

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**COLLEGE OF HUMANITIES AND SOCIAL SCIENCES**

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**DEPARTMENT OF ECONOMICS**

**INVESTIGATING FACTORS THAT INFLUENCE INDIVIDUAL'S DEMAND  
FOR LOANS IN GHANA: A CASE OF KWAHU WEST MUNICIPALITY**

A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS IN PARTIAL  
FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF  
MASTER OF PHILOSOPHY IN ECONOMICS.

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**DECLARATION**

I hereby declare that this research work is part of the requirement toward the attainment of a Master of philosophy in Economics and that, to the best of my knowledge, it contains no material previously published by another person nor materials which have been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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**SUPERVISOR’S DECLARATION**

I declare that I have supervised the student in undertaking the study submitted herein and

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## DEDICATION

I dedicate this thesis to the Almighty God for His strength, wisdom, knowledge and guidance. I also dedicate this piece of work to my late parents Mr. James Tawiah Baidoo and Miss Elizabeth Aidoo.



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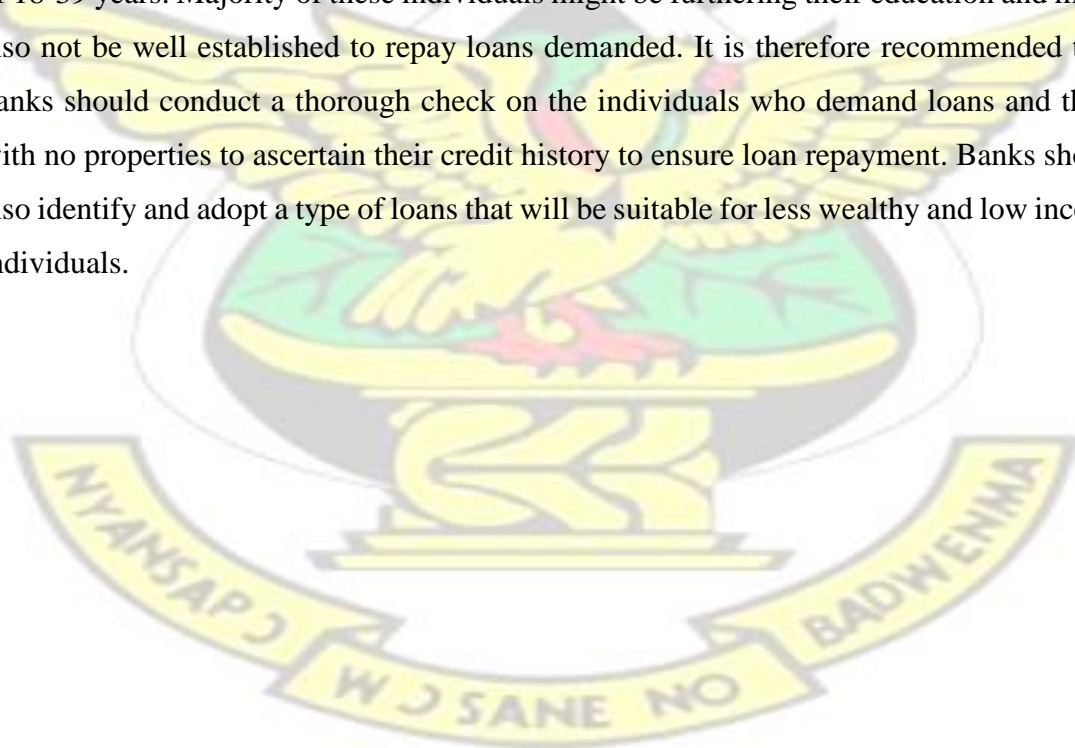
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## ABSTRACT

Following the liberalization of the financial sector in Ghana, individual's demand for loan has increased. However, banks are reporting high rate of loan defaults and nonperforming loans (NPLs). Much is not known regarding the factors influencing individual's demand for loans in Ghana. The purpose of this study is to investigate the factors that influence individual's loan demand in Ghana. A sample of 600 individuals was selected from Kwahu West Municipality using simple random sampling technique. Logistic regression model was applied to the data. The study showed that age, education level, employment status, marital status, individual wealth, health status, remittance, income, savings and financial literacy are the major demographic and socio-economic factors that influence individual's loan demand. Again, the study revealed that 54.5% of the 400 individuals who indicated that they have ever demanded loan are between the ages of 18-39 years. Majority of these individuals might be furthering their education and might not be well established to repay loans demanded. It is therefore recommended that, banks should conduct a thorough check on the individuals who demand loans and those with no properties to ascertain their credit history to ensure loan repayment. Banks should also identify and adopt a type of loans that will be suitable for less wealthy and low income individuals.



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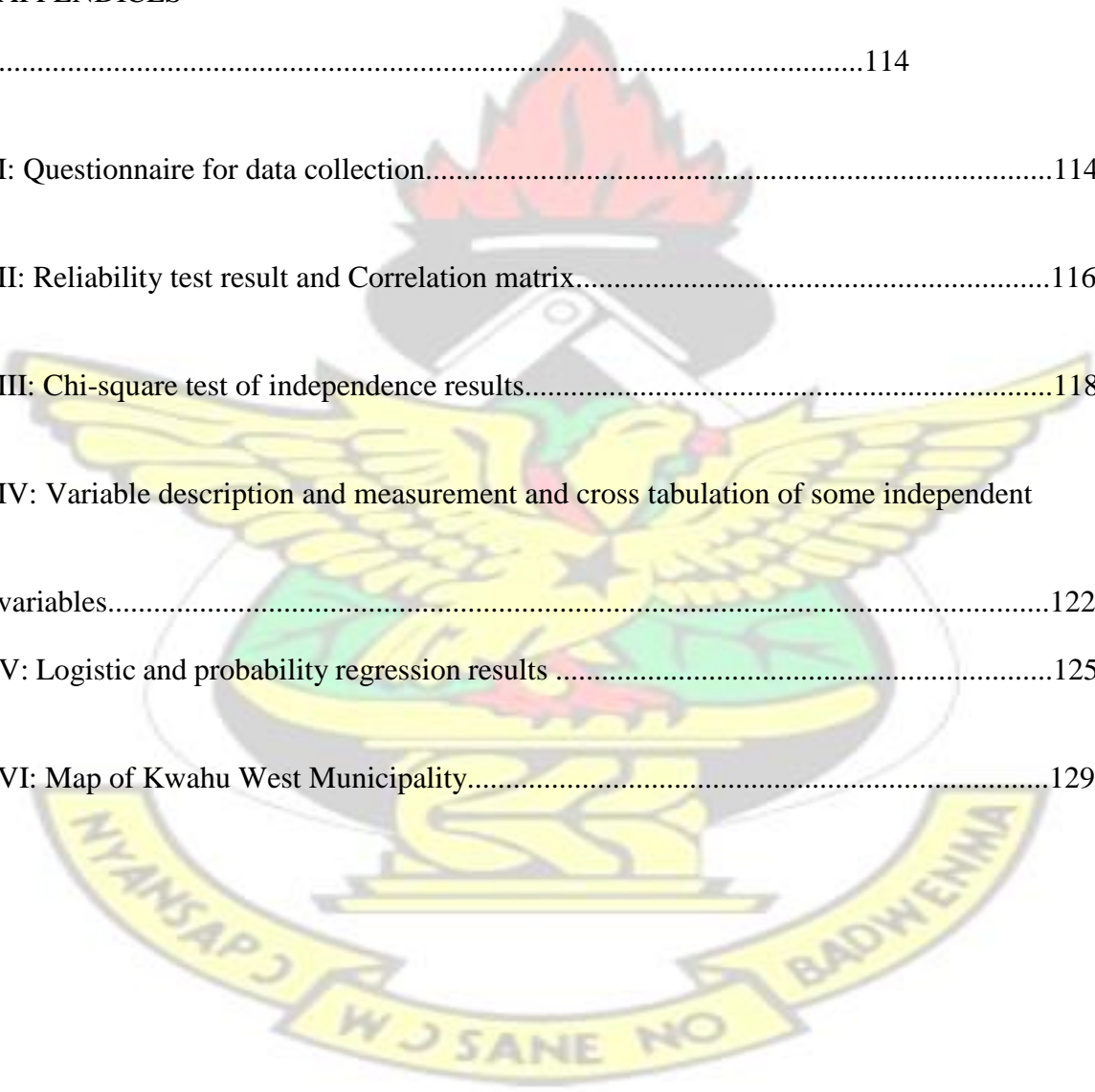
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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the study

Demand for loan has received and continues to receive attention globally as a result of its importance to investment, consumption, economic growth and development. Demand for loan is increasing due to the liberalization of the financial sector of world economies. (Dutt, 2006; Brown et al., 2005; Pastrapa, 2011).

In the early 1980s, the Ghanaian economy experienced its worst performance. For example, real interest rate averaged -26.78% and was -46.65% in 1983. Inflation averaged 77.95% and the figure was 122.9% in 1983. Domestic credit provided by the financial sector as a percentage of gross domestic product averaged 21.11% and was

18.46% in 1983. Economic growth rate for the same period averaged -3.63% and was 6.92% in 1982 (World Bank, 2014). This low interest rate discouraged savings which also influenced the amount of funds that were available to financial institutions to be granted as loans (Ziorklui and Barbee, 2003).

