

Exploring financial literacy and debt levels of middle class households in Ngaka Modiri Molema District, South Africa

by

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DECLARATION

I, Mogomotsi Gift Matebele, declare that the mini-dissertation entitled: **"Exploring financial literacy and debt levels of middle class households in Ngaka Modiri Molema District, South Africa"**, hereby submitted for the degree, Master of Business Administration in the Faculty of Commerce and Administration, North-West University, Mafikeng Campus, has not previously been submitted by me for a degree at this or any other university. I further declare that this is my work in design and execution and that all materials contained herein have been duly acknowledged.

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Abstract

In South Africa, household debt among middle class families remains high despite government efforts to encourage savings and reduce debts. The situation is aggravated by inadequate financial literacy levels among middle class households. Previous studies that have explored the relationship between household debt levels and financial literacy were focus on national level but none was focused at the Ngaka Modiri Molema District (NMMD). The objective of the study was to explore financial literacy and households debts levels among middle class in Ngaka Modiri Molema District, South Africa. The study utilised primary data from middle class households using structured questionnaires on socio-economic, micro and macro factors related to households' debts as well as households' financial literacy levels. A sample of 60 middle class households were drawn from a total population of 600 middle class households in the district. Micro and macro-economic data on financial literacy and household debt from the World Bank were also used to support the primary data. The study used the Pearson Product Moment Correlation and Logistic Regression (Logit) techniques to measure the degree of association and the likelihood of each factor affecting household debts as a result of inadequate financial education. The study found that, Age, educational status, gender, marital status, and employment were some of the socio-demographic factors strongly associated with household debts as a result of inadequate financial literacy. Using logistic regression to ascertain the chances of micro and macro level indicators impacting on household debts as a result of inadequate financial literacy, repo rate increases was found to have a significant effect on household debt and a slight chance of influencing household debt at 0.48 at $p < 0.001$. Furthermore, unemployment was positively associated with household debt at a coefficient of 1.03, and at $p < 0.05$ while wages and salaries levels slightly affected household debt by a coefficient of 0.62, and at $p < 0.05$. The study recommends targeted policies by government and financial institutions aim at boosting financial literacy and encourage savings by middle class household members to contain the escalating household debt situation in the district.

Key words: Pearson Correlation, Product Moment Correlation Coefficient, Household debts, financial literacy, North West province, South Africa

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LIST OF ABBREVIATIONS AND ACRONYMS

CI	Confidence Interval
CPI	Consumer Price Index
GDP	Gross Domestic Product
GDS	Gross Domestic Savings
HPI	Household Price Index
LCH	Lifecycle History
MWP	North West Province
NMMD	Ngaka Modiri Molema District
OECD	Organisation of European Community Development
OR	Odds Ratio
SARB	South African Reserve Bank
SD	Standard Deviation
RSA	Republic of South Africa

CHAPTER ONE

1.0 INTRODUCTION

This chapter presents the background to the study, the problem statement, objectives of the study, research questions, justification of the study, limitations of the study and the organisation of the study. The level of financial literacy within households and debts among middle class households in Ngaka Modiri Molema District, North West Province, South Africa is also examined.

1.1 BACKGROUND OF THE STUDY

Over the past decades, household debt in South Africa has been affecting micro-economic growth and in the long-term, increasing poverty levels (Petersen *et al*., 2012; Masilela, 2012). Majority of households in South Africa are experiencing an increase in consumption and deficits in terms of savings. The existence of great competition and sophisticated market situations due to global economic reforms has raised serious concerns among different stakeholders and academia around the world on how consumers ought to familiarise themselves with new developments. Consequently, these deficits have resulted in an increase in household debt ratios, reduced purchasing power parity and declining disposable income (World Bank, 2015).

In sub-Saharan Africa, the economy of majority of countries has been growing slowly. The rapid changes in emerging markets brought about by the sophistication of global economic system, such as credit, has resulted in an economy driven by consumption. In an economy such as South Africa, households are left to make individual choices regarding their financial well-being. Financial literacy becomes very critical because it is important to know how equipped South African households are in order to make informed financial decisions. In making such decisions, critical questions that need to be asked are as follows: to what extent are South African citizens aware that the financial choices made today will determine their future financial well-being?; and are citizens aware that saving today could have a positive impact on growth and on the country's economy?

According to Refera *et al*. (2016), 'the recent trend in finance and economics made financial knowledge not just convenient, but an essential survival tool because a lack in financial knowledge leads to poor financial choice and decisions, which could result in undesired financial and economic consequences to individual, households and the economic growth of the country". Darley (2011) argues that recent developments in the global economy have revealed the absence of a good communication linkage between financial literacy education and savings culture. In South Africa, the situation is similar as most citizens spend their income on consumption rather than saving. This is contrary to the aged-old established conventional micro-economic approach to saving and consumption decisions as propounded by Modigliani and Brumberg (1954) and Friedman (1957) which established that an individual with informed financial knowledge, will consume less than his income in times of high earnings and save to support consumption when income falls.

The concept of financial literacy education enhances individual awareness, knowledge, skills, attitudes and behaviour required to make sound financial decisions to achieve personal financial well-being (Atkinson & Messy, 2012). In addition, financial literacy has been found to be a great determinant of savings among other factors (Van Rooij *et al.,* 2012). The absence of financial literacy among individuals often leads them into spending their income on less priority items that will not necessarily benefit their family members, and this could push their living expenses above their income. This will definitely lead to more debts for a household (Symanowitz, 2006; Refera *et al.,* 2016). Such atmosphere of debt does not give room for savings.

Households are solely responsible for their own financial security after retirement. However, the extent to which they are prepared to make informed saving decisions and plan for retirement, strongly depend on the level of their financial literacy (Lusardi, 2008). Thus, there a need for education on financial knowledge for households to make use of different facilities such as machines for payments, manage risks, credit, loan, save and invest for the future (Demirguc-Kunt & Klapper, 2013). Financial literacy education is a growing concern and there is need for national government to increase awareness and equip consumers with the right knowledge to suit the complexity of

recent emerging markets (Struwig & Plaatjes, 2013). Jonubi and Abad (2013) emphasise the need for government to promote financial literacy education among households by implementing various campaign programmes of financial education, which will further enhance saving rates at the national level. A global financial literacy rating shows that South Africa scored 42% on par with a number of developed countries and higher than many contemporary developing nations (Klapper *et al.*, 2015). A representation of financial literacy levels among the major emerging economies is shown in Table 1.1.

Table 1.1: Financial literacy of major emerging economies

Major emerging economies	**Rate of financial literacy**
Brazil	35
China	28
India	24
Russia	38
Republic of South Africa	42

Source: Adapted from Klapper *et al.* (2015). *Insights from the standard and poor's rating service global financial literacy survey*

The Table shows that the rate of financial literacy among adults in South Africa is better compared to other emerging economies such as Russia, India, China and Brazil (despite these countries having a larger GDP compared to South Africa). From the Table, despite higher levels of financial literacy among adults in South Africa compared to other emerging economies around the world, there is still a gap between education on financial literacy and savings culture of South African households (Symanowitz, 2006). In a study conducted by Mandell and Klein (2009) on household financial literacy levels in South Africa, it was found that individuals who take personal

financial management courses in high schools, tend to have a higher propensity to save compared to those with no training in financial literacy. Studies by other researchers have also shown that an increase in household savings, informed by proper financial management, has the potential to contribute significantly towards economic growth and development of a country as it reduces the nation's propensity to borrow externally (Amusa & Busani, 2013).

According to Mahlo (2011), the savings rate of South African households is declining and government and other financial institutions have been carrying out different campaigns on the need for households to save (Cronjé & Roux, 2010). This is because decreasing household savings in South Africa implies an increasing dependence on foreign capital inflows for investments, which normally, attracts exorbitant interest rates (Aron & Meullbauer, 2000).

Furthermore, there are very strong arguments to show that savings is beneficial to both the saver and national economic growth. However, there is clear evidence to show the gap between financial literacy education and the savings culture of South African households. Although this gap exists, compared to most emerging economies (similar to that of South Africa), the country ranks better compared to other economies around the world. However, South Africa occupies a very low position in terms of gross savings rate (World Bank, 2015) as shown in Table 2.

Table 1.2: Percentage of gross savings of selected economies around the world from 1996-2014

Countries/dates	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**	**2014**
Australia	21	22	21	22	22	22	22	23	25	24
Botswana	39	42	39	34	34	44	35	35	34	48
Brazil	13	12	13	15	18	17	17	19	17	16
China	40	40	36	40	46	50	52	51	50	49
India	23	23	25	26	33	35	34	34	32	31

Russian	27	17	36	29	31	31	32	27	28	23
South Africa	17	16	16	17	16	16	17	18	15	15

Source: Adapted from Data.worldbank.org/indicator
Note: Gross savings = GNI – C + TRF
Where, Gross National Income is GNI, Consumption is C and Transfers is TRF

According to Table 1.2, South Africa's gross savings is the lowest compared to other countries and growth in savings over this period was stagnant with an average of 16.3%, indicating a poor savings culture among South Africans. According to Odhiambo (2009), theoretically, countries with a higher savings rate, display higher levels of economic growth. Furthermore, there is a positive relationship between financial literacy, savings culture and economic growth and development and lack of financial literacy leads to a low savings culture (Lusardi, 2008; Jappelli & Padula, 2012). Low savings will in turn, reduce the level of growth in GDP (Bonham & Wiemer, 2013).

South Africa has not been spared by the economic changes faced by countries around the world and the Southern African region. For instance, in 2005, the country's economic growth declined from 5.3% per capita in 2005 to 1.3% in 2015 resulting in increased inflation rate from 3.5% in 2005 to about 4.6% in 2015. This also led to economic challenges as many households suffered from increased household debts obtained from financial and other micro-finance lending institutions. Meniago (2013) argues that household debts increased disproportionately to their earned income and in an increase in household poverty levels. With the widespread act of landing and borrowing, the government of South Africa enacted the National Credit Act in order to control, direct, protect and sensitise citizens on debt prevention burdens.

The growth of individual investment, which is a result from savings, in every country, reflects an increase in a country's GDP, thus, household savings drives the growth of investment in the long run (Amusa, 2014; Sithebe, 2014). There is a great challenge in the South African situation, where domestic saving ratio is on a continuous decline for some years now, resulting in a drop in GDP. This argument is confirmed in Figure1.1 which shows the relationship between GDP growth and savings ratio in South Africa from 2006 to 2016.

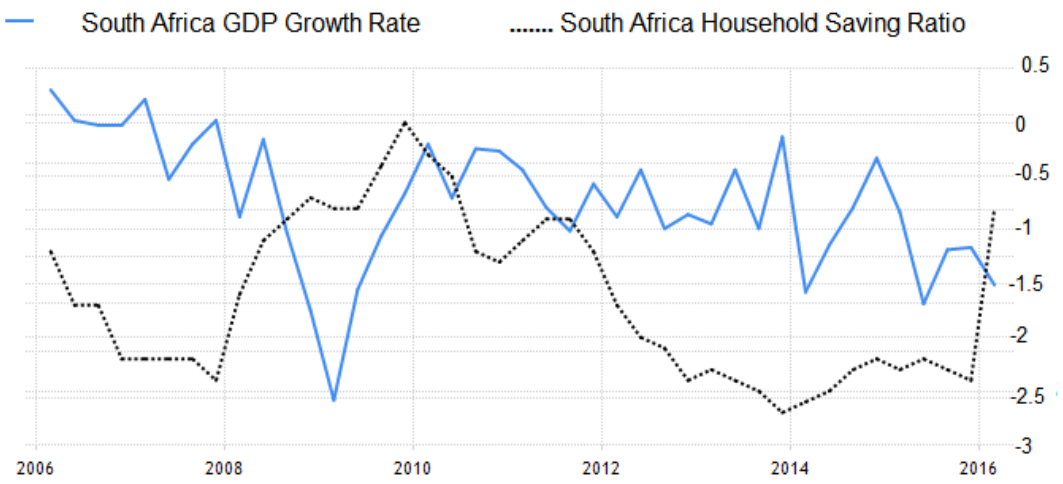


Figure 1:1 South Africa's GDP growth rate and household saving ratio

Source: Adapted from Tradingeconomics.com/statistics of South Africa 2016

Figure 1.1 shows the relationship between South Africa's GDP growth rate and household saving ratio for a decade. The trend shows that both the saving ratio and GDP has been on the negative trajectory for a continuous period, resulting in the decline in national economic growth and development.

Prinsloo (2000) argues that in order to achieve an improved economic growth and development, the aggregate saving rate in South Africa has to improve to 20 per cent and aggregate savings must constantly be above the GDP to support a sustained growth in real incomes of the majority of South African citizens. Considering the positive impact of the relationship between financial literacy, savings culture and savings rate on economic growth, the focus of this study is on exploring the linkage between financial literacy and debt levels.

Despite efforts by government and other financial institutions to reduce household debts and increase savings in South Africa, debt levels continue to rise while savings continue to show a declining trend. Bond (2013) argues that household debt is worsened by inflation resulting in lending institutions charging high interest rates. According to the South African Saving Institute (SASI, 2015), if individuals save, productivity will increase, thus leading to the creation of new jobs within the economy. The future prosperity of South Africa depends on individual contribution towards

investment. Every factory, shopping mall or structural project, requires investment capital to convert it from an idea into reality. The more South Africans save, the greater the pool of investment capital they will create. The more investment capital available, the more potential there is for the economy to grow and create jobs (SASI, 2015).

1.2 PROBLEM STATEMENT

In South Africa, most households spend their income on consumption rather than savings and debt levels remain stubbornly high. Refera *et al*. (2016) maintains that knowledge on financial literacy is an essential survival tool for citizens to make proper financial decisions and any undesired financial decision by individual households, will result in economic consequences and affect the economic growth of a country. Over time, literature survey on household debts in South Africa indicates that the current financial crises affecting the country are to some extent, a consequence of the debt situation of majority households (Masilela 2009). The situation has resulted in people relying on multiple credit facilities as the last resort in financing emergency household operational needs (Allen and Giovannetti, 2010). However, these studies have been largely theoretical and in most cases, taken a contextual approach and focusing on a particular perspective. Despite the relatively higher levels of financial literacy among adult South Africans compared to those of other emerging economies, majority of citizens are still not financially literate and savings among citizens remain low. Consequently, there are no studies that have explored household debts based on inadequate knowledge of financial literacy in South Africa among middle income earners with specific focus on the Ngaka Modiri Molema.

