for the primary dimensions, namely knowledge of key products, knowledge of consumer rights and level of indebtedness. With regard to knowledge of key products, the frequency statistics indicated that 61% of the participants reported that they are knowledgeable that they have the right to have a free credit report. Congruently, approximately 55% reported that they are knowledgeable that they have the right to a free credit report once per month, and 56.1% revealed they are knowledgeable that they have the right to miss up to six months' payments in a yearly cycle. Nearly 62% indicated that having telephonic reminders on regular basis is a good thing. The responses on all the questions testing the knowledge of key products and concepts indicate that junior bank employees are financially literate.

In respect of knowledge of consumer rights, approximately 58% of the participants indicated that they are aware that they have the right to five quotes before one takes credit. Correspondingly, 57% of the participants revealed that they are knowledgeable that they have the right to full explanation of their credit agreements as well as the right to challenge their personal information at the credit bureau. Furthermore, nearly 62% of the participants reported that they are aware of their right to full explanation of fees and interest rates, whereas 60% were knowledgeable that one may apply for debt counselling. However, 51% of the participants indicated that they are knowledgeable that consolidating debt makes financial sense.

Regarding level of indebtedness, the frequency statistics indicate that 86% had no credit arrangements with any service provider, whereas the remaining 14% reported that they had credit arrangements up to the time the survey was conducted. Therefore, the majority of the permanent junior bank employees were found to be not in debt on the basis of the minimum credit arrangements they reported that they had. The credit arrangements covered during the study include cell phone contracts, loans from numerous sources, store accounts and vehicle financing through a bank loan.

Based on the descriptive statistics, the participants generally agreed to a certain extent that they pay their bills on time; keep a close personal watch on their financial affairs and set

long-term financial goals and strive to achieve them. The binary logistic regression sensitivity component results showed that approximately 96% of the junior bank employees were classified as having no debt and the estimated beta of 3.009 showed that financial literacy levels significantly influence the level of debt. This signified a statistically significant relationship between financial literacy and debt level. In this study, the computed odds ratios revealed that high financial literacy reduced debt levels among junior bank employees .Due to the participants 'generally high level of financial literacy, the estimated odds of 3.009 showed that the surveyed junior bank employees were three times more likely to be in sound financial positions than being in debt. Nonetheless, the results exhibited a statistically significant negative relationship between financial behaviour and attitudes and the level of debt among the permanent junior bank employees surveyed in this study.

6.5. Limitations of the study

Some limitations were encountered during the course of conducting this research study. As the analysis of the relationship between financial literacy and level of debt among junior permanent bank employees is a relatively new phenomenon, quite limited literature on this subject was found. Most of the available literature from previous studies focused mainly on the effect of financial education on household debt levels. In this study, the primary focus of analysis was anchored on the relationship between financial literacy and level of debt among junior permanent bank employees. The substantial inadequacy of the existing literature presented limitations to the researcher in terms of comparing the results of this study with those of similar previous studies.

Finding potential permanent junior bank employees who were willing to participate in the study was a complex and time-consuming exercise. Against this background, a large number of procedures had to be followed to obtain permission to collect data from the relevant participants. Moreover, although the sample used for this study was of a statistically reasonable and acceptable size, the sample size was not quite adequate in relative terms to make inferences and draw generalised conclusions on a larger scale about the relationship between financial literacy and level of debt among junior permanent bank employees. The results of the study were confined to participants that were drawn from particular regions of the country.

One critical limitation of this study was that it was restricted to junior permanent bank employees. This was largely because of time and cost constraints. This makes it hard to generalise the results to other types of consumers outside of the banking sector. The chosen

sample was not representative of the entire population but focused on a selected sample for this reason mentioned above however the desire to extend the study to a larger population is highlighted in the recommendations below.

6.6. Recommendations for further research

This section provides recommendations based on the findings of this research study. The recommendations are made in consideration of the view that financial literacy of the population remains crucial for sound functioning of the country's financial system and the economy as a whole. In light of the results of this study, a number of recommendations are proposed.

Financial literacy education programmes need to be conducted through educators, community groups, businesses, government agencies, organisations and policy makers. Education and knowledge dissemination programmes should be aimed at generating positive attitudes towards personal financial planning, such as the financial planning process, credit planning, insurance planning, investment planning and estate planning. As such, financial institutions, including banks, insurance companies, investment companies and any other institution involved in personal finance, should take part in such programmes.

By establishing personal financial management platforms, assistance can be provided to consumers in viewing their combined balances from various financial institutions on dashboards. Such initiatives can subsequently assist consumers with budgeting and controlling spending, and therefore with the attainment of financial goals. To address the limitation of small sample size, further research studies on this subject should draw large numbers of suitable participants to enhance reliable generalisation of the results.

6.7. Conclusion

This study aims to establish if there was any relationship between financial literacy and indebtedness among junior permanent bank employees .Two hypothesis were crafted for the study; one that stated that “there was no supported relationship between financial literacy and indebtedness” and the other “there was no supported relationship between financial behaviour and attitudes and indebtedness. The results of research revealed that there was a statistically significant relationship between financial literacy and indebtedness. The same can be said as well the relationship between financial behaviours and attitude and indebtedness, it is statistically significant too. These findings can be helpful in a number of ways. In situations especially where debt amongst people is high, the best way of reducing it is by improving on financial literacy of the people concerned. Another important finding from the research was how previous researchers were diverse in terms of their definition of financial literacy. What determined the definition of financial literacy by a researcher were the aspects or components that the researcher intended to reveal. Klapper, Lusardi and Panos (2012) deemed financial literacy to include such variables as numeracy, knowledge of interest compounding, understanding of inflation as well as use of financial services for example the use of bank accounts. The definition given In this case would then be critical in determining how the measurement of financial literacy would be carried out. There is no consensus on definition and therefore no consensus on the measurement. In this research, the researcher had to adopt a definition and therefore a measurement approach that was consistent with the variables that the researcher intended to reveal.