Economists including McKinnon (1973) and Shaw (1973) have raised concerns for the need for financial deepening which will ensure that there are enough funds to be granted as loans if economic growth and development are to be achieved in economies. In demand for loan, savings and funds mobilization play a very important role. That is, funds need to be mobilized through savings and these funds are then granted as loans to individuals who have deficits (Odhiambo, 2002).

McKinnon (1973) and Shaw (1973) have argued for the liberalization of the interest rate due to financial repression. They are of the view that interest rate should be allowed to be determined by the forces of demand and supply in the market. When interest rate is liberalized and it rises as a result of market forces, it encourages savings and for that matter there will be enough funds available to be granted as loans. These concerns are justified by economic theories and studies and the popular among them are the hypothesis of McKinnon (1973) and Shaw (1973) which stress on the need for interest rate liberalization and financial deepening which is also important for economic development.

Following this gloomy macroeconomic performance, Ghana government adopted Structural Adjustment Programme (SAP) in 1986.

Subsequently, the financial sector was liberalized and the Financial Sector Adjustment Programme (FINSAP) was introduced in September 1987. The FINSAP was in two phases: Phase I lasted between 1988 and 1991 and Phase II from 1992 to 1995. The idea of the FINSAP was to restructure banks which were repressed for them to become more efficient in their operations and also for the development of the financial sector to enhance economic growth (Akowuah, 2011).

The liberalization of the financial sector (Flexible exchange rate regime, removal of preferential interest rate to priority sectors, removal of interest rate controls and sectoral credit ceiling etc.) led to improvement and establishment of more financial institutions in Ghana. For example, the number of financial institutions before 1983 was 12. These were six commercial banks, three development banks, one rural bank and two merchant banks. However, by June 2015, the number of universal banks (commercial banks, investment

banks and merchant banks) has increased to 28. There are 137 rural and community banks (RCBs), 63 nonbanking financial institutions (NBFIs) and 513 microfinance institutions (MFIs) (Bank of Ghana, 2015).

Indeed, there is significant increase in the number of financial institutions in Ghana. These financial institutions play a very important role by serving as intermediaries between the surplus units and deficits units in the country (Mishkin, 2007). The increasing number of financial institutions has also facilitated demand for loan. Individuals use their personal incomes and wealth to increase their consumption and when these are not sufficient, they turn to demand loans from financial institutions to cover the spending gap (Bertola and Houchguertel, 2007; Pastrapa, 2011). The loans demanded are for the purposes of consumption, investment, building, debt settlement and education financing, among others to enhance living standard (Del-Rio and Young, 2005; Magri, 2002; Pastrapa, 2011) . The borrowers do so with the objective of maximizing their utility (Herendeen, 1974; Pastrapa, 2011) and also in order to have a smooth consumption pattern over their life time (Magri, 2002).

## **1.2 Statement of problem**

Following financial sector liberalization from 1988 to date and the increasing number of financial institutions in Ghana, loan demand has increased significantly and continues to increase (Akowuah, 2011). Available data from Ghana Commercial Bank (now GCB Bank), ECOBANK and HFC bank indicate that amount of money granted as loans to borrowers have been increasing. For the period 2011 to 2013, the loan amounts granted by

GCB Bank were Gh¢ 476,211, Gh¢ 847,872, and Gh¢ 960 ,707 (all in thousands ). Ecobank granted Gh¢ 849,893, Gh¢ 1,396,514, and Gh¢ 2,126,820 (all in thousands) and HFC Bank also disbursed Gh¢ 209,818,240, Gh¢ 333,724,936 and Gh¢ 519,318,955 for the same period. (GCB Bank, Ecobank and HFC Bank Annual Reports, 2011 to 2013). Again, domestic demand for loan has also increased considerably. On the average, the domestic credit provided by the financial sector as a percentage of gross domestic product (GDP) increased from 21.41% between 1990 and 1999 to 30.07% between 2000 and 2013. The figure was 34.90% in 2013 (World Bank, 2014). The increase in the demand for loans has resulted in high rate of loan default and has increased non performing loans (NPLs). The NPLs averaged 14.05% from 2000 to 2013 reaching the highest rate of 22.7% in 2002 and it was 12% in 2013 (World Bank, 2014). According to the Deputy Governor of Bank of Ghana at the 13<sup>th</sup> annual working luncheon of the Ghana Association of Bankers (GAB) in 2012, the high rate of NPLs is a disquieting issue for the nation.

To address the issue of loan default, it is necessary for stakeholders in the financial industry (bank of Ghana, the banks among others) to know the characteristics of the individuals who demand loan as well as well the factors that influence their decision for loan demand and this is what this thesis seeks to fulfill.

Indeed, some studies have been conducted on loan demand in other countries; Magri (2002) in Italy, Messah (2011) in Kenya, Olaoye et al. (2012) in Nigeria, Amao (2013) in Nigeria, Olomola and Gyimah-Brempong (2014) in Nigeria, Cheng and Ahmed (2014) in China and Pastrapa (2011) in Greece and show inconclusive results. Magri (2002) reported

a positive relationship between number of children and demand for loan. On the contrary, Olaoye et al. (2012) reported that there is a negative relationship between number of children and demand for loan. According to Olaoye et al. (2012), increasing number of children help in the fishing activities and so there is no need to employ other workers who will have to be paid and hence no need to borrow even if the farmers do not have funds.

In the review of relevant literature, it was found that much is not known about the demographic and socio-economic factors influencing individuals' demand for loan in

Ghana. Some studies have been done on Ghana but the emphasis had been on the macroeconomic factors like lending rate, inflation and gross domestic product, financial products like savings, insurance, pension schemes, credits, mutual funds and mortgage (Amonoo et al., 2003; Bendig et al., 2009; Akowuah, 2011; Boakye and Amankwah, 2012 and Akpandjar et al., 2013).

Amonoo et al. (2003) and Akowuah (2011) also investigated the macroeconomic variables that influence demand for loan in Ghana. Few studies (Bendig et al., 2009, Boakye and Amankwah, 2012 and Akpandjar et al., 2013) have investigated individuals' demand for financial products in rural and urban areas in Ghana.

No study has been found that has investigated individual's demographic and socio-economic characteristics that influence demand for loan in Ghana. Again, the increasing demand for loan and the high rate of loan default calls for an investigation into the

characteristics of individuals who demand loans and also the demographic and socioeconomic factors that influence their decision for loan demand. This will help reduce loan default in the country and help financial institutions to manage their assets and profit well to ensure smooth running of the financial system of the economy. It is against this background that this study is necessary.

### **1.3 Objective of the study**

The main objective of this thesis was to investigate the factors that influence individual's demand for loans in Ghana, using Kwahu West Municipality as a case study.

Specifically, the study sought to;

1. Find out the demographic and socio-economic characteristics of the individuals in the Kwahu West Municipality selected for the study.
2. Measure the effect of demographic and socio-economic factors on individual's demand for loans in the Kwahu West Municipality.
3. Identify the causes of loan default
4. Examine the effect of the loan received on the individual's socio-economic life.

### **1.4 Research questions**

The research seeks to answer the following questions

1. What are the demographic and socio-economic characteristics of the individuals in Kwahu West municipality selected for the study.
2. What is the effect of demographic and socio-economic factors of individuals in Kwahu West municipality on individual demand?
3. 3. What are the causes of loan default?
4. 4. What is the effect of the loan received on the socio-economic lives of individuals in the Kwahu West Municipality?

### **1.5 Significance of study**

Demand for loan play a very important role in the lives of individuals by improving their living standards and livelihood (Akpanjar et al., 2013). Individuals have demanded loans and continue to demand loans for several purposes including consumption, payment of utility bills, education financing, investment etc. with the aim of improving their socioeconomic lives (Magri, 2002).

The loans demanded by these individuals are facilitated by the financial institutions in the country. These financial institutions in turn get profit as they grant loans to the individuals through the interest they charge. This profit is what sustains them for smooth operations as well as facilitating economic growth and development (Arko, 2012). Therefore, increase in loan demand and loan default rate at the same time is a major issue which needs redress.

Identifying factors which influence individual's demand for loan is a first step in

addressing the issue of loan default. That is, it will provide important information that will be very useful in solving the problem of high loan default rate and nonperforming loans in Ghana.

The study will add to existing literature and will also serve as a reference to which further researches can be carried out.

### **1.6 Scope and delimitation of the study**

The study sought to investigate the factors that influence individual's demand for loan in Ghana using Kwahu West Municipality as a case study. In view of this, the study focused on persons who are 18 years and above who have ever or never demanded loan. Demographic and socio-economic characteristics; age, sex, education level, employment status, marital status, household size, individual wealth, health status, remittance, savings, credit worthiness and financial literacy of these categories of persons were elicited, analyzed and discussed. In all, 600 respondents were employed for the study. Activities pertaining to loan demand of these individuals; purpose of loan, effect of the loan received on their socio-economic lives were also considered in this study. The time frame for data collection was from June 2015 to September 2015 and the entire study period was from May 2015 to February 2016.

On the other hand, persons below 18 years were not considered in this study because they cannot demand loan from the formal financial institutions as they are classified as children by the constitution of Ghana. Other personal information and characteristics which are not specified in the questionnaire were not considered in this study. Furthermore, activities of

the financial institutions were not discussed since it was not of interest to this study. Only Kwahu West Municipality and 600 respondents were used for the study due to time and financial resource constraints.