1.3 OBJECTIVES OF THE STUDY

The main objective of the study was to explore household financial literacy among middle class families in Ngaka Modiri Molema District Municipality, South Africa. The specific objectives of the study were to:

a) Determine socio-economic factors affecting financial literacy levels of middle class families in Ngaka Modiri Molema District (NMMD);
b) Establish the relationship between financial literacy and household debts of middle class families in NMMD; and
c) Assess the impact of macro-economic factors (unemployment, inflation, Repo rate, Gross Domestic Savings) on household debts among middle class families in NMMD.

1.4 RESEARCH QUESTIONS

Based on the objectives of the study, the following research questions were asked:

a) What are the socio-economic factors affecting the level of financial literacy among middle class families in NMMD?
b) What is the relationship between financial literacy and household debts among middle class families in NMMD? and
c) What are the impacts of macro-economic factors (unemployment, inflation, Repo interest rate, Gross Domestic Savings) on household debts among middle class families in NMMD?

1.5 SIGNIFICANCE OF THE STUDY

The current study seeks to examine the level of financial literacy and its effects on household debt among middle class families in Ngaka Modiri Molema District of the North West province, South Africa. The study will contribute to the body of knowledge and raise debates on the importance of financial literacy education and its impact on the well-being of people at the local level, particularly in Ngaka Modiri Malema District. Furthermore, the study will provides an understanding of socio-economic characteristics of middle class households and their debt levels in NMMD. The study will also assist in the formulation of better micro-level strategies aimed at improving financial literacy levels of middle class households in NMMD. The study will also shed more light some on the debt situation among middle class families in the District. Through this study, a better micro-economic advisory information package targeting

middle class families could be developed in order to empower middle class households to improve their level of financial education and manage household debts properly.The study could assist in the future development of an educational framework to strengthen the linkage between financial literacy and the savings culture of South African households as follows:

- Enhance household attitudes towards cultivating a savings culture;
- Enhance the confidence of individual South Africans in planning effectively for future financial needs;
- Improve the level of knowledge of financial concepts and products among South African households;
- Enhance the ability and confidence to communicate about financial concepts and products;
- Assist in enhancing positive attitudes towards managing personal finance; and
- Improve skills in terms of making appropriate financial decisions.

1.7 LIMITATIONS OF THE STUDY

This study focuses on middle class families in NMMD in order to determine factors affecting this study population in NMMD, North West Province, South Africa. The study is limited to the establishment of relationships between financial literacy and household debts among middle class families in NMMD. Furthermore, the impact of macro-economic factors (unemployment, inflation, Repo interest rate, Gross Domestic Savings) on household debts among middle class households in NMMD is established. Obtaining data for the study was not easy. A study on debts over a period of time, requires a wide range of data that could be collected over a long period of time in order to understand the household behaviours of the people. Data for this study was collected within a short period of time since majority of respondents indicated they did acquire credit from financial institutions in the past two decades.

1.6 ORGANISATION OF THE STUDY

Chapter 1 presents the Introduction, the background of the study, the problem statement, objectives of the study, the research questions, significance of the study and limitations of the study

Chapter 2 is the literature review. In this Chapter, socio-economic factors and household debts as well as theories associated with household debt and the conceptual framework are discussed.

Chapter 3 is the research methodology. In this Chapter, the philosophical paradigm, the research design, study population, study area, sampling, data collection methods, data analysis, issues of validity and reliability as well as ethical considerations are discussed.

Chapter 4 focuses on the presentation of the findings of the study and discussions.

Chapter 5 provides the conclusion of the study and recommendations to stakeholders.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter reviews literature on the determination of socio-economic factors affecting the financial literacy levels of middle class families in Ngaka Modiri Molema District (NMMD). The relationship between financial literacy and household debts of middle class families in NMMD is also discussed. Furthermore, the impact of macro-economic factors (unemployment, inflation, Repo rate, Gross Domestic Savings) on household debt is also examined. Factors that contribute towards household debt consumption and debt repayment in South Africa are also explored in this Chapter. The broad perspectives of household debt around the world, in sub-Saharan Africa and South Africa, in particular, are explained. Financial literacy and household financial debt and its relation to debt management is also discussed. An introduction of the conceptual framework and approaches used in the study are presented as the end of this Chapter.

2.1 STATE OF HOUSEHOLD FINANCIAL LITERACY LEVELS IN SOUTH AFRICA

Access by everyone to banking products and services in South Africa is not restricted and the pace of the recent financial inclusion in the society has increased the necessity for individuals to acquire financial knowledge (Lusardi and Mitchell, 2014). Products and services offered by financial institutions are complex and this poses a great challenge for financially illiterate households to choose the right product with minimum risk. While the availability of credit products and services in South Africa has brought great improvement in the livelihood of individual households, these services and products have also imposed greater financial management responsibility on households to borrow, save, invest, and access credit and debt facilities (Lusardi and Mitchell, 2011).

2.1.1 Historical evolution of financial literacy in South Africa

Household debt in South Africa shows that the current financial crisis affecting the country is to some extent, a consequence of the debt situation of majority of households (Masilela, 2009). This situation has resulted in people relying on multiple credit facilities as a last resort in financing emergency household operational needs (Allen and Giovannetti, 2010). However, these studies have been largely theoretical and in most cases, have focused on a particular perspective and context. There are actually no studies that have explored household debts in South Africa among middle income earners with particular emphasis on the Ngaka Modiri Molema District.

According to FCAC (2015), financial education or financial literacy emerged as a key priority for many countries around the world in the mid-1990s. This is because many policy makers began to recognise the importance of financial literacy among citizens as a key component in the economic growth of a nation. This resulted in the Organization for Economic Co-operation and Development (OECD, 2003) to initiate a project across different countries around the world after recognising the importance of financial education and awareness. The project was launched under the Committee on Financial Markets and the Insurance and Private Pensions Committee with the objective of providing ways to improve financial education and literacy standards through the development of common financial literacy principles. This led to the institution of stringent measures by financial houses in South Africa (that are primarily the source of household debt) that restricted household access to loans in order to finance their daily operations. The stringent measures also led to gradual decrease in the ratio of household debts to disposable income (from 74.8% in the first quarter of year 2012 compared to 74.7% registered in the fourth quarter of 2011). However, country household debts remain high and this has an adverse impact on the micro-economic growth of the country's economy.

Households in South Africa are solely responsible for their own financial decisions and the extent to which they make informed saving decisions, strongly depends on their level of financial literacy. In a global financial literacy rating, South Africa scored 42%, which was higher than those of other emerging economies such as India, Brazil, China

and Russia. However, there is clear evidence in the literature that there is a gap between financial literacy education and savings culture of South Africans (World Bank, 2015). Data from the World Bank (1996 to 2014) reveal that South Africa's gross savings is the lowest (16.3% on average) compared to other emerging economies. Furthermore, the domestic saving ratio of South Africa has showed a declining trend from 2006 to 2016 resulting in a drop in GDP trend over the same period. In 2005, OECD produced the first major study on financial education at a global level (OECD, 2005). In March 2008, OECD introduced the International Gateway for Financial Education, with the aim of serving as a central system for financial education programmes, information and research worldwide. Household debt is defined as the sum of liability which is applicable in the financial balance sheet either derived at household level or from small-scale business entities supporting the welfare of households. These indicators include currency policies, securities other than shares, loans, among others. More particularly, the financial liabilities which affect households, comprise of loans in the form of mortgage used by households in the acquisition of houses (OECD, 2016). It subsequently established the International Network on Financial Education (INFE), a forum aimed at exchanging ideas and information on financial education across OECD and non-OECD countries. The INFE currently has over 100 member countries (Lewis & Messy, 2012).

The current debt situation in South Africa poses serious a concern at national and local government levels. The government and financial institutions have been developing a series of programmes aimed at increasing the level of financial literacy and savings of citizens. Despite this effort (through policies, regulations and various awareness campaign programmes to promote financial awareness among citizens and improve savings), the level of financial literacy still remains low and is even lower in terms of savings in South Africa.

In India, the twenty-first century has seen a national recognition of financial literacy and has led to the formulation and implementation of the National Strategy for Financial Education. The goals are to create awareness and educate consumers on access to financial services, availability of various types of products and their features. Secondly, to change the attitudes of people for them to translate knowledge into behaviour and finally, make consumers understand their rights and responsibilities as

clients of financial services (Mukherjee, 2012). Over the past five years, household debt has been associated with a lot of micro and macro level dynamics around the world. For instance, in Vietnam, household debt was found to contribute negatively in the livelihood of families (Luan *et al*., 2013). Household debts are often affected by the external shocks. In Africa, such shocks (inflation, higher interest rate and inadequate regulatory structures) decrease the value of debts acquired by people, which in the long-term, over burden borrower repayment schedules (Muhaji *et al*., 2011; Schartz *et al*., 2011). In China, the Foundation for Development of Financial Education was founded in 1992 and was governed by the Central Bank of the People's Republic of China. It is organised as a non-profit organisation (Micro-Capital Universe, 2016).

Household debt management is the process through which household income earners minimise the level of debts and acquire stability and the impetus to provide better conditions for both financial and monetary stabilisation (Rinaldi *et al*., 2006). This stabilisation provides liquidity levels for both institutions and the people in general and ensures long-term financial growth (World Bank, 2016). It is imperative to note that as institutions develop, central banks have the ultimate fundamental function of rationalising monetary transactions in order to promote development and financial inclusion at both macro and micro levels (African Development Bank, 2015). For instance, such developments include putting in place measures for both financial and lending institutions to follow in order to rationalise money markets and ensure a balanced lending macro and micro level regimes (Louiz *et al*., 2012).

Given the situation in Brazil, in 2010, the government instituted the National Strategy for Financial Education, a public policy to assist the development of financial education activities in schools. In South Africa, the evolution towards addressing the necessity of financial literacy began in 1990, following the enactment of the Financial Service Board (FSB) Act. In 2000, the Act was amended and mandates the Financial Service Board to conduct research which inter alia, seeks to promote financial education programmes for consumers. Since then, FSB has conducted different programmes on financial education dedicated to assist South Africans on how to manage their personal and family financial matters effectively (Roberts *et al*., 2014).

In South Africa, the authorisation by lending operations to institutions other than banks, provides impetuses for people to acquire loans with little or no collateral securities (Eggertsson *et al*., 2012). This argument is supported by Debelle (2004) who conducted a study in Australia and found that uncontrolled lending by formal and informal institutions in the country, resulted in increased household debt and repayment regimes, thus lowering the level of disposal income of households. Consequently, the future incomes of households are affected and without proper macro level development structures in place, could result in a credit crunch (Eggertsson *et al*., 2012). According to Prinsloo (2002), debt as a general concept, including household debt, refers to an obligation or liability arising from borrowing money or taking goods or services on credit. Usually, a debt contract is an essential part of the debt agreement between one person or organisation and another. A debt contract normally states the terms of borrowing, the interest and redemption payments that the borrower must make and what collateral the borrower has to provide. As a result, different organisations, including OECD in alliance with FSB, the Banking Association of South Africa, non-profit organisations, Old Mutual, the housing sector and private companies also contribute greatly to different awareness programmes on financial literacy in South Africa. Reforms such as the Green Paper on Skills Development and the White Paper on Education (1997), also brought a great change on how education and training should be approached in South Africa (Van Nieuwenhuyzen, 2009).

In China, despite the government investing a lot in order to increase the threshold account of public debts and to enable people to access loans and improve their economic potentials, external shocks such as economic recession deflate the economic value of investment (Chen *et al*., 2016) and this situation affects economic development negatively. Meniago *et al*. (2013) observed that household debts in South Africa, are often significantly and insignificantly affected by negative changes in income and changes in prime interest rates. In such an economy where volatility is a factor of ex-ante shocks, a stable and controlled macro-economic balance is expected if and only if lower level economic parameters are balances (World Bank, 2016).

2.2 IMPACT OF MACROECONOMICS FACTORS ON HOUSEHOLD DEBT

Households are not always rational in nature. Deep-rooted behavioural biases and external influences can affect both the decision to save and how to save. Studies around the world reveal that macro level factors have had a direct impact on household borrowing or debt levels. Accordingly, due to financial illiteracy, some individuals prefer immediate gratification (i.e. instant consumption) rather than keeping their resources for future enjoyment, leading to low savings (Lewis & Messy, 2012). A study conducted in Australia on the determinants of household debts revealed that Gross Domestic Product (GDP) and price volatility in the country greatly influenced household debts (Meng *et al.,* 2013). According to the study that household debts in Australia have increased from 190 million Australian dollars to over 1 billion dollars in recent years (ARB, 2015). Conversely, if financial knowledge does not improve, households remain confronted by low savings, high debts, little provision for retirement and ultimately, high financial stress levels. Similarly, in South Africa, empirical studies on the effects of macro-economic factors on household debts, using South African Reserve bank data found that, financial liberation and fluctuation of asset values, contribute positively towards consumer spending and subsequently, an increase in household debts (Muellbaur, 2000).

There are so many negative effects of financial illiteracy that can be listed at global, national, and organisational levels. Most of these challenges are faced by individuals and are not restricted to any level (Van Nieuwenhuyzen, 2009). The relationship between wealth accumulation and financial literacy has received less attention, mainly because of lack of information about financial knowledge in the society (Van Rooij *et al.*, 2012). Accordingly, the reason for the positive correlation between literacy and accumulation of wealth is that knowledgeable individuals take advantage of the equity premium on stock investments and financial literacy also found to be positively associated with retirement planning behaviour (Ameriks *et al.*, 2003; Lusardi and Mitchell, 2007, 2009). In another context, real interest rate, income growth potential and change in demographics of a country, explain household debt variance in the United States of America (Barnes *et al*., 2003).