With debt becoming an issue among South African citizens, the results of this research (though limited to a specific type of consumers) could be useful. To reduce debt in the republic, it is important that policy makers target financial literacy. Programmes could be put in place that seeks to teach the general population about financial literacy and its importance in reducing debt. In other words, to reduce debt, one needs to be financially literate.

Appendices

1.1QUESTIONNAIRE

SECTION I: BACKGROUND INFORMATION

1.1. Please indicate your gender.

Male ----------	1
Female ----------	2

1.2. Please indicate the age (years) group you fall under.

18 – 29 ----------	1
29 – 39 ----------	2
40 – 50 ----------	3
51 and above ----------	4

1.3. Please indicate the net income category you fall under.

Less than R3 832 ----------	1
R3 833 to R4 833 ----------	2
R4 834 to R5 833 ----------	3
R5 834 to R7 833 ----------	4
R7 834 to R10 834 ----------	5
R10 835 to R14 835 ----------	6
R14 836 and above ----------	7

1.4. Please indicate your level of education.

Below matric ----------	1
Matric/ Grade 12/ STD 10 ----------	2
Post-matric diploma/certificate ----------	3
Bachelor's degree ----------	4
Honours degree and above ----------	5

1.5. Please indicate the region you work in.

Gauteng South ----------	1
Gauteng North ----------	2
Free State ----------	3
Mpumalanga ----------	4
Northam ----------	5
Eastern Cape North ----------	6
Eastern Cape South ----------	7
North West ----------	8

SECTION II: FINANCIAL LITERACY MODULE

2.1.	**Day to Day Money Management**	**Yes**	**No**
2.1.1.	Does your household have a budget?	1	2
2.1.2.	If you answered yes to the question above, do you stick to the budget drawn-up?	1	2
2.2.	**Financial Planning**	**Yes**	**No**
2.2.1.	In the last 12 months, have you been saving money in any of the following ways?	1	2
	Retirement via employer	1	2
	Stokvel or saving club	1	2
	Investment product with bank or financial provider	1	2
2.3.	**Knowledge of Products and Key Concepts** **Please indicate whether the following scenarios are true or false**	**True**	**False**
2.3.1.	You have the right to a full credit report	1	2
2.3.2.	You have the right to a full credit report once per month	1	2
2.3.3.	You have the right to miss up to six payments in a yearly cycle	1	2
2.3.4.	Having your loan provider phone you regularly to remind you of your debt is a good thing	1	2

2.4.	**Consumer Rights** **Please indicate whether the following scenarios are true or false**	**True**	**False**
2.4.1.	You have the right to five quotes before you take credit	1	2
2.4.2.	You have the right to a full explanation of your credit agreement	1	2
2.4.3.	You have the right to a full explanation of fees and interest that will be charged	1	2
2.4.4.	You have the right to have your debt rescheduled or restructured	1	2
2.4.5.	You have the right to challenge your personal information on the credit bureau or register	1	2
2.4.6.	You have the right to apply for counselling on your debts	1	2
2.4.7.	Consolidating your debt makes financial sense	1	2

SECTION III: FINANCIAL BEHAVIOUR AND ATTITUDES

This section aims to establish how you make financial decisions.					
3.	**Please use a scale of 1to 4 to indicate your response**	**Seldom**	**Sometimes**	**Agree to a certain extent**	**Strongly agree**
3.1.	Before I buy something, I carefully consider whether I can afford it	1	2	3	4
3.2.	Before taking out finance, I shop around from different financial providers	1	2	3	4
3.3.	I tend to live for today and let tomorrow take care of itself	1	2	3	4
3.4.	I find it more satisfying to spend money that to save it for the long term	1	2	3	4
3.5.	I pay my bills on time	1	2	3	4
3.6.	I am prepared to risk some of my own money when saving or making an investment	1	2	3	4
3.7.	I keep a close personal watch on my financial affairs	1	2	3	4
3.8.	I set long term financial goals and strive to achieve them	1	2	3	4
3.9.	Money is there to be spent	1	2	3	4

SECTION IV: LEVELS OF DEBT/DEBT MANAGEMENT

4.	**Indicate if you have any of the following by ticking Yes or No**	**Yes**	**No**
4.1.	Cell phone contract	1	2
4.2.	Loan you borrowed from a friend	1	2
4.3.	Personal loan from a bank	1	2
4.5.	Personal loan from a micro lender	1	2
4.6.	Personal loan from other places like Woolworths	1	2
4.7.	Lay by at a store	1	2
4.8.	Store account where you have no card but still need to pay	1	2
4.9.	Loan from a stokvel or savings club	1	2
4.10.	Loan from Mashonisa or informal lender	1	2
4.11.	Vehicle finance through a bank	1	2
4.12.	Vehicle finance through a micro lender or Mashonisa	1	2

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