### **1.7 Organization of the study**

The study consists of five chapters. Chapter One is the introduction and deals with background and statement of research problem, study objectives and research questions, significance, scope and delimitation of the study. Chapter Two reviews the relevant theories and empirical literature which form the basis of the study. Chapter Three is the methodology and deals with types and sources of data, development of theoretical models and methodologies that were used for the data analysis. The model used for the study was identified and discussed.

Chapter Four presents the analysis of the data and discussion of results, while Chapter Five focuses on the summary of major findings of the study, recommendations and conclusions as well as suggestions for further research in the area of the study.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This chapter reviews relevant literature that forms the basis for the study. The chapter deals with review of relevant theories, review of empirical literature and the financial sector development in Ghana from the pre independence period to the post adjustment programme period.

#### 2.1 Theoretical review

Loan can be characterized as a commodity and income as well (Livingston and Ord, 1994). As a commodity, individuals obtain some utility and satisfaction from it when they demand it. That is, it brings some sort of comfort and relief to the individuals who demand it. As income, individuals use it to purchase goods and services which tend to improve their welfare and standard of living (Vermilyea, 2002; Akpandjar et al., 2013) and alleviate their hardship and poverty (Peachey and Roe, 2006; Akpandjar et al., 2013). Again, being characterized as income it can be invested in order to earn extra income which in turn leads to quality lives in the future of the individuals who demand it (Nimal, 2007; Akpandjar et al., 2013).

Economists and researchers have tried to explain individual behaviour on demand for commodity with the help of different theoretical and empirical economic concepts.

Individual demographic and socio-economic characteristics have been identified as important factors in determining the demand for a commodity (Messah, 2011).

Some of the theories that can be used to justify the link between demand for loan and individual demographic and socio-economic characteristics include the demand theory, propensity to consume theory, permanent income hypothesis, relative income hypothesis and life cycle hypothesis.

### **2.1.1 The theory of demand**

The demand theory which was first postulated by the French economist Leon Walras (1874) gives the analysis of the relationship between the price of a commodity and the quantity demanded of it. According to Walras (1874), the price of a commodity influences the demand of it as it affects the purchasing decision of the consumer or the individual. This was the fundamental assertion that gave the negative relationship between price of a commodity and quantity demanded or the law of demand. As the price of a commodity changes (increases/decreases), the real purchasing power of the consumer also changes (reduces/increases) and subsequently affects the quantity of the commodity that will be demanded (decreases/increases). This negative relationship between the price of a commodity and the quantity demanded of it was accepted to some extent as a result of the popular economic statement “Ceteris paribus”, which means

when other factors are held constant or controlled (Lipsey and Chrystal, 2007). This claim later received criticism as being insufficient and shallow because the quantity demanded of a commodity cannot be influenced by its price only but also other factors like

the income of the consumer, taste and preference, price of other related commodities, religion and culture of the consumer and other demographic and socio-economic characteristics of the consumer or the individual.

Among the critics who disagreed with this assertion of price being the only determinant of quantity demanded of a commodity were Livingston and Ord (1994) who stated that there are other several factors which can equally influence the quantity demanded of a commodity. They stated that taste or preference is the first factor which is also influenced by sex, age, education and religion of the consumer. They further stated that the quantity demanded of a commodity is also influenced by availability of other goods (close substitutes) and the size of household's income. They mathematically expressed the quantity demanded of a commodity as:  $Q_c \square f(P_c, P_r, Y)$ , where  $Q_c$  is the quantity demanded of the commodity,  $P_c$  is the price of the commodity in question and  $P_r$  is the price of related commodity and  $Y$  is the income of the consumer.

In the same way, the loan which can be characterized as a commodity cannot be influenced by its price only (interest rate) but also other demographic and socio-economic factors of the individual. These factors can be age, sex, education, marital status, employment status, number of children, household size, income level, savings, health status of the household, repayment ability, wealth of the individual, and knowledge about loan among others. All these factors of the individual can have influence on the demand for loan. For this reason,

demand for loan can also be mathematically expressed to bear a resemblance to the function given by Livingston and Ord (1994) as:

$$D_L \propto f(\text{INTR}, \text{AGE}, \text{SEX}, \text{EDUC}, \text{EMPST}, \text{MAST}, \text{NCH}, \text{HHS}, \text{INDW}, \text{HHHST}, \text{REM}, \text{MINC}, \text{SAV}, \text{CREDW}, \text{FINLIT})$$

where  $D_L$  is demand for loan, INTR is interest rate, AGE is age of individual, EDUC is educational level, EMPST is employment status, MAST is marital status, NCH is number of children, HHS is household size, HHHST is household health status, REM is remittance, MINC is monthly income, SAV is savings, CREDW is credit worthiness and FINLIT is financial literacy.

### **2.1.2 Propensity to consume theory**

Keynesian theory of propensity to consume posited by John Maynard Keynes (1936) has also been used to explain the phenomenon. The theory looks at the relationship between income and consumption. This is highlighted in the work of Jhingan (2001). It states that as income increases consumption also increases but less than the increment in the income, *ceteris paribus*. This further explains the phenomenon of increase in savings as income rises. The theory further explains that the phenomenon does not hold in underdeveloped or developing countries where individuals are too poor. Ghana as a country is not an exception to a large extent. It continues to state that when income increases, all is spent on unlimited wants and so none is saved for future use.

This theory is supported by empirical evidence where by a model was set up for present and future consumption, capital in risky or less risky projects in an investigation that took place in India and Thailand (Long, 1968; Messah, 2011). The result indicated that present consumption is preferred to future consumption which means there is no need for saving even when income increases. Again, most investors engage in less risky projects and this reflect in their low income level which will not increase saving per the propensity to consume theory by Keynes. This low income leading to lack of savings for future will however have influence on their demand for loan.

Some of the individuals who demand loans in Ghana also engage in less risky project for the fear of collapse of business and for that matter have low income levels which do not encourage savings. Again, some of the individuals also have too many wants to be satisfied and so when income rises they turn to satisfy those wants rather than savings for future use. These are also as a result of large number of dependants on the individuals and large household size (Boateng and Amponsah, 2015). The dependency rate in Ghana is 71.6% comprising 65.6% of the youth and 5.9% of the elderly (CIA, 2015). The average household size according to the 2010 population and housing census is 4.4 which is approximately 5 persons per household. Therefore, a rise or decline in income, savings or lack of savings among these individuals will eventually have influence on their demand for loans either now or in future.

### 2.1.3 Permanent income hypothesis

The permanent income hypothesis was postulated by Friedman (1957). The theory explains how individuals will try to have a smooth consumption pattern over his or her entire life time. The theory assumes that individual dies with no wealth and income left.

All the income and wealth are consumed before he or she dies. The income of an individual is divided into permanent and transitory components. The permanent portion is the average income the individual is expected to consume throughout his or her life time. The transitory portion on the other hand is the temporary deviations from the average income to be spent during the entire life time. Mathematically, it can be expressed as  $Y = Y^P + Y^T$ , where  $Y$  is the current income,  $Y^P$  and  $Y^T$  are the permanent and transitory income components respectively.

The theory further states that consumption of the individual does not depend on the current income but rather the permanent income ( $Y^P$ ) based on long term income expectations. That is, consumption at period  $t$  ( $C_T$ ) depends on permanent income ( $Y^P$ ). Mathematically,  $C_T = Y^P$ . The permanent income is determined by the individual's assets both physical (shares, bonds, properties) and human (education and experience). These influence his or her ability to earn income. The individual can then make an estimation of anticipated lifetime income (Lipsey and Chrystal, 2007 and Shapiro, 2005). Taking into consideration the wealth, income and the number of years he or she is expected to live, the consumption that will prevail throughout his or her life time will be computed as

$T$

$$C_T = \frac{A + Y_T}{T}$$

where  $C_T$  is the consumption that will prevail throughout the entire life,  $T$

$A$  is the wealth of the individual,  $Y$  is the income the individual will earn during the entire working life and  $T$  is the number of years he or she is expected to live. Therefore, when the wealth and the total sum of the income earnings are divided by the number of years the individual will live, the permanent consumption will be derived for the individual. As a result of the changes in the transitory income, there will be fluctuations in consumption. To avoid these fluctuations, the individual uses savings and borrowing to smoothen his or her consumption pattern throughout the entire life. The individual perceives the permanent income base on the idea of past, present and future incomes.

For example, considering an individual who is 30 years now, retiring at the age of sixty (60) years, has a monthly income of GH¢ 1,000.00 and is expected to die at the age of ninety (90) years. This individual will have a yearly income of GH¢ 12,000.00 (GH¢ 1,000.00 x 12 months). From the yearly income of GH¢ 12,000.00, the income for the rest of the working life will be GH¢ 360,000.00 (GH¢ 12,000.00 x 30 years left for working). The yearly and monthly permanent income for this individual will be GH¢ 4,000.00 and GH¢ 333.33 respectively. This implies that the individual is supposed to spend an amount of GH¢ 333.33 monthly and will resort to loan should the monthly income for any particular month be less than this amount of GH¢ 333.33. This demand for loan is to ensure that the individual has a smooth consumption pattern over the entire life time.