In the United Kingdom, a study by Tudela *et al*. (2005) revealed that retirement income and other preferences, often have a bearing that influence household debts. Debelle (2004) used pooled data from different countries to explore the relationship between macro-economic factors and household debt. He found that household debt responses to households reduced interest rates and liquidity levels. Household debt, in itself, is not the only factor that contributes towards negative shocks in the economy upwardly, however, it is positively influenced downwardly (Meng *et al.,* 2012).

2.2.1 UNEMPLOYMENT AND HOUSEHOLD DEBTS

Through proper understanding of financial management and financial literacy, households in South Africa could develop small and medium-sized enterprises which have the potential to reduce unemployment among citizens. Empirical findings suggest that respondents who are equipped with financial knowledge, have a higher propensity to plan (Van Rooij *et al.*, 2012). In other words, financial literacy is a combination of awareness, knowledge, skills, attitudes and behaviour necessary to make sound financial decisions and achieve individual financial well-being (Lewis & Messy, 2012).

OECD defines financial education as used in different countries as the process by which individuals improve their understanding of financial products, concepts and risks and, through information, instructions and objective advices, develop skills and confidence to become more aware of financial risks and opportunities, make informed choices, know where to go for help, and take other effective actions to improve their financial well-being.

Standard & Poor's Rating Services also posit that financial literacy is the capability to understand the following: how money works in the world; how someone manages to earn or make it; how that person manages it; how he/she invests it; or how that person donates it to help others. Alternatively, lack of financial literacy can act as a barrier to saving. If people do not manage their cash flow properly, they may not have enough left to save after daily expenses, or may accumulate debt they cannot repay. Furthermore, lack of financial skills means people do not plan for the future, or understand how financial products can help meet savings goals (Lewis & Messy, 2012).

Financial illiteracy carries significant costs and households that fail to understand the concept, spend more money on transaction fees, run up bigger debts and incur higher interest rates on loans (Lusardi & Tufano, 2015; Lusardi & De Bassa, 2013). In the same vein, Lusardi (2008) maintains that low financial literacy and lack of basic financial knowledge affect the ability to save and secure a comfortable retirement plan. Furthermore, ignorance about retirement planning and lack of wealth could be linked to lack of basic financial concepts. Several initiatives have been undertaken to foster saving and financial security such as educating workers to improve their financial literacy and knowledge. While these programmes have had some impact on saving behaviour, much could be done to improve their effectiveness.

Overtime, debt balances of households on unsecured loans remain so high around the world. For instance, in 2007, more than 50% of people who had credit cards had a debt balance due to the pressure that emanated from their household debt situation (Bethume *et al*., 2015). It is evident that this situation is aggravated by insecure debts that people take and cannot manage to take secure loans due to unemployment (Herkenhoff *et al*., 2013; Sullivan, 2008). Herkenhoff *et al*., (2013) maintain that unemployment creates imbalances between people in communities. These imbalances increase the propensity to consume and subsequently, an upward shift in household debt contributing negatively towards macro-economic growth. Meng *et al*. (2012) posit that this imbalance is reduced if economically disadvantaged people are provided with an alternative portfolio that could increase economic performance and minimise micro level debts.

2.2.2 Repo interest rate and household debts

According to Leao *et al*. (2007), the interest rate proposed by central banks provides to commercial banks is referred to as the 'repo rate'. Gerlach (2011) argues that in economic environments where the central bank charges high interest rates, commercial banks increase interest rate hedge as commercial entities in order to increase their profit levels. Such a situation has a negative effect on financial institutions and individual borrowers at household level, who suffer the consequences

of such transactions, by paying even higher interest rates on loans meant to support households consumption and small-scale businesses (Gorton *et al*., 2012). The economic growth of a country is based on its capacity to increase the production of goods and services in comparison with other countries of the world (Finance Map of the World, 2013). All other things being equal, the saving rate is important as increased levels of household savings, generate cash to fund infrastructure, business expansion and other investments, and reduce reliance on foreign investment thereby, promoting longer-term and sustainable growth (Lewis & Messy, 2012).

In a multi-country study by Eichler *et al*. (2012), it was revealed that during conditions of economic recession, the volatility of the 'repo rate' affects micro-economic financial performance among households. It is, therefore, important to study changes in interest rates over time and to establish its effects on household debts in NMMD, North West Province.

Jagadeesh (2015) posit that savings creates capital formation which leads to technical innovation and progress that enhances large-scale production and increased specialization. This also helps in accelerating the productivity of labour, and further results in an increase in GDP. In addition, the continuous poverty level in developing countries can also be subdued through sufficient savings, which is the main key to economic development as well. Savings represent that part of national income which is not spent on consumption in a year out of the disposable income. In a closed economy, savings are equal to total investments or capital formation. In an open economy, since there is a possibility of having a surplus or deficit current account balance, depending upon the difference between exports and imports, total investments in the domestic economy can either exceed or fall short of domestic savings (Prusty, 2011).

The slow rate of development in third world countries is usually attributed to low levels of national savings, that constraints their capacity to invest in capital formation. This leads to lower levels of economic growth and development compared to other countries that contribute significant levels of savings. Thus, saving is usually considered as the main source of economic growth (Jagadeesh, 2015). Household saving represents savings of the household sector out of the disposable income. In an

economy where financial markets have developed, savings of the household sector are reflected in their investments in various financial instruments issued by financial intermediaries such as banks, financial institutions and governments (Prusty, 2011). According to the South African Business Integrator (2015), it is the intention of the National Development Plan of South Africa to increase savings by 5.4% or more in order to create more jobs to redress inequalities and resolve the country's high rate of unemployment. For South Africa to achieve this target, there is a need to find investment that amounts to at least 25% of the GDP. Investment is the best fuel for sustainable economic growth and the only source that results to investment funding is savings.

2.2.3 Inflation and household debt

Inflation in an economy provides a lot of negative consequences towards economic development around the world. For instance, in a study conducted in China, it was found that inflation is a positive predictor that reduces the level of consumption at household level (Ma *et al*., 2011). In Romania, Fouejieu *et al*. (2016) found that economic instability, defined as inflation, has a negative effect towards stability of the economy. In an active monetary environment and a passive fiscal economic environment, inflation does follow the pathway of inflation target (Bhattarai *et al*., 2012).

Furthermore, Bhattarai (2012) points out that stronger impulses to monetary policy to reduce inflation, respond to this impulse to equilibrium thresholds. These variations in the long-term, have a negative effect on micro-economic factors, including household debts. However, studies in South Africa that have focused on factors associated with macroeconomic growth, revealed that inflation change lowered household and consumption debts during the period before the world recession but reversed the trend after the economic recession (Owusu-Sekeyere *et al*., 2016; SARB, 2015). This is because inflationary volatility continues to experience an upward shift and drops during post-recession periods (SARB, 2015). It is, therefore, the continued exploration of macro-level indicators such as inflation rate, affects household debts in South Africa, especially in the North West Province.

Other socio-economics factors have been identified to affect household debts. Rahman and Masih (2014) found that there is a co-integration of long run relationships between household debt, house prices, GDP and interest rates. Other studies conducted by Philbrick and Gustafsson (2010) explored determinants of household debt to disposable income ratio in Australia using both long-run co-integration analysis and short run error correction model. These authors considered the theoretical view of the Life Cycle hypothesis by Modigliani. The results of their studies showed that change in debt ratios depends positively on house prices and negatively on interest rate.

Meng et *al.* (2011) explored the possible causes of increased Australian household debts through the Co-integrated Vector Auto-regression model. They analysed seven variables such as GDP, interest rate, house price index (HPI), number of new dwellings, consumer price index (CPI), unemployment rate and population. It was found that interest rate, unemployment and CPI contribute to a negative influence in explaining Australia's high household debt levels while GDP, HPI, new dwellings and population contribute positively to household debt.

Meniago et *al*. (2013) also investigated the causes of an increase in household debt in South Africa. The results confirmed the existence of a long run co-integrating relationship between household debt and other macro-economic determinants. Increasing household debt was found to be significantly affected by positive changes in CPI, GDP and household consumption. While house price and household savings were found to positively contribute to a rise in household debt, however, their relationships were found to be statistically insignificant. In addition, household borrowing was found to be significantly and insignificantly affected by negative changes in income and prime rate respectively.

2.3. SOCIO-ECONOMIC FACTORS AND HOUSEHOLD DEBT

According to Azevedo (2014), determinants of household debt levels vary according to the different types of debt considered. However, some of the common determinants identified by many researchers are discussed below.

2.3.1. Income and household debt

According to Kabelo (2013), the growing need to secure money or income has been more prevalent in places where there is increasing insecurity and daily social pressures. This has been the case mostly for poor households which consider banking services as inaccessible. The availability of income or money determines the spending behaviour of poor households or how such income is utilised to provide for themselves and their families. The overall usage of banking or financial services in informal settlements and rural areas is very small, estimated at less than 1 per cent (Rodrigues, 2014). Informal settlements have never had access to formal financial institutions and their main sources of finance to survive are families, state transfer payments such as disability and child-care grants, as well as pensions. Whenever there is an urgent need for money, they first turn to people they are closest to for help, a relative and friend or neighbour because they would expect them to return the favour sometime in the future (Moyo *et al.,* 2002). This is a reciprocal obligation, which according to Mutezo (2014), is a deterministic relationship between household debt and disposable income.

2.3.2. Unemployment

Poverty can also be a function of the environment, especially during sustained periods of high unemployment. The level of unemployment in South Africa stood at 26.4 per cent in September 2015 and continues to increase. It is considerably greater and more severe among the poor, especially among women in informal settlements and rural areas (Statistics South Africa, 2015). The creation of jobs has become one of the important concerns faced by the country. In addition to the shortage of jobs, one is concerned that the quality of jobs may fall short of what would be needed to allow poor sections of the population to better their lives. A large fraction of the work force is

discouraged, that is, people who have actively sought work, have stopped actively searching for jobs out of frustration and lack of resources (Zin, 2014).

2.3.3. Consumption savings and household debt

Keynes defines personal saving as the amount of money by which the current income of households exceeds current expenditures. On the same note, inability to save occurs when current expenditures of households exceed the current income of households, a scenario which leads to an increase in household debts accounts (Palley, 2010). It is worthy to note that the imbalance between consumption expenditure and income results in the inability of rich households to rationalise their daily operations, thus resulting to poverty (Todaro *et al*., 2010). This situation creates an inverse relationship, increases consumer credit and consumer savings within households. Kabelo (2013) conducted a study on the level of household debt among South Africans and found that household savings play a significant role in reducing the situation of household debts and this has a positive effect on the micro and macro-economic development pathway.

2.3.4. Level of education and household debt

In developing countries, within communities with great levels of inequality, many households experience poverty and majority of household members have little education or no education at all (Nam *et al*., 2009). This situation disadvantages them in understanding some business transactions involving financial transactions, among them, debt operations (Chien *et al*., 2009). Baiyegunyi *et al.* (2014) observed that majority of illiterate people that are often intimidated and hardly read to understand some basic principles associated with transactions. This results in challenges both to manage and understand financial related transactions, among them, debt management either at household or community level. It is, therefore, important to explore the relationship between the level of education of inhabitants in NMMD and its effect on household debt in South Africa (Mahigo, 2006).

2.3.5 Financial information

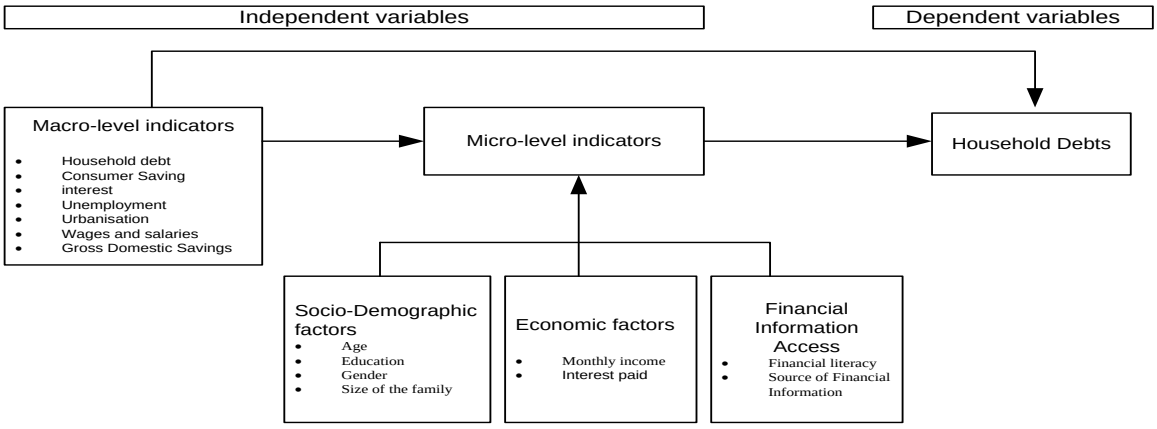
Over time, financial literacy has been associated with affecting money management, inadequate planning and lack of knowledge on investment know-how in most developing countries, including South Africa. For instance, in a study conducted in Singapore, it was found that financial literacy training among Singaporeans resulted in proper money management, reduced household levels and an increase in investment among households compared to their counterparts who had no requisite rigorous training. Similarly, Lusardi *et al*. (2009) examined financial literacy among small-scale enterprises using national longitudinal data among the youth. It was revealed that a third of the youth with basic financial literacy in mathematics of interest rate, inflationary gaps and its consequences and financial risk diversity, have an anchor to better manage household debts. In South Africa, particularly in NMMD, little is known about the implications of financial literacy on household debt. Studies that have explored the state of financial literacy have not connected its relationship to household debt but entrepreneurship (Kojo Oseifuah *et al*., 2010; Kotze *et al*., 2008). As such, the study of the association between e financial literacy and household debt in NMMD cannot be overstated.

2.3.6 Sources of financial information

Availability of credit information among customers has been linked with a positive effect in improving credit decisions among people around the world. For instance, in Korea, dissemination of credit information predicted positively, gave confidence to people's borrowing decisions and better understanding to manage household debts (Hahm *et al*., 2011). Such information, in other instances, when provided by intermediaries, has a significant effect as it maximises information uptake among people, thus improving the quality of debt management among people (Bag, 2013). Honohan (2008) examined cross-country variation in access to financial services by households in many countries around the world. It was established that availability of information in many forms among people, has a significant impact and influences choice.

2.4 CONCEPTUAL FRAMEWORK

According to a study by Swanson and Chermack (2013), theories are formulated to explain, predict, and understand phenomena and, also to challenge existing knowledge within the ambit of critical bounding assumptions. A theoretical framework is the structure that can hold or support the theory of a research study. A theoretical framework introduces and describes theory and explains why the research problem under study exists. Within the context of this study, it is assumed that the South African society comprises of both rational and irrational households in terms of financial decisions and choices. In order to achieve the aim and objectives of this study (to strengthen the linkage between financial literacy and savings awareness among South African households), the following framework was adopted in the study. This framework provides the guideline used and the basis of evaluating the linkage between financial literacy and savings in South African households. An illustration of the proposed framework is given in Figure 2.1.



Source: Conceptualised by the researcher

Figure 2.1: Conceptual framework: relationship between macro-micro level indicators and household debt

As indicated in the literature, household financial literacy, which is determined by the level of household debt, is influenced by different factors. Some of these factors are related to the environment within which the household is located, associated socio-economic and demographic environments and financial information. Therefore, based

on this concept, a framework was develop in order to illustrate the relationship between these factors and the situation of household debt due to financial literacy.

The framework provides a comprehensive structure on factors that affect the ability of households to make informed financial decisions. The evaluation done through a structured questionnaire, revealed the level of financial literacy of middle class households and their awareness with regard to saving. The purpose this framework is to ensure a better understanding of the data, its relevance and provide an insight to the study. This study is problem-based and provides practical solutions to actual educational-related problems.

2.5 SUMMARY OF CHAPTER

Literature on studies associated with household financial literacy levels and how the level of financial literacy influences the debt burden of middle class households in Ngaka Modiri Molema District (NMMD), North West Province, South Africa was reviewed in this chapter. Based on the systematic review of the literature, there is a gap in the relationship between household financial literacy, household debt, and its effect on the socio-economic development of a country. As such, it is imperative to examine and contribute to scholarly debates on the subject matter using NMMD in order to understand the levels of household debt and its consequential effects. The next chapter focuses on the research methodology and procedures used in conducting this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This section provides details of approaches and methods used in conducting this study and to answer the research questions asked. The primary objective of the study was to explore household financial literacy among middle class families in Ngaka Modiri Molema District, North West Province, South Africa. The research design, philosophical paradigms, the research approach, study population, sample and sampling frame, sample size, data collection, definition of variables and measures, data analysis and instruments, issues of validity and reliability as well as ethical considerations are discussed in this chapter.

3.2 PHILOSOPHICAL PARADIGMS

A philosophical paradigm is a system in which ideas are used by researchers to generate knowledge used to solve social problems. According to Foster *et al*. (2002), research presents a set of assumptions, axioms, strategies and criteria that are important to define the rigour of the research. In order to ensure the quality of efficient research artwork, a perfect design is crucial in choosing the best paradigm that is compatible with the beliefs about the nature of reality (Mills *et al*., 2006). Post-positivism, pragmatism and constructivism were used in this study.

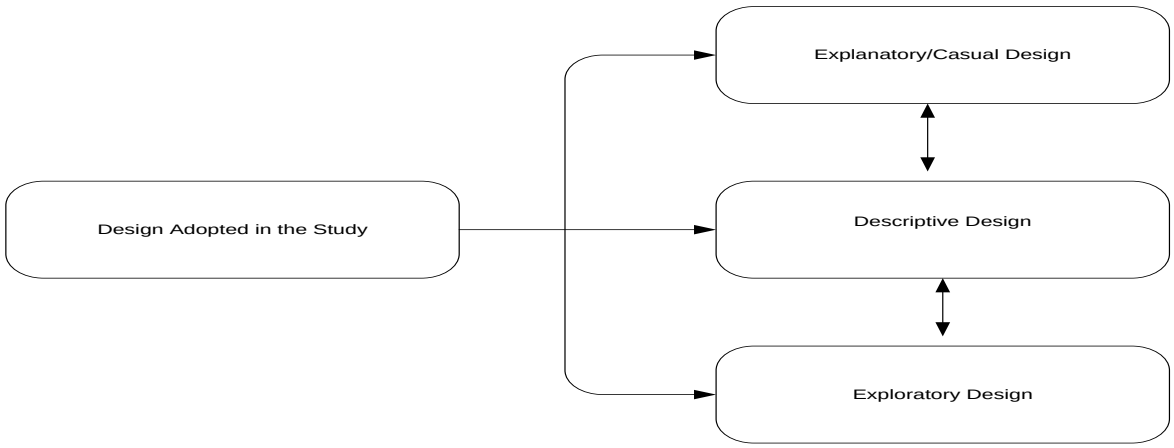
Post-positivists believe that research is based on what knowledge is (in the form of scientific knowledge or qualitative research). Post-positivism challenges the notion of absolute truth in knowledge as a result of contextual dimensions (McEvoy and Richards, 2003). As such, the notion of trusting that objective investigation is significant in bringing together the truth, is paramount. The current study employs a quantitative approach in order to justify post positivism.

Pragmatism assumes that knowledge claims come out of actions, situations and consequences rather than antecedent conditions (Creswell, 2014). According to Creswell (2014), a pragmatic research approach is a technique in which the researcher uses different methods to understand the research problem. In pragmatism, the mixed method utilises qualitative and quantitative methods to address the research problem.

According to constructivism, individuals seek to understand the environment in which they live and operate. As such, the philosophy combines all aspects of post-positivism and interpretivism paradigms to explain a situation. Through this approach, the researcher developed subjective meaning of his experiences and focused on the perspectives of participants in order to understand the situation under investigation. It focuses on the processes of interaction between and within individual relations to their environment and is defined solely from the qualitative approach (Lever, 2013).

3.3 RESEARCH DESIGN

Burns and Grove (2003) and Parahoo (1997) define research design as a general plan or strategy used as an outline for conducting a study and provides the logic on how, when and where data was collected and analysed. Furthermore, it entails an analysis of the descriptive research - *what is going on?* and explanatory research -*why is it done like that?* In the current study, a research design entails a systematic plan to investigate factors associated with the level of household literacy among middle class people in Ngaka Modiri Molema District, North West Province, South Africa. The study employed explanatory, descriptive and exploratory approaches in order to achieve its objectives as shown in Figure 3.1.



Source: Authors' Own formulation

Figure 3.1: Research design adopted in the study

3.4 STUDY AREA

The study was conducted in Ngaka Modiri Molema District (NMMD), North West Province, South Africa. Ngaka Modiri Molema District is one of the four districts of the North West Province of South Africa. Other districts include: Dr Ruth Segomotsi Mompati; Dr Kenneth Kaunda; and Bojanala Platinum District.

The District consists of five local municipalities, namely, Mahikeng, Ratlou, Ramotshere Moiloa, Ditsobotla and Tswaing. The District comprises of 842,699 people. 60.9% of these inhabitants are aged between 15 and 64 years. The District has an unemployment rate of 33.7% and the proportion of youth who are unemployed stands at 44.1%. In terms of household dynamics, each household in the District has an average of 3.6 people (with 42.5 per cent female-headed households) (Local Government Authority Report, 2016) as shown in Figure 3.2.



Source: Local Government 2016.

Figure 3.2: Map of Ngaka Modiri Molema District, North West Province

3.5 STUDY POPULATION

The population of a study includes people, phenomena or even the researcher who is investigating. It comprises of all possible persons, objects and events of interest that constitute a known value to the problem in question. In this study, the population consisted of middle class households that are either working or doing business in Ngaka Modiri Molema District and have received credit from formal financial institutions in NMMD. According to the World Bank (2016), a middle class population is a segment of the total population that is economically stable and earning an income through participating in either labour or business activities to support life.

In this study, middle class households refers to households whose head are working within the District and those who are doing business. The population was drawn from the data base of clients from financial institutions responsible for issuing credit in NMMD. These financial institutions include Standard Bank, First National Bank, Capitec Bank, ABSA Bank, Ned-bank, Old Mutual and other formal microfinance institutions. According to Statistics South Africa (2016), approximately 600 middle class households are reported to have received credit in NMMD, mostly from micro-

financial institutions. These households are reported to have had multiple debts in the District (StatsSA, 2016).

3.6 SAMPLE POPULATION

A sample is a subset of the total population under investigation. It consists of members of the population selected to participate in a study. It is important to note that a sample can be selected either purposefully or by using a random sampling technique. A simple random sampling technique was used in the study. Each household head was given an equal chance of being selected to become part of the sample. The sample was selected from approximately 600 middle class households in the District. A total of 60 respondents were randomly selected from the database of clients provided by Statistics South Africa following the process indicated in Figure 3.3.

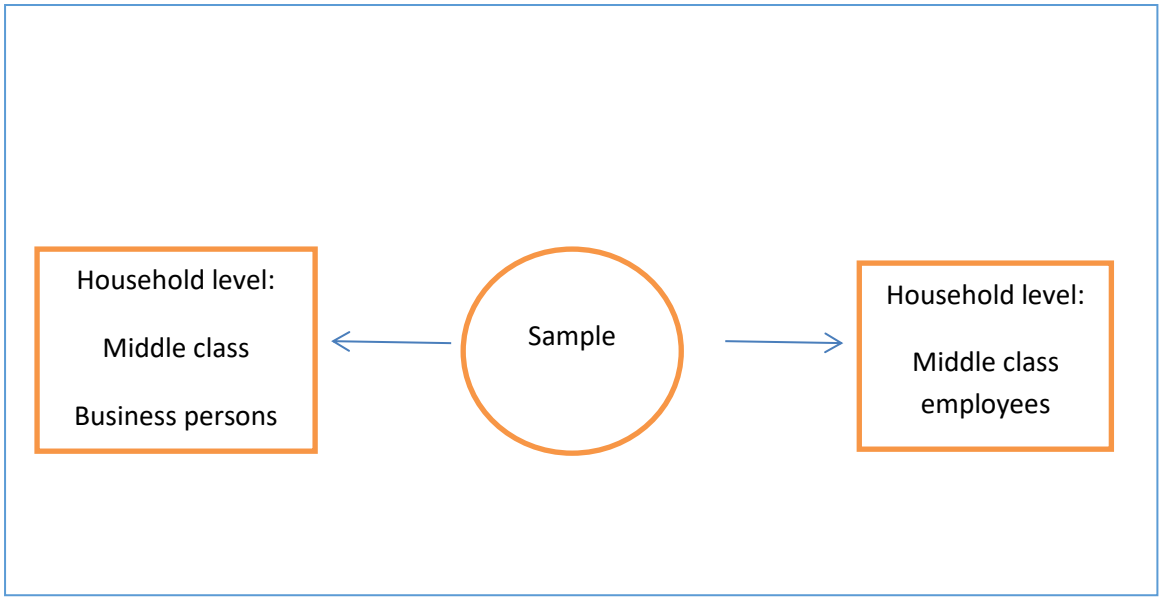


Figure 3.3: Different strata sampled using systematic random sampling
Source: Conceptualised by the researcher

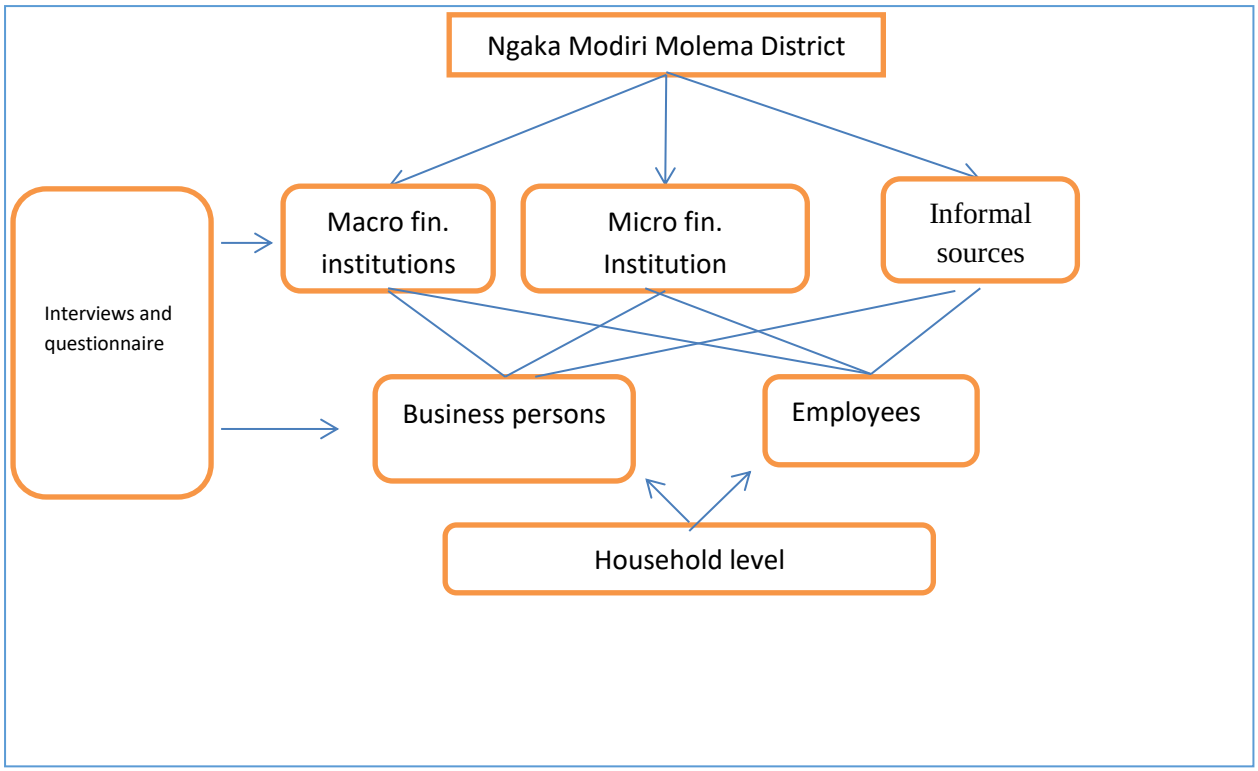
According to Creswell (2011), a sample of 10% is feasible to analyse the behaviour and characteristics of an entire population if and only if respondents are systematically

sampled as long as they are clustered and selected to represent the entire target population.