#### 2.1.4 Relative income hypothesis

The relative income hypothesis was introduced by an American economist, James Stemble Duesenberry in 1949. The theory states that the consumption behaviour of an individual is not independent but interdependent on the behaviour of other individuals and also on previous consumption. It further says that, the consumption decisions are not reversible. That is, once individual attain a certain level in life in terms of consumptions ( eg. purchase of luxurious goods like car, buildings etc.) it is very difficult to later live a life lower than that level or reduce consumption as a result of what other individuals may say. The individual income scale remains unchanged when his or her income rises as far as the income of other individuals whom he or she has identified himself or herself with also rise at the same time. As the individual's absolute income increases, his or her absolute consumption rises but the fraction of the income devoted to consumption will remain the same as it was at the lower level. On the other hand, if individual's income remains unchanged but that of other individuals change, his income position relative to other individuals also changes (Shapiro, 2005).

With respect to demand for loans, some individuals do not demand the loan just because their income is genuinely small or insufficient for them but rather want to live like the "Joneses" in the community. For this reason when an individual sees that other individuals are living well by purchasing luxurious cars, putting up big houses etc. he or she will like to be like them. As a result of insufficient funds for the purchases, he or she

will demand loan in order to have the cars and also put up big houses to maintain the standard set for himself or herself.

### 2.1.5 Life cycle hypothesis

The life cycle hypothesis was posited by Franco Modigliani in 1950. It is slightly different from the permanent income hypothesis by Milton Friedman. The theory postulates that the income of an individual changes over his or her life time and it is savings which allows the individual to achieve smooth consumption pattern over the entire life time (Anderloni et al., 2008; Akpandjar et al., 2013).

The theory further says that, the individual begins to save at a certain point in time when he or she begins to work, acquire wealth, save part of the income earned and starts to dissave during the retirement period. To avoid the fluctuations in consumption resulting from the changes in life time income, savings is undertaken during the working stage of

the individual. The theory has a simple model as  $C = \frac{W + RY}{T}$ , where C is the T

consumption which is expected to prevail throughout the entire life time, W is the wealth of the individual, R is the retiring age, Y is the total income that is expected to be earned by the individual and T is the entire years the individual will live or he or she will die.  $W + RY$  is the entire wealth of the individual for the entire life time. This theory also assumes that the individual dies with no wealth or income left. The individual consumes everything

before he or she dies. The theory further assumes that there is no or zero real interest rate on the savings accumulated during the working life as well as consumption smoothing being optimal for the individual.

Individuals are expected by this theory to accumulate savings and wealth during the working life and dissave during the retirement period in order to have a smooth consumption pattern over the entire life time. Therefore, for the individual who does not save and acquire wealth during the working life will resort to loan for consumption and other purposes during retirement when there is no accumulated savings to enhance dissavings. Hence savings and lack of savings behaviour of the individuals may influence their demand for loans.

## **2.2 Review of empirical literature**

Some studies have been conducted by researchers to find out the determinants of individuals' demand for loans and several conclusions have been made per the data collected and the analysis made.

### **2.2.1 Empirical review in other countries**

Messah (2011) conducted a research to find out the factors that influence demand for credit among investors in Kenya using 110 individuals. He employed logistic regression model for the analysis. The results show that the factors which influence demand for credit are age, education (those who have received formal education), number of dependants, income

and marital status. The results indicated that there is a positive relationship between age and demand for credit. This is in support of the life cycle hypothesis which explains that as the individual grows in his or her working life he or she saves and accumulates wealth which is later used as collateral to acquire loan. There was also evidence that positive relationship existed between education and demand for loan. The findings also revealed that there is negative relationship between number of dependants and demand for credit. On marital status (being married), the results showed a positive relationship. Income was also seen to be increasing with demand for credit among the investors. That is, there is a positive relationship between income and demand for credit. As income increases individuals are able to amass wealth and these wealth are then used as collateral to secure loans.

Magri (2002) also conducted a survey on the factors that influence demand for loans in Italy. Probit, Tobit and two stage Heckman models were employed using a sample size of 8000 . The result highlighted age, education (being educated), income, employment status (being self-employed), wealth, marital status (married) and number of children as the factors that influence demand for loans among the Italians. The results show that there is a positive relationship between age and education and loan demand. The results further show that there is also a positive relationship between income and employment status and demand for loan. Individuals are able to acquire more wealth as they attain higher educational level which enhances their credit worthiness which enables them to demand loans from the financial institutions. This is also because income increases with education

ceteris paribus and these incomes are used to acquire wealth that could be used as collateral to demand loans.

The results further show that there is a positive relationship between wealth and demand for loan. On number of children and marital status, the results also show a positive relationship. Individuals changing status from single to married and number of children increase with demand for loan. That is, the responsibility of individuals increases as their marital status changes from single to married and children start to emanate. The individuals demand loans even if the income is enough in order to provide for the spouse and children's needs as the wants of these individuals and their dependants are unlimited.

Amao (2013) in finding out the determinants of demand for loan among farmers in Nigeria employed logistic regression model using 138 individuals. Purposive random sampling method was used to select the participants for the study. The study show that age, marital status (being married) education (being educated), gender (being male), income and number of children are the factors that influence demand for credit among the farmers. The study controlled marital status and gender.

The study revealed that there is a negative relationship between age and demand for credit. That is, demand for credit decreases as the farmers grow in age. The study revealed that most of the farmers are in the age range of 41 to 50 years. The elderly do not believe in the use of fertilizers and so do not demand loan to purchase fertilizers for their farm production therefore giving the negative relationship. There were negative relationships between

marital status (being married) and number of children and demand for credit. The result indicated that there is a negative relationship between demand for credit and marital status.

The reason for the negative relationship is that, as the individuals change their status from single to married and they start bearing children, the family size increases ( more labourers) and they help in the farming activities. This also will mean that there will be no need to hire extra workers which will require extra funds which also influence demand for loan from the financial institutions by these farmers. The study further revealed that there is a negative relationship between education and demand for credit among the farmers. That is, as the individual education level increases they leave the farming sector and move to different sectors of the economy. The study showed that majority of the respondents had just secondary education. The study showed that most of the

respondents just spent 11 to 15 years in school. This is evidenced in the results as most of the individuals who demanded loans have no higher educational status. There was also positive relationship between gender (being male) and demand for credit. That is, as the gender changed from female to male demand for credit increased. The study also indicated that more males (about 92% of those who demand credit) are into farming than the females. Income was shown to have a positive relationship with demand for credit. That is, income increases with demand for credit. The income of the farmers determines their loan repayment abilities and for that matter the financial institutions consider that before granting the loans to them.

Olaoye et al. (2012) in their quest to find out the factors which influence demand for loan among fish farmers in Nigeria employed ordinary least square technique using 80 individuals. The result revealed that the factors that sway demand for credit among these farmers are age, marital status (being married), education, number of children and income. The results show that there is a positive relationship between age and demand for loans. As the age increases so is demand for credit. That is, the individuals were matured and have the requisite skills needed in farming and so will be able work very hard to repay the loans demanded. The majority of the respondents were in the age group of 20 to 60 years. There was also a positive relationship between marital status (being married) and demand for credit. About 98% of the respondents were married. Being married meant that there will be more labourers who will help in the fish farming activities which will enhance loan repayment. The results further show that there is a positive relationship between education and demand for credit. About 48% of the respondents have at least attained secondary school. This means that they can get information on the loan and apply with ease. This also means that they have the skills to work very hard to repay the loan when demanded. There was also a negative relationship between income and number of children and demand for credit among the fish farmers. The results show that those who demanded loan have low income. Those who have enough income have no need for extra funds from the financial institutions. On the number of children the implication is that, the increasing number of children meant that there was no need to hire extra labourers which will require extra payment from the farmers. About 78% of the respondents have a family size of 6 and these children help in the farming activities.

Kausar (2013) also conducted a research to find out the factors that influence demand for microcredit in Pakistan. The study employed ordinary least square technique using sample size of 50 individuals. Factors that were considered were credit worthiness of the individual, gender difference, interest rate, transaction cost, government policies and economic conditions. The results indicate that, there is a weak negative relationship between demand for credit and gender difference. Credit worthiness of the individual was also found to be positively related to demand for loan. That is, individuals who are credits worthy possess repayment ability and so are able to demand loans from the financial institutions.

Olomola and Gyimah-Brempong (2014) also did a research to find out the determinants of loan demand among farmers in Nigeria.

The study employed probit, Tobit and two stage Heckman models for the analysis using sample size of 1200 individuals. The key determinants identified were age, household size, marital status and income level. Marital status was controlled for those who are married. The results of the study revealed that there is a positive relationship between all these factors and demand for loan. That is, being married and large household size indicate greater responsibility which also require more funds and therefore exacerbating demand for loan in order to cater for the family. Again, individuals with high income are able to acquire wealth which they use as collateral to secure loans. Also, the high income levels show the repayment ability of the individuals that demand the loans from the financial institutions. For age, it follows the life cycle hypothesis. That is, as individuals grow, work and expect higher income in future, they save and accumulate wealth. The wealth is then used to secure loans in order to have a smooth consumption pattern throughout life time.