In order to minimise selection bias, the total population was divided into a cluster (with 150 persons per cluster). Respondents were further divided according to the anticipated sample (60) in order to create a selection interval. This gave a counter value of 150/60= 2.5=3. Therefore, a random number was created using a calculator between 1 and 10 and 4 was selected. Systematic random sampling was used in which 4 was the first sampled respondent. The second number 7 was obtained by adding 4 plus the counter value, which is 7. The third number was obtained by adding 7 plus the counter value, which is 11. This process resulted in the selection of 60 respondents for the study. A total of 38 middle income employees and 22 business persons were sampled and interviewed.

3.7 DATA COLLECTION

Data collection techniques provide the researcher with a systematic way of collecting information concerning the study. There are different types of data collection techniques as follows: interviews; questionnaires; focus group discussions; and use of event in history. In this study, a semi-structure questionnaire (an interview format) was used to collect data. The validity of the questionnaire was tested through a pilot study in order to check for coherence before the actual data was collected. Questionnaires were self-administered by the researcher in order to interact with respondents at the time of data collection. A sample of the questionnaire used in collecting data is attached in Appendix A. Data was collected according the design shown in Figure 3.4.



Source: *Researcher own Design*

Figure 3.4: Data collection techniques adopted in the study

3.8 DATA ANALYSIS

A questionnaire was used to collect data for the study. Information obtained was captured and analysed through the Statistical Package for the Social Sciences (version 23.0). The data obtained was decoded, captured and later analysed. In this study, univariate, bivariate and multivariate analyses were performed. The mean, standard deviation, frequencies and percentages were calculated. Graphs, tables, bar-charts were used to present results from the univariate analysis. Furthermore, bivariate analysis was done consisting of product moment correlation coefficient in which the measurement of strength between each independent and dependent variables were tested. Thereafter, logistic regression analysis was performed in order to test the multivariate estimate of financial literacy of middle class households in NMMD as shown in Figure 3.5.

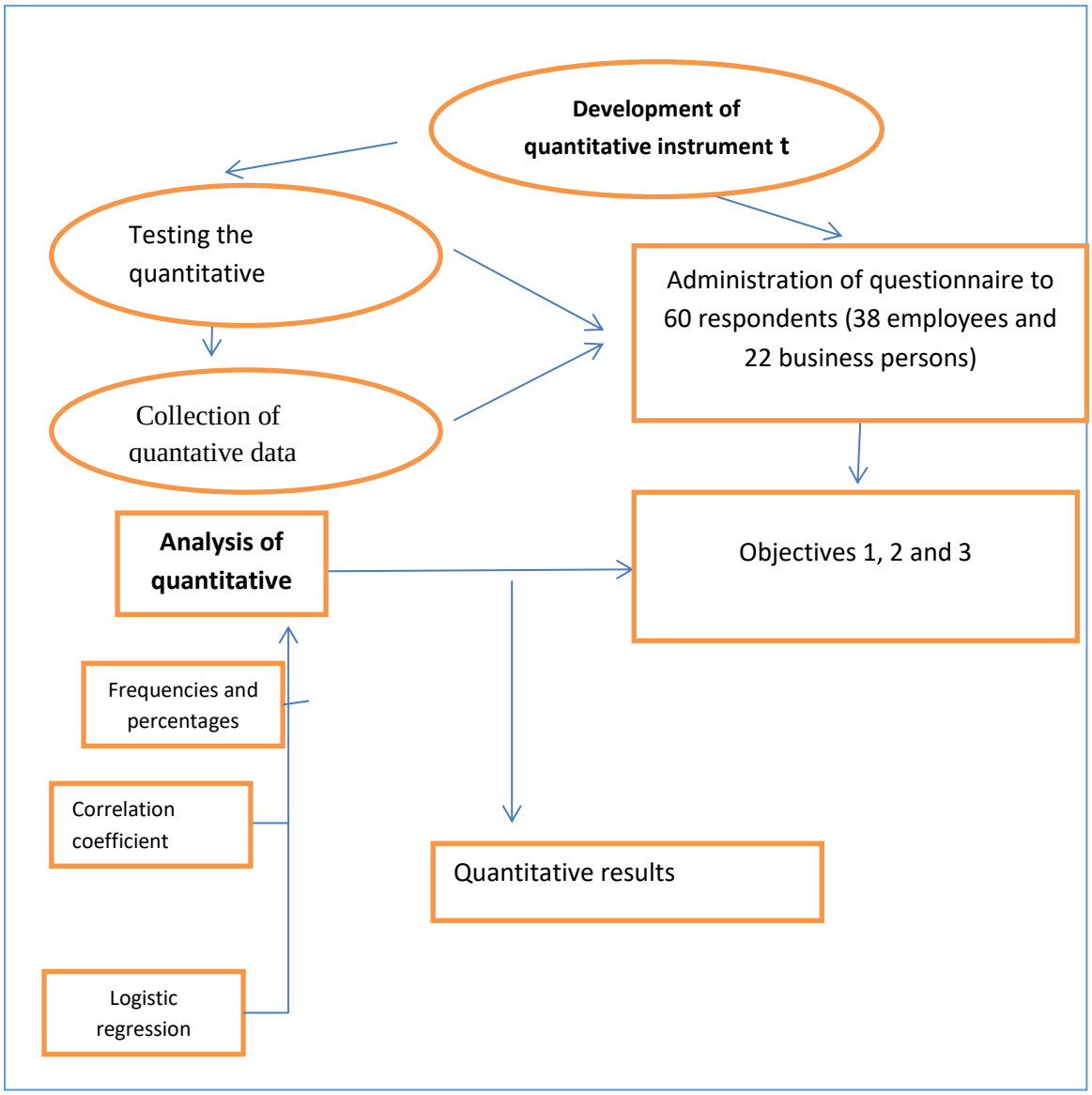


Figure 3.5: Analytical map adopted in the study

3.8.1 Detailed analytical techniques

Three analytical techniques were used to analyse the data as follows: descriptive/univariate statistics; bivariate analysis; and multivariate/quantitative analysis. Frequencies, percentages and totals were used to explain the background characteristics of respondents. Additionally, charts were used to explain some attributes of respondents. Using secondary macro level data, mean, standard deviation and range were used to explain the distribution based on the national situation.

3.8.2 Bivariate analysis (measure of association between variables)

Pearson Correlation Coefficient was used to explain the association between independent and dependent variables. Product moment correlation coefficient measures the strength of the association.

The Product Moment Correlation Coefficient model is as follows:

$$\rho = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2 - n\sum y^2 - (\sum y)^2]}}$$

where ρ is the correlation coefficient, n is the number of observation and x and y are the variables tested. PMCC was applied both at micro and macro levels in order to infer the induction effect of the macro-level factor on the micro-level position as far as household debts is concerned. The scale used to measure and interpret the association is explained in Table 3.1.

Table 3.1: Correlation coefficient and results interpretion guide

Correlation coefficient value

Measure of association	Coefficient measure
+1	Perfectly strong positive
+0.75	Strongly positive
+.5	Moderately positive
-0.75	Strongly negative
-1	Perfectly strong negative

3.8.3. Multivariate analysis (Logistic regression)

Logistic regression analysis was used to estimate factors that influence household literacy in Ngaka Modiri Molema District, North West Province. The equation below illustrates the logistic regression for the study:

Economic model:

$$\boldsymbol{HHdebt}(\boldsymbol{\pi}) = f(edu, age, HHsize, Age, Gndr, emp, inc, finlit, knwman, finsrc)$$

where household debt ($HHdebt(\pi)$ is a function of many factors illustrated in the function such as education, age, household size, gender, employment, income, financial literacy, knowledge management of income and knowledge of sources of finance.

This economic function was later transformed into the econometric function defined in equation I as follows:

$$\boldsymbol{log}\left(\frac{\boldsymbol{\pi}}{\boldsymbol{1-\pi}}\right) = \boldsymbol{\alpha} + \sum \boldsymbol{\beta_i x_i} + \boldsymbol{\varepsilon} \ldots\ldots\ldots\ldots\ldots\ldots (\boldsymbol{I})$$

where π is household debt burden which defines the state of and individual household debt burden (which is a reflection of the level of financial literacy of a household). This was measured as "1" if the average household debt of an individual was more than and equal to ZAR 7500 per month and 0 for otherwise. According to the credit report of South Africa, majority of people who are receiving credit from financial institutions (over R7000), are considered to have a debt burden (Meniago *et al*., 2013). Furthermore, the equation *(I),* α denotes a constant term and β_i parameter coefficient

estimators of variable x_i associated with the individual and household debt level. The p <0.05 was used to test the statistical difference between the estimators.

Thereafter, the equation was specialised and conceptualised in the Statistical package for the Social Sciences (SPSS, 23. 0) as follows:

$$\boldsymbol{y_{HHdebt}} = \gamma_1 + \gamma_2 + \gamma_3 + .. + \gamma_k$$

where y_{HHdebt} is the household debt variable, γ_k are the variables that are estimating factors influencing debt as illustrated in the economic model above. Two levels of variables were used in this study (micro-level variables and macro-level counterparts). In this section, the two sets of variables are mentioned, defined and their measures explained.

Table 3.2: Socio-economic and micro level indicators, description, measurement and expected signs

Variables	Description of variable	Method of measurement	Expected sign
Age	Age of respondents	1= "<30; 2= 31-45; 3 =46+	+/-
Level of education	Level of education of respondents	0= no education; 2= primary;3= " secondary or higher	+
Gender	Sex of the respondents	1= Male; 2 = Female	-/+
Size of the family	Number of people within the household	1 = "<3"; 2 = " 3+ "	+
Employment status	Employment status of respondents	0="business; 1= "business and employment; 3 = "employed only"	_
Micro-economic			
Monthly income	Income earned by respondent per month	1= "< 5000"; 2 = "5001-7500"; 3 = "7501-10,000"; 4 = "10,000 or higher"	-/+
Debt acquired	Amount of debt collected from firms	1= "< 7,500"; 2 = "7501or greater"	+
Interest rates paid favourable	Interest rates paid favourable to stabilise household income	1= Too much; 2 = moderate; 3= too little	-
Micro financial management			

Financial literacy	Knowledge of advantages and disadvantages of borrowing from lending financial institutions other than banks	1= “yes”; 2= “No”	+/-
Knowledge of financial management	Knowledge of financial information management	1 = “Yes”; 2 = “No”	+/-
Source of financial information	Source of financial information acquired by respondents	1 = “peer”; 2 = “radio”; 3 = “television”; 3 = “print media”	+/-

Table 3.3: Description of macro-level indicators used in the study

Macro-level indicators
Dependent variable
• Household debt from financial institutions
Independent variables
• Consumer price index (2016 = 100)
• Interest rate
• Unemployment
• Urbanisation
• Wage and salaried workers, female (% of females)
• Gross domestic savings (% of GDP)

3.9 TEST FOR VALIDITY AND RELIABILITY

The quality and rigor of the study was determined using validity and reliability of data. The main aim validity in research is to determine the outcome as to whether the research instrument designed, actually responds to the objective of the study, and or whether it actual evaluates what it was meant to investigate. In this study, structured interviews and a questionnaire were used to collect data from respondents. The questionnaire and the structured interview questions were pre-tested among 10 middle class households, randomly selected from the study population. Challenges identified during the pre-testing process were recorded and corrected in the final instruments before the actual data collection process. Conclusions drawn from the results generated using the instrument, need to reflect the objective of the study. Validity of the questionnaire was important in order to ensure that quality results were achieved.

Reliability deals with consistency, dependability and replicability of data and has a bearing on the results of a study in any research settings. For instance, a study that uses a quantitative method like the current one, it is easier to determine issues of reliability because the data is represented numerically. However, in this study, the questionnaire was pre-tested and pilot checked in order to ensure that its validity. Internal consistency and reliability of the instrument was tested using Cronbach alpha Test. An alpha score that is greater than 0.70 is considered acceptable for social sciences. The results of the reliability test are presented in Table 6.

Table 3.4: Reliability measures using Cronbach's Alpha

S/N	Variables	Number of items	Cronbach's Alpha	Mean value
1	Household debt	12	0.92	0.95
2	Age of respondents	13	0.77	0.79
3	Interest rate	10	0.70	0.73
4	Household size	12	0.94	0.94
5	Salary and wages	14	0.94	0.91
6	Level of education	20	0.93	0.92
Mean of mean coefficient				0.87

Therefore, based on Table 3.4, the mean of mean score coefficient of Cronbach's Alpha, denotes a value of 0.87. According to Creswell (2011), the Cronbach's Alpha of 0.70 and higher, implies that the validity of the instrument is reliable. Therefore, the instruments used in this study were perfectly reliable.

3.10 ETHICAL CONSIDERATIONS

Financial literacy levels among middle class families in Ngaka Modiri Molema District were examined in this study. As such, an ethical clearance letter was requested and obtained from the School of Business and Management of the North-West University, Mafikeng Campus. The following ethical measures were adhered to during the study:

i. An ethical letter was submitted to Statistics South Africa explaining the intention of the study;
ii. An informed consent agreement was read before each interview and interviewees were free to indicate their willingness to participate or not in the study;
iii. Respondents were allowed to ask questions and were not disturbed if they needed clarity of certain issues; and
iv. Respondents were also informed that the information provided was to be treated with high level of confidentiality.

3.11 SUMMARY OF CHAPTER

The research methodology used in conducting this study was described in this chapter. An explanation of the method of data collection, type of data, decoding of data and how the data was analysed was also provided. Furthermore, the philosophical paradigm, research design, study population, study area, description of variables, and ethical considerations were also discussed in this chapter. The next chapter presents the results, findings and discussions.

CHAPTER 4

RESULTS, FINDINGS AND DISCUSSIONS

4.0. INTRODUCTION

In the previous chapter, the research methodology used in conducting this study was provided and explanation given of how data was collected and analysed in order to achieve the objectives of the study. In this chapter, the results and findings of the study are presented. The results are presented in two sections as follows: the first section focuses on the socio-demographic and economic characteristics of study respondents in terms of household debt, the results of the test of association between variables and household debt; and the second section focuses on the results and findings obtained from the logistic regression estimators (at micro and macro levels).

4.1 Socio-demographic characteristics of household debtors

In the current study, a number of socio-demographic characteristics were explored at household level in order to ascertain the level of financial literacy and household debts acquired by households to support livelihood activities in Ngaka Modiri Molema District (NMMD), North West Province.

4.1.1. Distribution of household debt according to age

An analysis of the distribution of household debts according to respondents was performed. It was revealed that majority of borrowers (32.5%) with high household debts were youth aged 20-29 years, followed by adults aged 40-49 years (28.75%). A relatively small percentage of household debtors were aged 50 years or above as shown in Figure 4.1.

The indication could be that the current curriculum does not address issues of financial management and financial literacy in schools. It should be emphasised that being educated does not mean that individuals are financially literate. As such, most young professionals (who are newly employed) do not know how to make proper investment decisions and spend most of their earnings on consumption rather than savings.

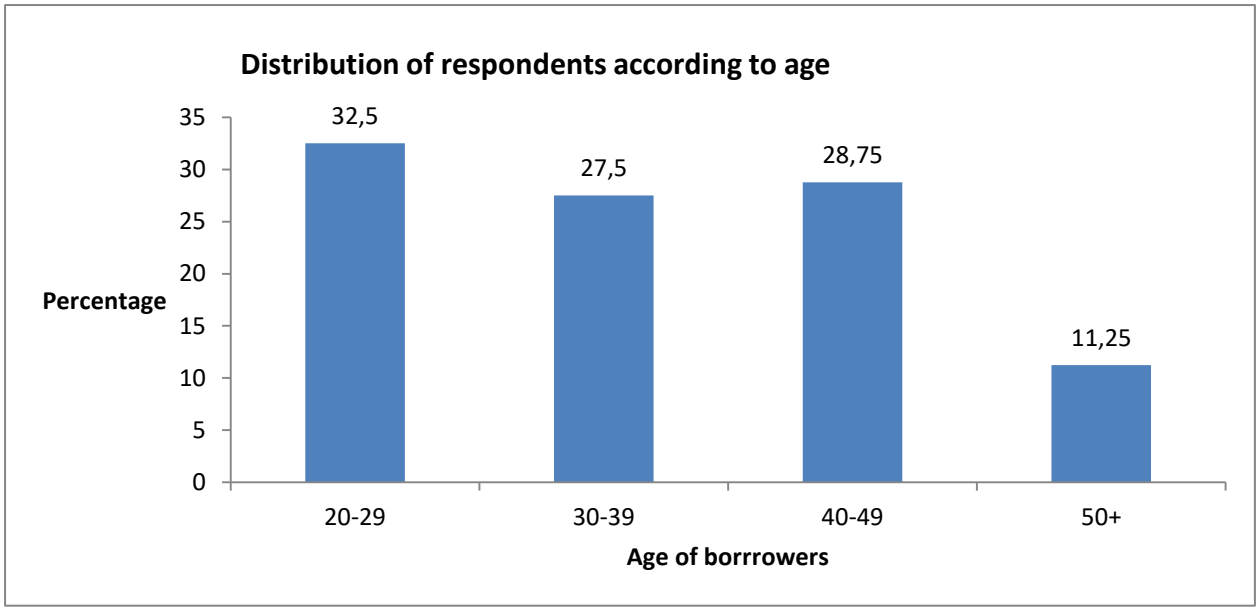


Figure 4.1: Distribution of household debt according to age of respondents

As individuals grow older, they tend to acquire knowledge on financial management through experience. This finding is in agreement with the study by Lewis & Messy (2012) who found that financial literacy is a combination of awareness, knowledge, skills, attitudes and behavior, necessary to make sound financial decisions and achieve individual financial well-being. As a result, individuals who do not receive some level of financial education at an early age, can only acquire such education once they have experienced it and as they become adults.

4.1.2. Distribution of household debt according to level of education of respondents

The level of education middle class households that had acquired loans from financial institutions was also examined in NMMD. It was established that 42.5% of middle class

families had the National Senior Certificate, while 33.75% of respondents were holder of a Higher National Diploma. Additionally, it was found that 23.75% of respondents had a Bachelor's degree or higher as shown in Figure 4.2.

This is an indication that although one cannot equate formal education with financial education, the chances of citizens with lower levels of formal education to acquire more credit than those with higher levels of education are higher. Persons with higher levels of formal education may understand how interest rate works and the risk of using credit to service consumptions.

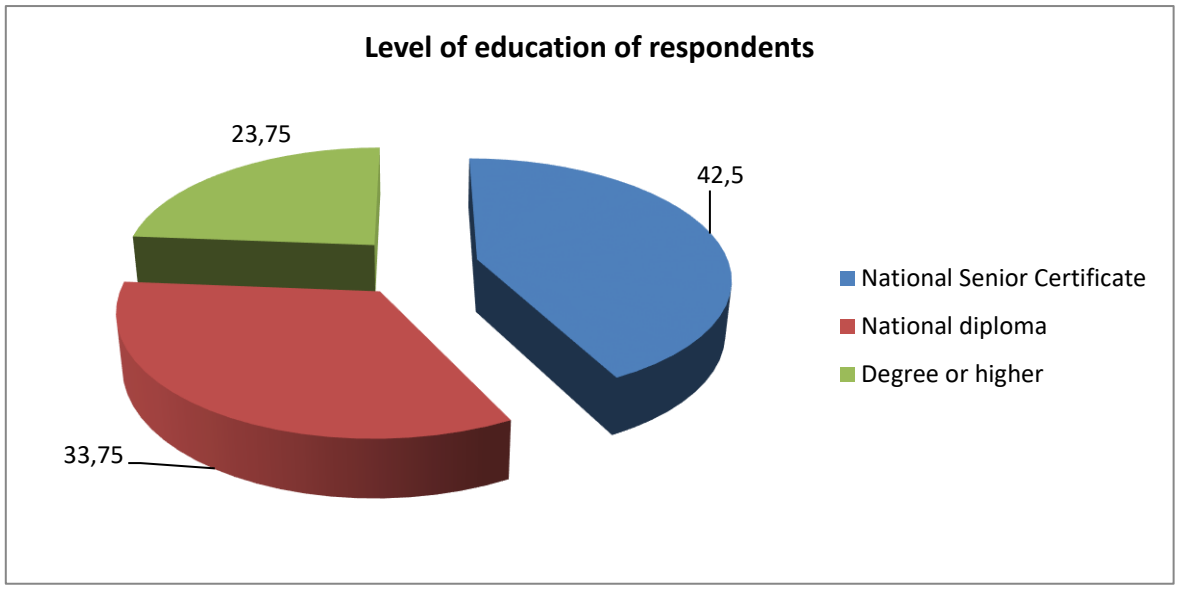


Figure 4.2: Distribution of respondents according to level of education

Individuals with lower levels of education may consider credit as a means to solve immediate financial problems and may end up acquiring loans from multiple sources in order to service loans from other financial institutions. This finding is consistent with that of Leao *et al*. (2007) and Gerlach (2011) who found that when Central Banks charge high interest rates, commercial banks increase interest rates and such situation has a negative effect on individual borrowers at household level as they pay higher interest rates on loans meant to support households consumption and small-scale businesses.

4.1.3. DISTRIBUTION OF RESPONDENTS ACCORDING TO GENDER

Majority of household debtors were males (55%) compared to women with 45%. Figure 4.3 shows the gender difference of respondents who acquired debt at household level.

The results shows that majority of respondents were males compared to females. This is an indication that majority of household heads are males although there are many households headed by females in the District. Household heads are normally considered as bread winners and normally shoulder the responsibility of providing for households. As such, most of them solicit loans to pay for the general operational needs of households.

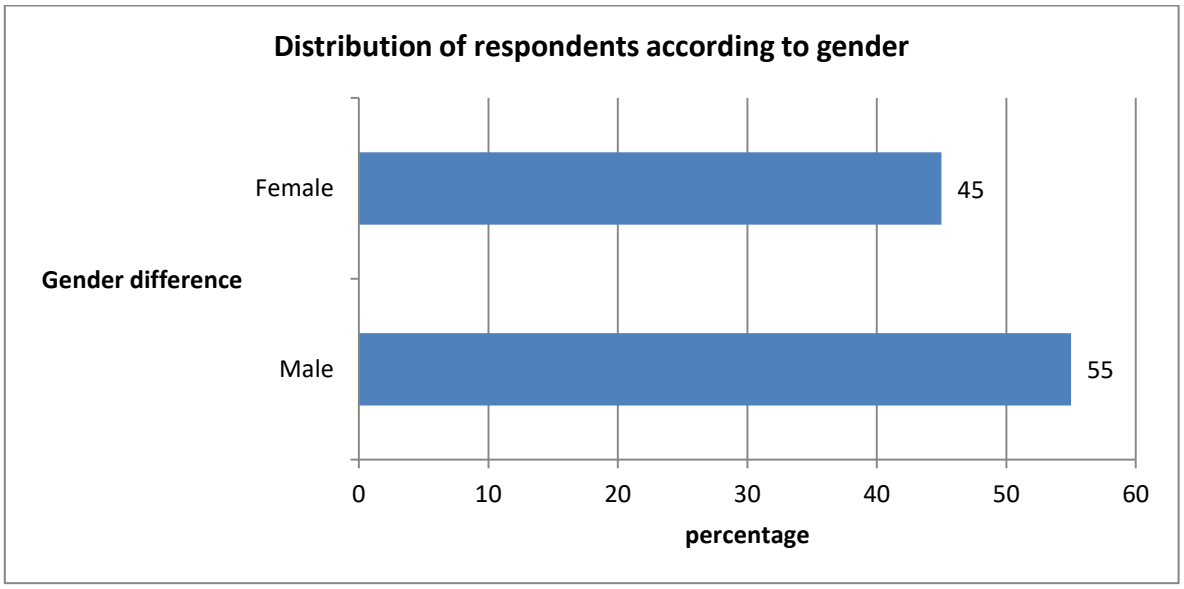


Figure 4.3 Distribution of respondents according to gender

Males are generally considered to be risk takers than females in terms of investment decisions. Hence, gender represents differences in financial literacy level between male and female household head. Men are likely to borrow money if they see any opportunity that has good investment drive and may bring better rewards in future than women who borrow to cater for the consumption needs of households.

4.1.4. Distribution of respondents according to marital Status

Analysis of marital status was done and the results are represented in Figure 4.4. From the analysis, it was revealed that majority of respondents (about 60%) were or were once married while 40% of respondents were single and had never been married before.

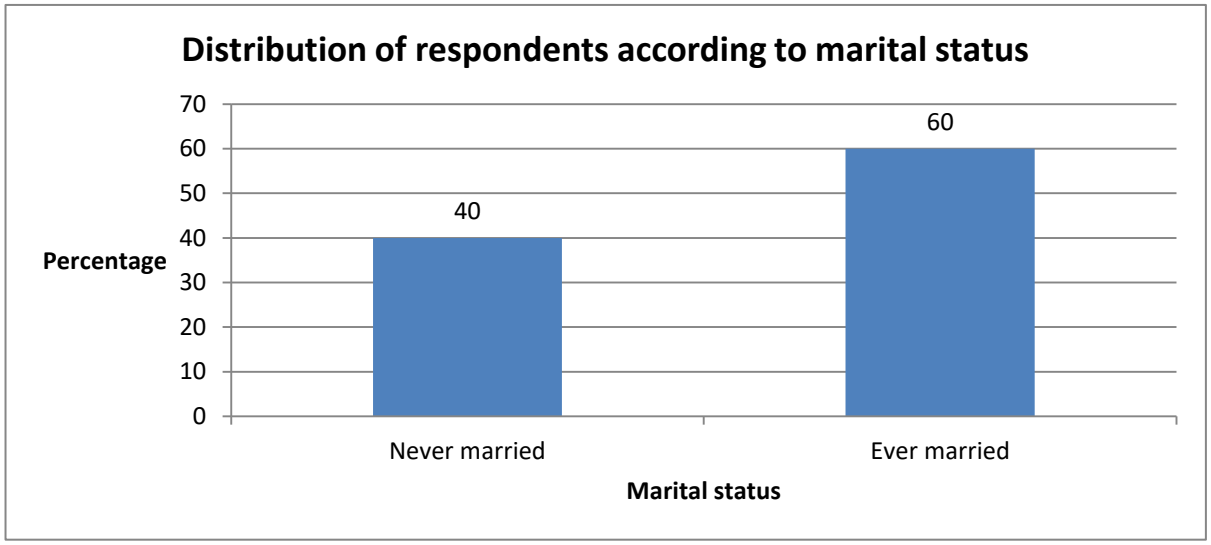


Figure 4.4: Distribution of respondents according to marital status

This is an indication that single-headed households, in most cases, have few mouths to feed compared to households headed by couples. Furthermore, the decision to acquire any loan in a single-headed household may be fairly easier compared to households headed by couples. This is because the priorities of the couple may not be the same. Although it is said that two heads are better than one, it must be remembered that knowledge of financial literacy is very critical for couples to make decision once they have obtained a loan. While the priority of one may be to meet the daily operational needs of the household, the priority of the other may be to invest the money in order to protect the household in future.

4.1.5. DISTRIBUTION OF RESPONDENTS ACCORDING TO SIZE OF HOUSEHOLD

In terms of the size of household of respondents, it was revealed that 45.75% of respondents had at least 5 people within their households, 35% of respondents had 3 to less than 5 people in their households while 21.25% of respondents had a small number of members within their households.