Cheng and Ahmed (2014) conducted a survey in China on demand for loan employing probit model and using sample size of 821. They came out with the findings that age, marital status, education, Health status, gender, income, wealth and number of children / dependants are the main factors that influence demand for loans. Gender, health status and marital status were controlled. The results show that there is positive relationship between being married and number of children and loan demand. This is as a result of increased responsibilities which call for loan demand to provide the social and economic needs of the family. There was also a positive relationship between education and wealth and demand for loan. Those who are educated have enough skills, experience and have investment ambitions which influence them to demand loans for these projects. Again, the individuals who have accumulated enough wealth are seen by the financial institutions as credit worthy and for that matter are able to secure loans with their assets from the financial institutions. The results further revealed that there is a negative relationship between age and loan demand. The study indicated that most of the old people are less educated and also have less investment and productive ambitions. For these reasons the older individuals are less likely to demand loan. The study also shows a negative relationship between demand for loan and gender, income and health status (those who get sick and demand serious health care and attention). As the gender changes from male to female, demand for loan also decreases. Most females do not participate in demand for loan. It is the male who mostly demand loan in order to cater for the family and also undertake productive projects to improve the living standard as the head of the family. Again, those who demand loans are individuals with low income and also do not receive remittances from relative(s) abroad. On the health status, the study revealed that the individuals who fall sick do not demand loan to cure their sickness.

Pastrapa (2011) in a related study in Greece employed probit and tobit using 396 as the sample size. The researcher also employed panel technique and two stage Heckman model in the analysis. The study revealed that age, marital status, employment status, home owned (wealth), credit history (repayment ability) and savings were the major factors. Marital and employment status and credit history were controlled in the study. The results show a positive relationship between demand for loan and these variables except savings. Marital status changing from single to married increases with demand for loan. That is, being married increases responsibilities exacerbating demand for loan. Being employed, having good credit history and owning a home also increases with demand for loans. That is, these individuals are seen as credit worthy by the financial institutions which affirm their repayment ability when granted the loan. The homes (wealth) are used as collaterals to secure the loans from the financial institutions. The results further show positive relationship between age and loan demand which is justified by the life cycle hypothesis. The results also show that individuals who save are less likely to demand loans as the savings made are used as income to provide needs, hence less desire for loan demand.

Chen and Chivakul (2008) in a related study conducted a research on the determinants of credit demand in Bosnia and Herzegovania. They employed probit model for the analysis using 3,608 individuals from 2001 and 2004 household survey data. The result indicated that, age, income, wealth, education, gender, household size and employment status are the major factors which influence individual's demand for credit. The results further showed that demand for credit increases with age up to forty-five (45) years. The researchers found out that individuals with higher income and have more wealth are more likely to demand credit. This is due to the fact that, these individuals can repay the loan

and also have properties that can be used as collaterals to demand loans. On education, the results show that individuals with primary and secondary education are more likely to demand loan because they are more constrained. Individuals with tertiary education are less likely to demand loan because they already have enough income which is in line life cycle hypothesis. Concerning gender, the study revealed that females are less likely to demand loan compared to male counterparts. This is due to the fact that, males are mostly the head of families and take more responsibilities hence their more likelihood to demand loans. Individuals with larger household size, self employed and private sector employees are also more likely to demand credit. This is due to more responsibilities and more financial constraint for individuals in informal sector. Individuals in public sector are less likely to demand loan because they are less constrained due to their regular income.

Sults (2006) in Akpandjar et al. (2013) also investigated factors that influence demand for credit in Estonia. A sample size of 1,706 was used for the analysis. The results revealed that the factors which influence individual's demand for credit are income, household size, education and being employed.

Perraudin and Sorensen (1992) in Akpandjar et al. (2013) conducted a study to find out the factors which influence individual's demand for loan in United State of America (USA). Using logistic regression model, they found out that age, sex, household size and marital status are the factors that influence individual's demand for credit.

Zeller (1994) investigated factors that influence individual's demand for credit from both formal and informal lending credit institutions in Madagascar. A sample of 651 individuals was employed for the study and univariate probit model was applied to the data. The study revealed that the factors that influence demand for credit are age, gender, education and whether the individual is a household head. The results show that, demand for credit for both lending credit institutions increases with age, gender (male), education and household head individuals. The researcher explained that, individuals with higher education are trustworthy and can service their debt, hence more likely to demand credit. Individuals who are household heads are also more likely to demand credit due to more responsibilities. On age, the researcher explained that older individuals are credit worthy because they have worked for long and have accumulated enough wealth which is used as collateral to demand credit compared to younger counterparts. The result also showed that males are more likely to demand credit from both formal and informal lending institutions. This is due to the fact that males often take more responsibilities as family heads than females.

### **2.2.2 Empirical review in Ghana**

Akpandjar et al. (2013) also conducted a research in Ghana to investigate the determinants of financial services in Ghana including savings, credit and insurance. The study employed logistic, probit and tobit models using sample of 8687 households. The results revealed education, income, remittance (controlled for those who receive remittances), risk, financial literacy (controlled for financially literate), employment status (controlled for being employed), household size, age, gender (controlled for males) and marital status (

controlled for being married) as the demographic and socioeconomic characteristics of the respondents. The results showed that there is a positive relationship between demand for financial services and education (controlled for those who have ever received formal education to any level), income, risk, being financially literate, being employed, household size, being male and being married. However, the results show negative relationship between demand for financial services and age and remittances.

Those who are educated understand and know the need for these services as they plan their lives into the future. Again, household with high income turn to patronize these financial services as they save, undertake insurances for their acquired properties and also help them to secure credit as a result of their repayment abilities. Households that are exposed to risk like death, illness and other shocks also demand insurance and save toward these unforeseen and even demand loan when they occur. Households who are financially literate are also able to understand these services and the contracts as well which influence their demand for them. Being employed also calls for the demand of these financial services as they see the need to save part of their income for future, insure their lives and other acquired properties.

The result further reveals that having a large number of dependants also calls for these services because responsibility increases. Credits are demanded to cater for the numerous responsibilities and also savings is made toward the future of the dependants as well as educational insurance for them. Being married also increases with demand for financial services as responsibility increases. It was also evidenced that demand for financial services increases with being male. That is, males are the people who mostly demand for financial services as they are the head of the family and have to see to the progress and

wellbeing of the family. It was evident that the old people and those who receive remittances from relative(s) abroad do not demand financial services (savings, credits and insurance). The elderly have less responsibility and also have less investment and productive ambitions which do not encourage them to demand for these services.

Boakye and Amankwah (2012) also employed logistic regression model and using sample size of 3643 households in finding out the determinants of financial products in Ghana. The products considered included, savings, insurance, pension schemes, credits, mutual funds and mortgage. Financial literacy, employment status, income, education and being the bread winner of the family were the major factors that influence demand for financial services in Ghana. The results show that there is a positive relationship between demand for financial services and these variables. That is, demand for financial products increases with being financially literate, employed, bread winner of the family, educated and income recipient.

Bendig et al. (2009) in their quest to find out the determinants of financial services in Ghana also employed multivariate probit model and used 350 households as the sample size. They also considered services like savings, credits and insurance. They found out that risk exposure (eg. sickness, death, etc.), household size, assets, remittance, land, education, age, employment status were the factors that influence demand for financial services in Ghana. With the exception of unemployed and self employed which had a negative relationship with the demand for financial services the rest of the variables had positive relationship with demand for financial services. That is, being exposed to risk, educated, remittance recipient, land owner, asset holder, and household size increase with demand

for financial services while being unemployed and self employed decrease with demand for financial services.

### **2.3 Financial sector development in Ghana**

This section presents the financial sector in the pre independence period, post independence period and the post adjustment programme period in Ghana.

#### **2.3.1 Pre independence period**

During the colonial era till independence in March 1957, financial intermediation in

Ghana was not encouraging as there were only a few financial institutions at the time. However, to achieve some stability in the economy and also to enhance financial intermediation and transactions in the country, two British commercial banks; Standard Chartered Bank and Barclays Bank were established. Standard Chartered Bank which was formerly known as Bank of British West Africa was set up in 1886 and later in 1917, Barclays Bank was also set up to facilitate the transactions and activities with the external sector.

Bank of Gold Coast which evolved to Ghana Commercial Bank and now GCB Bank Ltd. was also set up in 1953 to facilitate the financial intermediations in the country. Though

Ghana witnessed the operations of the West Africa Currency Board (WACB) between 1912 and early 1957, the functions of WACB was limited as it did not possess the powers of the Central Bank like the issuing and redeeming of bank notes and coins, keeping

reserves and maintaining monetary stability among others. The WACB was supplying currencies to the British colonies at that time of which Ghana was not an exception in addition to Nigeria, Gambia and Sierra Leone.

Consequently, in addressing these deficiencies and also regulating the operations of the two British Banks and Bank of Gold Coast Central Bank of Ghana (Bank of Ghana) was set up in 4<sup>th</sup> March 1957. The successful establishment of the Bank of Ghana led to the establishment of additional banks in the country for further enhancement in the financial intermediation. At the end of 1978 there were 12 banks; six Commercial Banks, three Development Banks, one Rural Bank and two Merchant Banks ( Akowuah, 2011).

Indeed, this period saw a little financial intermediation as the financial institutions were not many and also the traditional functions of banks they played. These institutions also facilitated the transformation of the economy from the barter system to the modern currency system.

### **2.3.2 Post independence period**

Undoubtedly, the financial sector from independence to late 1980s could be described as repressed which needed colossal relieve to enhance financial deepening and development as hypothesized by McKinnon (1973) and Shaw (1973).

The repression was as a result of the massive government interference in the financial sector. Government interference including fixing of interest rate, increase in money supply

and extensive borrowing from the banks as a result budget deficits among others and not allowing demand and supply forces to work during this period really repressed the financial sector and the economy as a whole. In 1983, interest rate (lending) was as low as -108.3%, money supply was 40.2% and inflation was 122.9%. Savings as a percentage of gross domestic product (GDP) was 5.71%, 5.55% and 4.26% from 1981 to 1983, showing a falling trend (World Bank, 2014).

The implication of the negative real lending rate meant that the financial institutions were subsidizing the loans granted and this really caused the repression of the banks. The low interest rate which led to short time deposits reduced money creation and further discouraged savings and investment which apparently affected the growth of the economy. The growth rate was -3.5%, -6.92% and -4.56% from 1981 to 1983 (World Bank, 2014).

The repression of the financial sector and the economy at large led to the adoption and implementation of the Economic Recovery Programme (ERP) in 1983 under the supervision of World Bank and International Monetary Fund (IMF). This programme was to bring a sort of relief to the financial sector and the economy as a whole to enhance growth. The main aim of ERP was to reduce inflation, restructure various economic institutions like the banks as well as focusing on the interest rate, monetary and fiscal policies in the country.

The Structural Adjustment Programme (SAP) was also introduced in 1986 as part of the ERP. It was a series of economic policies designed by the Bretton Woods Institution which aimed at reducing government interference or role in the economy. For example, removal of price controls, determination of interest rate by demand and supply forces in the market was targeted. This was to raise interest rate to enhance funds mobilization (savings) to increase funds available to be granted as loans. The SAP again had several policy instruments and reform packages to help the achievement of the set targets. The reform package were macroeconomic reforms which looked at the foreign exchange, fiscal and monetary reforms to tackle fiscal and monetary discipline, and sectoral reforms which looked at trade liberalization, labour market and agricultural sector. Institutional reform was also introduced to look at the public enterprises and civil service. Finally, there was a financial reform to ensure the development of the financial market, deepening and development of the financial institutions in the country.

Under the financial reform, a comprehensive Financial Sector Adjustment Programme (FINSAP) was launched in September 1987. This was to restore the repressed financial institutions and also to ensure more establishments of financial institutions to enhance financial intermediation in the country. The FINSAP was also to enhance the legal and regulatory framework for the operations of the bank (Akowuah, 2011).

The FINSAP was implemented in two phases. Phase I was from 1988 to 1991 and the phase two from 1992 to 1995. The idea of phase I was to restructure banks which were suffering financially (Balance sheet, management reforms and procedures for operating),

to strengthen the supervisory and regulatory framework of the Central Bank (standardize reporting, procedures for accounting and enhancing the supervisory capacity of Central Bank) and recovery of non-performing assets and loans (Cleansing of balance sheet of banks which are not performing well for the purpose of restructuring). Phase II of the

FINSAP was also to promote the reforms in phase I and also to reduce the state shareholdings in banks in Ghana and also to improve the efficiency of non-banking financial institutions ( Akowuah, 2011).

### **2.3.3 Post adjustment period**

Indeed, the liberalization resulting from the FINSAP really helped the financial sector. The FINSAP also brought competition into the financial sector which led to the establishment of additional banks in the country. For example, between 1990 and 1996, 8 additional banks; CAL Bank and ECOBANK (1990), Meridian Bank BIAO (a foreign bank, 1992), First Atlantic Merchant Bank and Metropolitan and Allied Bank (1995), The Trust Bank, Prudential Bank and International Commercial Bank (1996) were established which further facilitated financial intermediation.

Consequently, to further enhance financial intermediation through financial sector development, Financial Sector Strategic Plan (FINSSP) was also launched in 2003. This was also implemented in three phases. Phase I was from 2004 to 2005, Phase II from 2006 to 2007 and Phase III from 2008 onwards. The aim of FINSSP was to increase financial intermediation, upgrade the skills of the professionals in the financial sector and promote the financial sector to be at par with international standards to enable it gain international recognition ( Akowuah, 2011).

Between 1979 and 2009, Commercial Banks increased from 6 to 18 and Merchant Banks from 2 to 6. Rural and Community Banks (RCBs) increased from 1 in 1976 to 34 in 1981 and further to 129 in 2009. There were also 47 Non Banking Financial Institutions (NBFIs) established by the end of 2009. As at June 2015, the number of universal banks (commercial banks, investment banks and merchant banks) has increased from 18 in 2009 to 28, Rural and Community Banks (RCBs) from 129 in 2009 to 137 and Nonbanking Financial Institutions (NBFIs) from 47 in 2009 to 63. There are also 513 Microfinance Institutions (MFIs) (Bank of Ghana, 2015).

#### **2.4 Conclusion**

The theoretical and empirical review above show that indeed there are economic theories that seek to show the link between demand for loan and individual demographic and socio-economic factors. The theories reveal that individuals will always want to maximize their utility no matter their conditions of life, and they will seek to supplement their income when they face income constraints. Indeed, some studies have been conducted on the topic in other countries and in Ghana, but the evidence in Ghana is not sufficient as it places more emphasis on macroeconomic variables. There is therefore the need to further investigate the factors that influence individual's demand for loan in Ghana.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter discusses the methodologies that were used for the study. It is divided into three sections. The first section contains the study area while the second part looks at the study design. The study design comprises targeted population, sample and sampling technique, instrumentation, data collection, data analysis, model specification and pretesting of instruments used for data collection. The last section looks at the ethical issues of the study.

#### 3.1 Study Area

The study was carried out in the Kwahu West Municipality in the eastern region of Ghana. Kwahu West Municipal is one of the districts in the eastern region and was established in August 2004 with Nkawkaw as its administrative capital. It has an area of 401 kilometer squared. The population of the area is estimated to be 93,584 ( Ghana Statistical Service, 2010). The municipality has 20 major communities and some of the communities are Nkawkaw, Kwahu Fodoo, Kwahu Nsabah, Nsuta, Odumase, Wawase and Kwamang (see full map in appendix VI).

According to Ghana statistical service (2010) the population of the municipal capital was 47,968. The area is experiencing growth in population as a result of migration. Again, the

area is noted for its recreational and tourist centers and the popular among them is the paragliding (Lighter weight, free-flying, foot-launched glider aircraft with no rigid primary structure).

The occupational compositions of the area include managers (2.4%), professionals (5.9%), technicians and associate professional (2.9%) , clerical support workers (1.2%), service and sales workers (26.8%), skilled agricultural forestry and fishery workers (29.6%), craft and related trades workers (16.8%), plants and machine operators and assemblers (7.1%) and elementary occupations (7.2 %) (Ghana Statistical Service, 2010).

The ethnicity composition of the people in the area comprises Ewe (15%), Ashanti (17%) . There are also Akans, the Northern tribes and the other ethnic groups in the area. The area is also dominated by Christians with a percentage of 80.8 %. Traditionalist is 0.8 %, Muslims are 10% and no religion is also 8.4% (Ghana Statistical Service, 2010).

Kwahu Nkwakaw can also boast of one tertiary institution (Holy Family Nursing Training College), a number of Senior High Schools, Junior High Schools, Primary Schools as well as Kindergarten and Nursery, all comprising both private and public (2000 Population and Housing Census ).

The municipality can also boast of a number of financial institutions including universal banks (eg. GCB bank, Barclays bank, Adb bank, GN bank etc), microfinance institutions

( eg. Brisk credit, Dream financial services, Bayport financial services etc.), rural banks (eg. Kwahu rural bank, Kwahu praso rural bank, Dumpong rural bank etc.) and non banking financial institution (eg. First Allied savings and loans, Multi credit savings and loans etc.). The Kwahu West Municipality was chosen for the study because is a commercial area which has attracted many people with different background, age, occupation, culture among others and they have moved there from different parts of Ghana and so the data collected could be generalized to represent the behaviour of individuals in the whole country to some extent. Again, the area was chosen for effective data collection for the study.

### **3.2 Study design**

This section looks at the various strategies that were employed by the study in order to achieve the research objectives. This section contains the targeted population, sample and sampling technique, instrumentation, data collection and analysis, ethical issues and pretesting of data collection instrument for the study.

#### **3.2.1 Targeted Population**

The study focused on individuals who are 18 years and above and have either demanded loan from formal financial institution or not ever in lifetime. This is because the financial institutions do not grant loans to minor (children). In Ghana, children are considered as persons who are below eighteen (18) years (1992 Constitution of Ghana). Again, one of the important requirements by the financial institutions in Ghana when one is demanding loan is the national identification card which is mostly the voters' identification card. The

reason for the acceptance of voters' identification card as crucial requirement is that, it is easy to verify compared to any other identification card. However, the voters'

identification card is issued by the appropriate authority (Electoral Commission of

Ghana) to individuals who are eighteen (18) years and above (Electoral Commission of Ghana brochure, 2012). Individuals of 18 years and above have been used in related studies (see Boakye and Amankwah, 2012 and Pastrapa, 2011).

Again, these categories of individuals are within the economically active group and may want to demand loan for projects and other purposes including investment. Persons who are 18 years and above in the Kwahu West Municipality are estimated to be 51,964 comprising 23,789 males and 28,175 females (Ghana Statistical Service (2010).