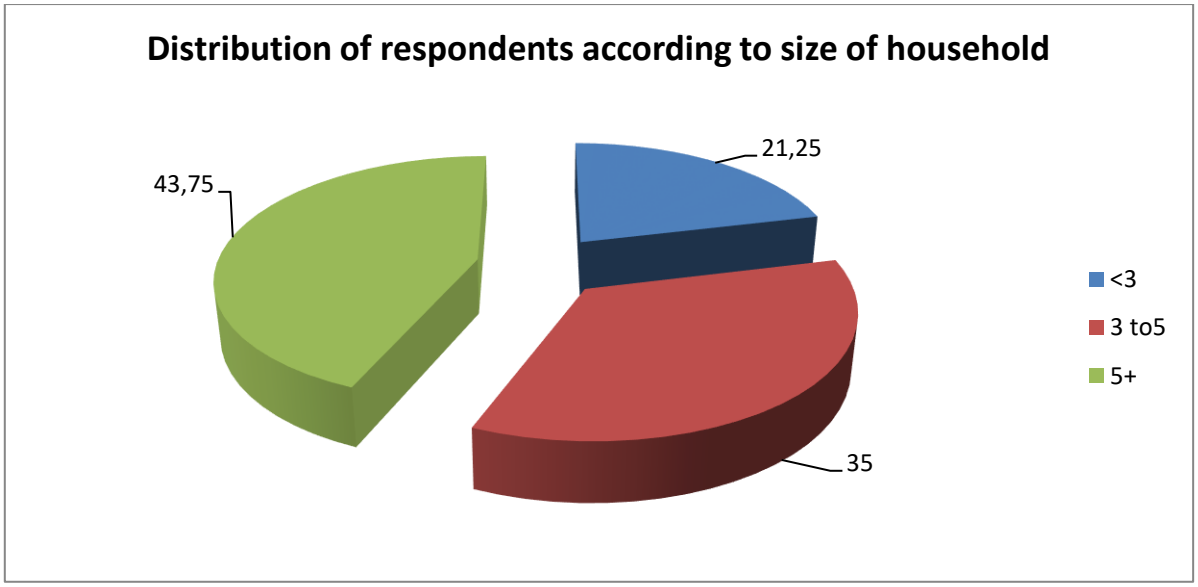


Figure 4.5: Distribution of respondents according to size of household

Household size is measured by the number of people a household head is responsible for in terms of food, clothes, shelter and all other basic needs. With the ever-increasing rate of inflation, households with larger sizes are under tremendous financial pressure to meet their basic needs. As a result, majority of households acquire loans from financial institutions (even when the interest rate is exorbitant) in order to meet the basic needs of households.

4.2 SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLD DEBTORS

Socio-economics factors that contribute towards household debt based on level of financial literacy were analysed mong middle income earners in NMMD. The analysis was done in percentages and the results are presented in Table 4.1. From the Table, in terms of the quantification of household debts, they were categorised as follows: < R 5000; R 5000-R7000, R 7000-R7500 and >R 7500. It was established that 47.5% of respondents had a household debt of between R 5000 and 7500, followed by 32.5% of respondents with debts of between R 7000 and R7500 respectively. However, it was also revealed that only 15% of respondents were found to have a debt of over R 7500.

Furthermore, in terms of households that were found to have acquired debts from financial institutions, approximately 52.5% of such households indicated that they had

no household debt burden. This is an indication that they were quite comfortable to support their household operations without any problems, and at the same time, capable of borrowing and returning the money without any challenges. About 47.5% of respondents reported to have a lot of financial burden and this affects their ability to service existing loans. As a result, they constantly acquire new loans to service existing ones resulting in rising debt burdens of households. This argument concurs with the finding by Bond (2013) who found that household debt situation is worsened by inflation, resulting in lending institutions charging high interest rates. It is the idea of the South African Savings Institute (SASI) (2015) that if individuals save, productivity will increase, thus leading to the creation of new jobs within the economy.

It is also important to discuss the different sectors from which respondents are involved. It was revealed that 42.5% of respondents are working for the municipality, 43.75% in other service organisations and 13.75% employed in the private sector. It is worthy to note that the researcher examined the household debt of respondents as an indication of their level of financial literacy in NMMD by asking questions that directly challenged their knowledge on financial management. Based on findings, it was established that 47.5% of respondents never acquired loans from financial institutions in order to re-invest but use it for other household needs. On the same note, it was also established that 27.5% of respondents received loans to re-invest in agricultural-related activities and small-scale businesses within the province.

In terms of interest rates charged when acquiring loans, it was revealed that debtors are able to negotiate interest rates depending on the debt service royalties they were receiving from financial institutions. For instance, it was found that 56.25% of respondents were paying an interest rates between 25 and 29%, which is far higher that the repo rate of 10%.

T**able 4.1: Socioeconomic characteristics of debtors at household level**

	N	%
Total	80	100
Household debt		
< R 5000	4	5
R 5000-< R 7000	38	47.5
R 7500-< R 7500	26	32.5
R 7500+	12	15
Household debt burden		
No	42	52.5
Yes	38	47.5
Employer type		
Municipality		
Other service sectors	35	43.75
Private sector	11	13.75
Business of debtors		
None	38	47.5
Consumer business	5	6.25
Agriculture-related	22	27.5
Transport business	5	6.25
Communication	10	12.5
Interest charged on debt		
<20	12	15
25-29	45	56.25
30+	23	28.75
Monthly savings		
< R 1000	42	52.5
R 1000-< R 2000	34	42.5
R 2000+	4	5
Financial literacy		
High	26	32.5
Medium	28	35
Low	26	32.5

It was also revealed that 28.75% of respondents pay over 30% interest on the amount that they acquire from the financial lending institutions. In addition, in terms of monthly savings, it was established that majority of respondents (52.5%) had challenges in saving part of their income while 42.5% were developing a saving culture by saving between R1000 and R 2000 per month. Furthermore, it was found that only 5% of respondents were saving an amount greater than R 2000. The effort to save is encouraged by the South African Business Integrator (2015) that the National Development Plan of South Africa aims to increase savings by households in the country by 5.4% or more and to create enough jobs to redress inequality and resolve

the country's high rate of unemployment. For South Africa to achieve this target, there is a need to find investment amounting to at least 25% of GDP from internal sources and such investment is the best fuel for sustainable economic growth and the only source that result in investment funding is from savings.

In terms of financial literacy, it was established that there is an equivalent knowledge base as far as financial literacy is concerned. For example, 32.5% of respondents (about one third of household debt), had in-depth knowledge about financial literacy. On the same note, it was observed that 35% of respondents had fair knowledge about financial literacy while 32.5% had little knowledge about financial literacy in NMND as shown in Table 4.2.

Table 4.2:Descriptive statistics of macro factors and household debt

	Minimum	Maximum	Mean	Std.	Skewness	
	Statistics	Statistics	Statistics	Statistics	Statistics	
Household	9	11	9.74	.737	.287	
Saving per	18	21	19.07	1.013	.609	
Interest rate	5	6	5.78	.442	.180	
Out of pocket	13	14	13.04	.475	.590	
Repo interest	2	5	3.25	1.074	1.284	
Unemployment	50	54	51.82	1.118	.619	
Unemployment	33	34	33.55	.384	-.039	
Urbanisation	2	2	2.39	.027	-.184	
Wages and	86	88	86.92	.891	-.201	
Valid (listwise)						

The state of micro-level debt was examined and in order to understand how the situation at national level influences households at micro level. Table 4.2 shows the mean, standard deviation and range of macro level indicators. As illustrated in Table 4.2, the mean for national household debt stood at 9.74 (SD = 0.737). This implies that about 10 per cent of people in the country are struggling with extensive household debt which is affecting their living conditions. Furthermore, in terms of savings per capita, it was revealed that the national estimates stood at a mean of 19.07 (SD=1.013). This implies that a small proportion of the population (representing about a fifth of the total population) have a saving culture. On the contrary, about 80 per cent of people are not saving. The situation does not only affect people experiencing savings challenges but also their daily cash flows. It is important to note that in many cases, people fail to acquire loans from formal financial institutions and turn to informal

sources where the interest rate might be as high as 50% of the premium. This is because households have limited assets to qualify for loans from formal financial institutions.

Households are bound to rely on alternative institutions such as microfinance firms and informal sources for loans to service their daily households needs, thus increasing their debt burden. As far as the interest rate is concerned, it is observed that the macro–level rate had a mean of 5.97 (SD=0.442). Based on this estimate, it was established that the country's interest rates are bearable to promote the acquisition of the level of household debt, particularly among those with better financial positions and collaterals. In terms of unemployment, it was observed that those with secondary education had an unemployment rate of 33.55% (SD=0.384). Based on these findings, the macro level statistics indicate that the level of unemployment was above 30% of the national level, thus creating an economic challenge among the people as far as their living arrangements are concerned and due to constrained and unstable income situations. Among those earning an income in the form of salaries and wages, few respondents were getting paid in cash and could acquire loans in order to invest their income. This enables households to make financial commitments and open their access to more loans.

4.3 TEST OF ASSOCIATION BETWEEN HOUSEHOLD DEBT, DEMOGRAPHIC AND ECONOMIC FACTORS

The levels of financial literacy are necessary to assess the strength of association between explanatory variables and household debts. The Pearson Product Moment Correlation Coefficient was used to test the association. Table 4.3 presents the results of the correlation coefficient matrix of the explanatory variables and households at micro level. It was revealed that level of education of respondents had a positive correlation to household debt, although with a weak correlation coefficient of 16% and significant at $p<0.05$. This is an indication that households with higher levels of education within the District, have less debts from micro-financial institutions and other informal credit sources with exorbitant interest rates even if there is the need to support the level of operations of households.

Table 4.3:Correlation results of bivariate association between household debt and socio-demographic factors of households

	H	Age	Edu	Gnd	MS	HHsi	Em	Bus	Intr		FinL
Household	1										
Age	0.	1									
Education	0.	-	1								
Gender	0.	-	0.15	1							
Marital	-	0.10	0.06	-	1						
Household	0.	-	0.01	0.16	0.01	1					
Employment	-	0.11	-	-	0.14	0.14	1				
Business	-	-	-	0.18	-	-	-	1			
Interest	0.	-	0.36	0.16	-	0.11	0.03	-	1		
Savings	0.	0.06	-	0.01	-	-0.09	-	0.09	0.10	1	
Financial	0.	0.21	0.27	-	0.03	0	0.06	-	-	0	1

Note: Level of significance is determined by ***p < 0.001; ** p < 0.05;* p <

The association was positive and significant although weak despite the fact that the influence of education on household debt in NMMD remains so low confirming the argument that being educated is not synonymous to being financial literate. Similarly, it was revealed that gender of respondents is associated positively with household debts with a correlation coefficient of 25% with p<0.05. This is an indication that gender differentiation in the District affects the situation of household debt significantly even though the degree of association to which gender influencing household debt was weak. Furthermore, a positive correlation was found between financial literacy and household debt and the level of association was positive at 6% with p < 0.1. In this case, financial literacy of people in the District is very significant in influencing the decision of households to acquire loans from financial institutions that charge exorbitant interest rates and compound the situation of household debts in the District.

It was also found that at micro-level, there are some factors that have negative association with household debt. For instance, for every unit change in marital status, there was a negative response towards household debt by a correlation coefficient of -19.0%, with p < 0.1. This implies that marital status influences the propensity of households to acquire loans in the District. This is an indication that households headed by couples are challenged when it comes to taking decisions to acquire loans. Such decisions may result in the acquisition of loans either for consumption or investment and the risk of making the wrong financial decisions becomes higher.

Similarly, it was revealed that the type of employment was negatively associated with household debt condition with a correlation coefficient of -29.0% and $p < 0.1$. This implies that despite the fact that people are employed, there is a negative effect in that the type of employment determines the monthly inflow of income within the household and as a result, determines the ability of the household to acquire credit.

Analysis on the impact of macro-economic factors and the level of household debt in Ngaka Modiri Molema District (NMMD) was performed using Pearson Correlation Coefficient. The aim was to understand if there is any association between macro-economic factors of South Africa and household debt influenced by knowledge of financial literacy. The results from the analysis are presented in Table 4.4.

At national level, it was revealed that savings per capita and repo rates are inversely associated with correlation and household debt. Correlation coefficients of -76.3%, $p < 0.01$ and -83.1%, $p < 0.01$ respectively were found in the study. This implies that savings and interest rates charged by financial institutions do affect the propensity of households to save and affect the level of household debt among middle class families in the District. The strong negative but yet significant association between interest rate and saving situation is a direct indication of how these two variables are inversely related and their direct impact on household debts in South Africa. This position on national savings and interest does affect the micro level operation of financial institutions as these firms transfer their burden to individuals at household level while maintaining profitability.

Table 4.4: Correlation results illustrating the bivariate association between household debt and macro-economic factors of South Africa

	HH	Intere	Savings/ca	repo	Unemploym	Urban	Wage
Household	1						
Interest	-	1					
Saving per	-	.648**	1				
Household	-	.486**	.952**				
REPO rates	.705*	.565**	-.162	1			
Unemploym	.975*	-.080	-.660**	.737**			
Unemploym	.537*	.341	-.154	.457*	1		

Urbanisatio	.973*	-.217	-.845**	.579**	.558**	1	
wages and	.748*	-.423*	-.889**	.215	.390*	.876**	1

** Correlation is significant at 0.05 level (2 tailed) and *** correlation is significant at 0.1 and * correlation is significant at 0.01

Furthermore, it was observed that unemployment, wages and salaries earned per capita, was found to be positively correlated to household debt. It was revealed that unemployment and income (wages and salaries earned) were strongly associated with household debt and were significant at 53.7%, $p < 0.01$ and 74.8%, $p < 0.01$ respectively. This is an indication that as unemployment increases and the potential income of citizens decreases, the situation of household debt may deteriorate. This strong positive and significant correlation at the national level is a direct reflection of how an increase in repo rates increases the level of household debts among middle class families at the level of the District.

4.4 L**OGISTIC RESGRESSION ANALYSIS (MULTIVARIATE ANALAYSIS)**

Logistic regression was used in the study to test the combined effect of micro socio-economic factors on household debt as a result of poor financial literacy among middle class families in the District. The results of the Logistic regression analysis are presented in Table 4.5.