### 3.2.2 Sample and Sampling Technique

The study area has a population of 51,964 for persons who are 18 years and above (Ghana Statistical Service, 2010). Following Slovin's (1960) sample size formula;

$$n = \frac{N}{1 + N(e)^2}$$
, where n is the sample size, N is the population size and e being the error  $1 \pm N(e)$

level as cited in Olutayo (2015), a sample size of 399.31 (Approximately 400) was supposed to be used for the study using 5% error margin. However, one of the properties of the logistic regression model is that, the sample size should be relatively large enough in order to obtain good result. As a result, this study increased the sample size from 400 to

600 individuals. The extra 200 respondents added was based on convenient and availability of financial resources.

The sampling method employed for the study was simple random sampling technique. However, because the study focused on individuals who have ever demanded loans as well as those who have not, the formal financial institutions in the area was used as the centers for getting the respondents. The use of the financial institutions as the centers was because it was observed during the pilot survey that individuals were reluctant in disclosing their loan demand status when you meet them in the public places especially those who have ever demanded loan. Therefore, using the financial institutions was the better alternative for the study in terms of getting respondents.

The study area has twenty formal financial institutions comprising universal banks (4), rural banks (5), microfinance institutions (9) and non banking financial institutions (2). All the financial institutions are situated in the municipal capital (Nkawkaw). The rest of the communities have no financial institution and so majority of the individuals in the municipality come to the municipal capital for financial transactions either for loan demand or for other purposes including receiving of money, depositing and money transfers. In all, 8 formal financial institutions comprising 2 each from universal bank, rural bank, microfinance and nonbanking financial institutions were used as selection centers to obtain the 600 respondents. All the types of financial institutions in the study area were used because not all persons go to some of the financial institutions for transaction. Some of the

financial institutions are seen as being designed for “highly educated persons” and others for “no or low educated persons”. Therefore, in doing this

there was no biasness in getting the respondents. Total of 80 questionnaires were administered in each of the selected financial institution. This was to ensure that there is equal number of respondents from each of the type of the financial institution. Any person who entered the financial institution was interviewed whether the individual is loan clients or not.

### **3.2.3 Instrumentation**

The study relied on primary data and so the survey was conducted using questionnaires. The questionnaire was designed to capture demographic and socio-economic characteristics of the respondents.

The questionnaire contains 30 questions and had two sections. First section contains information on personal characteristics of respondents like age, sex, marital status, employment status, education level and occupation among others. The second section contains information on financial characteristics of respondents such as demand for loan status, savings, monthly income, remittance and credit worthiness among others.

### **3.2.4 Data Collection**

The period for the data collection was from June 2015 to September 2015. Both self administered and face-to-face interview were employed in the collection of the data from

the individuals. These two approaches were used in order to avoid biasness; not ignoring those who cannot read, understand or write in the survey. The individuals who cannot read or write were interviewed and their responses used to fill the questionnaires. On the other hand, individuals who can read and write were given the questionnaire to fill. The researcher did not employ research assist in the data collection but the questionnaires were discussed with some of the staff at the selected financial institutions so they could help in the case of respondents who cannot read and write in the English language used in designing the questionnaire. The researcher collected most of the data to ensure that good responses are obtained to avoid extra cost of printing new questionnaires in case of inappropriate filling of the questionnaires.

### **3.2.5 Data Analysis**

Statistical Products and Service Solution (SPSS, v.20.0), Microsoft Excel and Stata (v.13), which are all statistical tools were used to process the data that were collected. These statistical tools were used for the management and documentation of the questionnaires as well as the graphical representation of the data. Descriptive analysis with frequency tables, pie chart and bar graph were used to show clearly the visual analysis of the data collected. These tools helped the researcher to come out with findings based on the objectives set as well as the conclusions and recommendations.

Logistic regression model (Logit) was employed for the analyses. Logit model was employed in the study instead of any other estimator because, when a dependant variable (demand for loan in this case) is a probability variable which takes values between zero

and one (the probability of individual demanding loan and probability of not demanding loan), standard ordinary least square estimate technique cannot be used. Standard ordinary least square estimate technique is asserted to have some statistical problems when employed in the case where the dependent variable is a probability variable assuming a value which is unpredictable (Cheng and Ahmed, 2014 and Greene, 2003). Again, the dependent variable has a dichotomous dummy variable. (1 for the probability of individual demanding loan and 0 for the probability for not demanding loan) (Asteriou and Hall, 2011 and Messah, 2011).

The dependent variable was restricted to take values of zero or one instead of assuming any value between zero and one which would have made the analysis complicated. To achieve this, the concept of odds ratio; which is the ratio of the probability of individual demanding loan to the probability of individual not demanding loan was introduced in the study. Natural logarithm of the odd ratio was used as the next step of the restriction.

When this was successfully done, a suitable model (Logit) was specified for the analyses (Asteriou and Hall, 2011).

For the model to effectively fit the analysis, chi-square test and reliability test ( using Cronbach's alpha,  $\alpha$ ) were carried out. The chi-square test and reliability test were carried out to determine the linear by linear association between the dependent and the independent variables and internal consistency among the variables respectively. P-values and Fisher's exact test are reported for the chi-square test if 0 cell and 1 or more cells have expected count less than five respectively (Chan, 2003).

The reliability test which was proposed by Cronbach (1951) was used to determine how reliable items in a questionnaire are when administered several times to the same individuals. Cronbach's alpha ( $\alpha$ ) coefficient which ranges between 0 and 1.0 is used as a measure for reliability. The closer the alpha coefficient is to 1.0, the better the internal consistency among the items. However, Alpha value of 0.7 (70%) and beyond has been suggested to be a good reliability value in order to have a high internal consistency

(Field, 2009).

### 3.2.6 Model Specification

This thesis follows the methods employed by, Amao, 2013, Akpandjar et al., 2013, Boakye and Amankwah, 2012 and Messah, 2011.

The logistic regression model is therefore specified as follows:

Probability of individual demanding for loan:  $p_i = P(D_L = 1)$

Probability of individual not demanding for loan:  $1 - p_i = P(D_L = 0)$

$$P(D_L = 1) = p_i = \frac{e^{\beta_0 + \beta_1 x_i}}{1 + e^{\beta_0 + \beta_1 x_i}} \dots \dots \dots (3.1)$$

$$P(D_L = 0) = 1 - p_i = \frac{e^{-\beta_0 - \beta_1 x_i}}{1 + e^{-\beta_0 - \beta_1 x_i}} \dots \dots \dots (3.2)$$

where equations (3.1) and (3.2) are the expressions for the probability of individual demanding and not demanding loan respectively.

Introducing the concept of odds ratio gives equation 3.3.

$$\text{odds}_i = \frac{p_i}{1 - p_i} \dots\dots\dots(3.3)$$

Substituting equation (3.1) and (3.2) into equation (3.3) and taking natural logarithm, the logistic regression model for the study is specified as follows:

$$\ln \left( \frac{P(D_L = 1)}{P(D_L = 0)} \right) = \beta_0 + \beta_1 x_i \dots\dots\dots(3.4)$$

$x_i = AGE, SEX, EDUC, EMPST, MAST, HHS, INDW, HHHST, REM, MINC, SAV, CREDW, FINLIT$ . The independent variables in equation (3.4) are grouped into two categories; the demographic and socio-economic variables. Therefore, equation (3.4) is re-written to give equation (3.5) and (3.6).

$$\ln \left( \frac{P(D_L = 1)}{P(D_L = 0)} \right) = f(AGE, SEX, EDUC, EMPST, MAST, HHS) \dots\dots\dots(3.5)$$

$$\ln \frac{P(D=1)}{P(D=0)} = f(INDW, HHHST, REM, MINC, SAV, CREDW, FINLIT) \dots \dots \dots (3.6)$$

where equations (3.5) and (3.6) are the functional form of the logistic equations for the impact of individual's demographic and socio-economic characteristics on demand for loan respectively. Equations (3.5) and (3.6) are therefore re-written to give equations (3.7) and (3.8) for estimation.

$$\ln \frac{P(D_L=1)}{P(D_L=0)} = \beta_0 + \beta_1 x_i + u \dots \dots \dots (3.7)$$

$$\ln \frac{P(D_L=1)}{P(D_L=0)} = \beta_0 + \beta_1 y_i + \epsilon \dots \dots \dots (3.8)$$

Where  $\ln \frac{P(D=1)}{P(D=0)} = D_L$  is the dependent variable,  $\beta_0$  and  $\beta_1$  are the intercepts,  $\beta_1 P(D$

and  $\beta_i$  are the coefficients of the independent variables of the equations to be estimated,  $x_i$  and  $y_i$  are set of independent variables and  $u$  and  $\epsilon$  are the error terms.

The interpretation of the coefficients,  $\Delta_i$ s and  $\Delta_i$ s which is the change in the probability of the individual demanding loan as a result of change in the explanatory variables,  $x_i$ s and  $y_i$ s is not straight forward as in the case of the ordinary least square technique. The interpretation of the  $\Delta_i$ s and  $\Delta_i$  are obtained by differentiating equations (3.7) and (3.8) with respect to the  $x_i$ s, and  $y_i$ s which is the change in the probability of the  $i$  th individual demanding loan as a result of the change in the  $i$  th explanatory variable. The marginal impact after differentiation of equations (3.7) and (3.8) are given by the multiplication of the probabilities (demanding and not demanding loan) and the coefficient in question,  $\Delta_i$ s and  $\Delta_i$ s which is expressed as  $[\Delta_i p_i (1 - p_i)]$  and  $[\Delta_i p_i (1 - p_i)]$  respectively.