4.4.1. Micro socio-economic factors influencing household debt

From the analysis, age of respondents is associated with increased likelihood of increasing household debt burden (OR = 1.89, 95% CI [0.98 - 3.65], $p < 0.1$) due to poor financial education among middle class households. The finding is a validation of earlier results using Pearson Correlation which found that young middle class adults do not have proper understanding of the impact of credit on households compared to middle and older adults in NMMD.

Table 4.5:Logistic regression estimating household debt burden

	Odds ratio	P>z	[95% Confidence Interval]	
Age	1.89*	0.057	0.980372	3.655874
Education	1.24	0.606	0.540018	2.874892
Gender	2.38	0.205	0.621157	9.167427
Marital status	1.02	0.979	0.252272	4.11722
Household size	1.43	0.389	0.631046	3.260024
Employment type	0.21**	0.003	0.074789	0.593713
Position	0.17**	0.001	0.065366	0.473917
Business type	0.53**	0.031	0.302133	0.944442
Salary	2.27**	0.032	1.075078	4.821236
Interest	0.87	0.808	0.303787	2.530482
Savings	2.03	0.226	0.643427	6.443481
Financial	1.06	0.896	0.399064	2.858428

***p < 0.01; **p < 0.5; *p < 0.1

The results of the logistic test show that age of respondents increases the chances of household debt within the District. Similarly, it was revealed that income earned by respondents is associated with a significant and increased likelihood of household debt (OR=2.27; 95% CI [1.08 - 4.82], p < 0.05) in Ngaka Modiri Molema District (NMMD). This is an indication that as household income increases, so also is the chance to access credit.

It was also revealed that employment status of respondents reduced the chances of a household debt burden significantly (OR=0.21; 95% CI [0.07-0.59], p < 0.05). This is an indication that middle class households with stable monthly income are more likely to acquire loans from financial institutions as they are guaranteed monthly premium compared to households with variable income. It was also revealed that employment status has a direct bearing in determining the odds of obtaining loans by a particular household in the District. The odds of people in the District who are not working to access loans are very slim and the odds of them accessing credit from informal financial sources other than formal financial institutions may be higher.

Similarly, job title and type of business were found to significantly reduce the burden of household debt (OR = 0.17; 95% CI [0.06 - 0.47], p < 0.05) and (OR = 0.53; 95% CI [0.30-0.95], p < 0.05) respectively. It was revealed that the position of employees determines income and the higher the income, the less the appetite for a middle income household to seek loans since the income may be sufficient to pay for the day-to-day operations of households. Furthermore, as an employee moves to a higher position within an organisation, so the odds for income to increase and the likelihood

of a decrease in household debt. Likewise, it was found that the type of businesses that a household is engaged in, influences either positively or negatively, their odds of household debt. The implication is that households with businesses that bring in more return and have good cash flow throughout the year, are less likely to acquire loans compared to businesses with poor cash flow or seasonal in nature.

4.4.2 Macro level factors influencing household debt

Macro-level factors were also examined in order to explore aggregate household debt in South Africa. The objective was to establish the effect of these factors on national household debt of which Ngaka Modiri Molema District is part. Logistics regression analysis was done and the results are presented in Table 4.5.

Table 4.6: Macro-level association of factors affecting household debt

Household debt	Coefficient	Standard errors
Interest rate	1.67	0.035
GDP savings	-0.55***	0.09
Repo Interest Rate	0.48***	0.09
Unemployment	1.03**	0.31
Urbanisation	26.24***	1.17
Wage and salaries	0.62**	0.10

Hint: ***p<0.001;**p<0.05;*p<0.1

It was found that GDP savings has a negative effect in influencing the national aggregate of national debt in the country. This was observed by a parameter coefficient of - 0.55, $p < 0.001$. The implication may be that as the odds for GDP savings reduced, so are the chances of an increase in household debt. Furthermore, it was revealed that unemployment, urbanisation, including wages and salaries were significant predictors of household debt at national level. The implication may be that as unemployment, urbanisation as well as wages and salaries increase, so are the odds of household debt among middle class households. This is an indication that while unemployment and urbanisation put strain on household income due to an increase in the costs to service households in cities, an increase in wages and salaries puts pressure on households to upgrade their living standard and hence, force them to obtain credit in cases where their income cannot meet their demands.

Furthermore, the odd for an increase in repo rate was found not to have a very significant effect on household debt. The results show a slight chance of an increase in household debt by 0.48 at $p < 0.001$. On the same note, it was observed that a unit change in unemployment was associated with a positive effect on household debt by a parameter coefficient of 1.03 at $p < 0.05$ while for every unit change in urbanisation, household debt changed significantly by 26.24 and was significant at $p < 0.001$. Also, a unit change in wages and salaries resulted in a slight increase in household debt as reflected by a parameter coefficient of 0.62, significant at $p < 0.05$.

Based on the analysis and presentation of results, the following inferences were drawn from the study. It was revealed that majority of households (32.5%) with high debt levels were those aged 20-29 years while 28.75% of people inadequate level of financial education were aged 40-49 years. Furthermore, the majority (42.5%) of middle class household heads were holders of the National Senior Certificate while 33.75% had a national Diploma. A difference in gender and marital status was established among households with a debt burden in the District. It was further established that household sizes have a direct bearing on household debts among middle class families in NMMD. Age, household sizes, type of employment, job title, type of business as well as wages and salaries of middle class households, significantly increase the chances of acquiring credit. The association between socio-economic, micro and macro variables and the effect on household debt among middle class families in the District was also examined. It was established that as the odds of these factors increase or decrease, the chance of household debt is significantly affected.

4.5 Discussion

The study anticipated to explore the household debts situations among middle class persons in Ngaka Modiri Molema Municipality (NMMD) in North West Province, South Africa. The study employed used two types of approached explore household data. Firstly, it used the micro-level data to understand the micro-level factors influence households' debts among the respondent who collected loans from the financial

rending institutions. Secondly, the study used data from the South Africa, national data collected from the World Bank Development Indicators in order to understand the determinants of the household debt at national levels.

At micro level, the study found that majority of the people in NMMD was involved in some sort of loan and had subjected their household to the debt. In addition, the current study found that in NMMD majority of the people who had a had a loan and increased their household debts had less debt burden compared to those that indicated to have a burden as a result of household debt acquisition. According to Prinslo (2002) definition of debts, the fewer burdens that the majority of the people in the province who acquired the loan from the financial firms were capable to understand the standard operation procedures associated with the loan and were capable of using such facilities in order to reduced their burden. This principle exercised by the people, result in the long-run growth of the economy as the charges that they pay as interest based on their principle amount become a catalyst of economic development (OECD, 2016). It is therefore imperative to note that as the household debt burden decreases, it reduced the household debt per capita and consequently decrease the gross income. This is evident at national level, based on South Africa Reserve Bank (SARB) that reported that the country's gross income decline from 78% in 2015 from 78.3% as of the close of the quarter in 2014.

At micro-level the study found that the people that were given the loans and accumulate the household debts represented, 42.5% for those working for the municipality and 43.75% for those working for other services sectors within the province and only 13.75% working for private sectors. Further analysis indicates that a unit changes in employment at micro-level the corresponding change in the household debts decrease. Yet, at the national level, those that were found not to be employed correspondingly increased the likelihood of increasing the household debt situation significantly in South Africa. This implies that in as far as employment status was concerned; the study found that as the country national image has the similar reflection with that of the provincial level. In the same way the study found that saving status of the people at micro-level increase per unit, the study found that this change was unexpectedly associated with a slight increase in household debts which is

contrary to the national position in which saving levels was associated with increased at for them to acquire more loans and make their household heavily indebt

Furthermore, the study found that in as far as the interest rate was concerned, micro level, a unit increase in interest rate that the respondents pay to the financial rending firms after getting the loan slightly make them yearn for more loan and consequently increase their household debts. However, this perspective is not the case because the national interest rate in general that the financial firm are charging on their clientele, they have a negative effect on household debt condition. This implies that in as far as interest rate is concerned, aggregate national interest does influence aggregate national household debt but this situation is inversely associated at provincial level.

In terms of financial literacy, the study found that a unit change in financial literacy among the respondents at micro level, there has been a slight negligible and significant increase in the households' debts in NMMD. This implies that financial literacy remain so low among the people to influence their decision to reduce their burden of household debts. On the other hand, it is observed that urbanization has a positive association on the household debt at national level. For instance, based on the current study the rate of urbanization at the national level, it was found to increase the aggregate national debt, significantly.

In the multivariate analysis, it was found that salary earns was associated with increased likelihood of people in getting more loan and assume an over burden on household debt, significantly. On the other aspect, it was observed that other indicators such as age of the employees, employment status, and position one assume at the current job and business type were the significant predictors of household debts in NMMD. At national level, the regression analysis techniques found that GDP savings per capita, repo interest, unemployment, urbanization, and wages and salaries were the significant indicators that influenced household debt in the country. It is important to note that savings, employments status and salaries were the three common indicators that had a consistent influence of household debt at both provincial and national level in the country.

4.5 CHAPTER SUMMARY

The results and discussion of financial literacy and debt levels of middle class households in Ngaka Modiri Molema District, North West Province, South Africa were presented in this chapter. Descriptive statistics, bivariate and multivariate statistical methods were used to examine the concept. Tables, graphs and pie-charts were used to present the results. The Pearson Product Moment Correlation Coefficient was used to test the association between the dependent and independent variables. Logistic regression was used to test the odds of micro and macro level economic variables on household debt among middle class families in the District. The implication of these variables on household debts in relation to the level of financial literacy of households was also discussed. The next chapter is the conclusions and recommendations.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

The results and discussion of univariate, bivariate and multivariate analysis of factors influencing household debt among middle income families in Ngaka Modiri Molema District were presented in the previous chapter. The purpose of this chapter is to provide the conclusion and recommendations based on the analysis and results obtained.

5.1 CONCLUSIONS

Most households in this South Africa spend their income on consumption rather than savings and this affects household debt within families. Financial literacy is an essential survival tool for citizens and to ensure that people make positive financial decisions and avoid undesirable effects of household debt.

The main objective of this study was to examine the level of financial literacy among middle class households in Ngaka Modiri Molema District. Using the product moment correlation coefficient and logistic regression techniques, it is concluded that these techniques either measure the degree of association between micro and macro-economic factors or influence the level of household debt due to inadequate financial education.

For the analysis, age, education status, gender, marital status and employment (as socio-demographic factors) were strongly associated with household debt. It was further established that interest rate, household expenditure, repo rates, unemployment, urbanization as well as wages and salaries earned by middle class households are key factors influencing household debt.

Furthermore, it was established through the logistics regression that employment, position of household head in the labour force, type of business and salary earned also influence household debt (due largely to the poor level of financial literacy).

It is, therefore, established that micro and macro-economic factors as well as socio-economic factors of middle class households in Ngaka Modiri Molema District influence the level of household debt (due to inadequate financial education).

5.3 RECOMMENDATIONS

Acquisition of credit is a necessary tool in modern economies and considered as the best mechanism for growth and economic development of a country. It is, therefore, imperative to improve the financial situation of people at micro-economic level if the financial position of households is to contribute positively towards economic development. Therefore, based on the objectives of the study, the following recommendations are advanced if household debt is to be considered a robust and significant tool to improve South Africa's economy and beyond.

Since household debt is on the increase in the country (at both national and provincial levels), it is necessary to accelerate development in the country. It interest generated by debts is reinvested in the economy, it could go a long way in reducing the financial burden among people and have significant repayment returns regardless of the amount. In addition to being used competitively to enhance consumer choice, it is imperative to have different household intervention measures in order to discourage inappropriate utilisation of such loans becoming either bad debts or doubtful debts that become a financial burden on households. This could be achieved as follows:

a) Improving financial literacy and investment portfolio management education. This could be achieved if national and provincial governments work together and enhance a practical-based school curriculum that is likely to educate people on credit and investment as a way of improving their financial knowledge and management.

b) Enhancing access to credit by allowing people to manage small credits before being entrusted with bigger credits which often overburden them.

c) Improving provincial credit awareness among people. It is important to note that one major cause of debt among people is inadequate awareness of credit obligations and credit histories. This can be achieved through rigorous awareness campaigns.

d) Improving access to partial and rational debt advice among people who are highly overburdened by household debt through the establishment of credible agencies to improve the level of debt among people at provincial level. This will ensure that people are aware and manage their debts better, improve socio-economic welfare and support economic development in the long-term.

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APPENDIX A: DATA OLLECTION INSTRUMENT

QUESTIONNAIRESECTION A

A) Socio-demographic Information

a) What is your age?
   i) 20-30
   ii) 31-40
   iii) 41+
b) What is your highest level of education?
   i) No education
   ii) Primary
   ii) Secondary
   ii) Diploma or higher
c) What is your gender?
   i) Male
   ii) Female
d) Marital status
   i) Married
   ii) Single
e) How many children do you have in your household?
   i) 1-2
   ii) 3-4
   iii) 5 +

B) Economic characteristics

a) Type of employment
   i) Municipal
   ii) Government
   iii) Private
b) Position at your work place over time:
   i) Operations
   ii) Middle manager

iii) Support staff

c) Indicate your salary over the period indicated:

i) < 5000

ii) 5000-<7500

iii) 7500-<10,000

iv)10,000 +

d) How much is your debt history?

i) < 1000

ii) 1000-<2000

iii) 2000-<3000

iv) 4000+

e) How much is your negotiated interest repaid over time?

i) <20%

ii) 25-29%

iii) 30%

f) How much is your savings history?

i) < 1000

ii) 1000-<2000

iii) 2000-<3000

iv) 4000+

C) Environmental characteristics

a) What type of business do you have over time?

i) Consumer business

ii) Transport business

iii) Agricultural produce

iv) Communication promotion business

iv) General street vending

v) None

b) Are you able to use your loan to do other things other than the intended purpose?

i) Yes

ii) No

c) How did you know about this loan firm?

i) Firm’s advert/flyers
ii) Television
ii) Radio
iii) Friend
iv) Billboard

d) How frequent do you read about financial information?
i) Often
ii) Not often