### **3.2.6.1 Definition and measurement of Variables and their expected signs**

This section presents the definitions and measurements of both the dependents and explanatory variables used in the study as well as their a priori signs.

#### **3.2.6.1.1 Dependent variable**

##### **Demand for loan**

Demand for loan which is the dependent variable is the probability of individual demanding or not demanding loan from the formal financial institutions. It is dichotomous dummy which take value of 1 if an individual has ever demanded loan and 0 if an individual has never demanded loan from formal financial institution. Other studies have measured the dependent variable using individuals who have ever demanded loan and

those who have never demanded loans (see Cheng and Ahmed, 2014, Olaoye et al., 2012 and Messah, 2011).

### **3.2.6.1.2 Independents variables**

#### **Age**

Age variable represents the age (in categorical years) of the respondents and is 18 years and above. It is in five categories beginning from 18 years to 60 years and above. The relationship between Age and demand for loan is expected to be positive or negative. Following life cycle hypothesis, when individuals start work, savings and wealth are accumulated up to the retirement period (60 years for Ghana). The wealth is then used as collateral to secure loans, given the positive relationship as the age increases. During retirement period of 61 years and beyond, individuals start to dissave and also convert the accumulated wealth for consumption purposes and all things being equal and therefore less likely to demand loan hence the negative relationship ( see Messah, 2011 and Amao, 2013).

#### **Sex**

Sex is the gender of respondents and is a dummy representing male and female respondents. For the purpose of the analysis, male respondents were assigned a value of 1 and 0 for female respondents. The relationship between gender and demand for loan is expected to be positive or negative.

Being male or female will influence demand for loan in different ways. The demand for loan may depend on whether the individual demanding loan is the head of household who may also be either male or female. Males and females also have different attitude toward

investment, production and different responsibilities among others and this may influence their decision for loan demand in different ways. Purpose of loan such as farming, housing and investment can also determine whether more males or females will demand loans. Male who is the head of the family is more likely to demand loan due to responsibilities resulting in positive relationship. On the other hand, male who is head but have few responsibilities may not demand loan hence negative relationship ( see Amao, 2013 and Cheng and Ahmed, 2014).

### **Education**

Education represents the formal educational level attained by the respondents. It takes values of 1 for no formal education, 2 for primary education, 3 for Junior High School/Middle School Leaving certificate, 4 for Senior High School/Ordinary Level and 5 for tertiary education. Individuals who have attained tertiary education were controlled. The relationship between education and demand for loan is expected to be positive or negative.

That is, attaining some level of education means that one can have financial knowledge on loan and also know the source of these loans which may influence loan demand decisions giving the positive relationship. Again, individuals who have not attained any level of formal education may not have financial knowledge which in turn limits the desire for loan demand. Individuals without some level of education may also find it difficult to locate the sources of these loans and may not be gainfully employed to assure loan repayment

reducing their demand for it giving the positive relationship. On the other hand, individuals who have attained some level of formal education, employed and earn income can decide to depend on the available income and not demand loan. In the same way, an individual who is not educated but have enough income and wealth *ceteris paribus* which guarantees repayment ability will demand loans giving the negative relationship (see Magri, 2002, Messah, 2011, Olaoye et al., 2012, Amao, 2013 and Cheng and Ahmed, 2014).

### **Employment status**

This variable represents the employment status of respondents. The sector of employment of the individuals is used as the measure and is categorized into four groups. These are individuals who are employed by public sector, private sector, self employed and unemployed.

The relationship between employment status and demand for loan is expected to be varied. Pastrapa (2011) established that, individuals who are employed are more likely to demand loans as they can repay and the financial institutions also see employed individuals as being in the position to repay loan hence the positive relationship. Contrary, Bendig et al. (2009) also established that employed individuals depend on their income and for that matter do not demand loan resulting in the negative relationship.

### **Marital status**

Marital status variable classifies the respondents into their various marital positions. It is in three categories and takes values of 1 for single, 2 for married and 3 for divorced. The relationship between marital status and demand for loan is expected to be positive or negative.

Individuals who are married turn to have more responsibilities as a result of children that may emanate *ceteris paribus*. Increasing responsibilities may lead to extra funding which may also influence individuals' decision for loan demand hence the positive relationship.

On the other hand, if couples are both working then loans may not be demanded *ceteris paribus* resulting in negative relationship. Single and divorced individuals who have few responsibilities due to no children and smaller household size are also less likely to demand loan *ceteris paribus* giving the positive relationship. Again, single and divorced individuals who have more responsibilities due to larger household size are also likely to demand loan all things being equal resulting in negative relationship (see Magri, 2002, Amao, 2013 and Olomola and Gyimah-Brempong, 2014).

### **Household size**

Household size variable considers the number of people who depend on an individual. The choice of household size over the number of children to represent the dependants of individuals was the fact that some of the respondents have no children but take care of either relatives or other dependents they live with. It takes values of 1 for 1-2 dependents, 2 for 3-4 dependents and 3 for 5 or more.

The relationship between household size and demand for loan is uncertain. Large household size implies more responsibilities *ceteris paribus*. The implication of this large household size is that, loans will be demanded when individuals are confronted with financial constraint hence positive relationship. Smaller household size may imply less responsibility all things being equal and for this reason there will be no need to borrow extra funds to provide the needs of the household resulting in positive relationship.

On the contrary, larger household size due to more dependants may be helpful in activities such as farming and trading which are being undertaken by the respondents. When this happen, there will be no need for the respondents to borrow extra funds to pay workers who would have been employed to help in such activities hence the negative relationship. Again, dependants may be small but their needs and expenses may be more. This may foster the need for extra funds in order to provide the needs leading to a negative relationship (see Olaoye et al., 2012, Amao, 2013, and Cheng and Ahmed, 2014).

### **Individual wealth**

The individual wealth variable considers the wealth of respondents selected for the study. For the purpose of the study, it is measured by whether the individual owns a home, business/firm, land, farm, car etc. The individual wealth takes a value 1 for individual who owns no property, 2 for owning one property, 3 for owning two properties and 4 for owning more than two properties. The expected sign for wealth is positive. Individuals who have properties may use it as collateral to demand loan resulting in positive relationship. Again, individuals who do not have any property cannot have any collateral for loan demand and

that matter less likely to demand loan leading to a positive relationship ( see Magri, 2002, Cheng and Ahmed, 2014 and Pastrapa, 2011).

### **Household health status**

Household health status represents the health condition of the household of the respondents. It is measured by whether an individual directly pays the hospital expenses rather than any other means such as national health insurance. For the purpose of the study in finding out whether health expenses influence decision of individuals for loan demand, the household health status is a dummy variable taking value of 1 for respondents who directly pay for hospital expenses and 0 for otherwise. The sign is expected to be positive or negative. Bendig et al. (2009) found that individuals who directly pay for health expenses are more likely to demand loan hence the positive relationship. On the other hand, Cheng and Ahmed (2014) also established that individuals who directly pay for their health expenses and have funds readily available will not demand loan leading to a negative relationship.

### **Remittance**

Remittance variable represents whether or not an individual receives remittance from relative(s) or friends abroad. It is a dummy variable which is 1 for individuals who receive remittance and 0 for otherwise. The relationship between loan demand and remittance is expected to be negative. Remittance serves as income to individuals who receive them and so recipient of remittance may not demand loan resulting in negative relationship. On the other hand, individuals who do not receive remittance may demand loan when confronted with financial difficulties hence the negative relationship ( see

Akpadjar et al., 2013).

### **Monthly income**

Monthly income variable is the income earned in Ghana cedis (GH¢) by the respondents. It is the net or the disposable income for individuals with formal employment. For self employed individuals, it is the average amount received each working day multiplied by the number of working days in the month.

The variable has been categorized into six beginning from income less than GH¢ 200.00 to GH¢ 1001.00 and above. The relationship between monthly income and loan demand is expected to be varied. Following the permanent income hypothesis, if current income rises, permanent income which is the average amount needed to be consumed to ensure consumption smoothening, will be obtained and so there will be no need for extra funds hence no demand for loan resulting in the negative relationship. Again, if current income reduces and affects permanent income to the extent that the average amount needed to be spent reduces, then individuals may demand loan in order to meet the minimum amount in order to have smooth consumption pattern, leading to negative relationship. On the other hand, individuals who do not earn income may not demand loan because the loan cannot be repaid leading to the positive relationship. Again, individuals who earn income may demand loan based on their income to undertake investment or other projects because their income affirms their repayment ability hence positive relationship ( see

Messah, 2011 and Olaoye et al., 2012).

## **Savings**

Savings variable relates to whether an individual save portion of income or remittance received or not. Individuals tick “YES” or “NO” to indicate savings or no savings

respectively. It is a dummy variable with value of 1 for individuals who save part of their monthly income or remittance and 0 for otherwise. The relationship between saving and demand for loan is expected to be negative. Pastrapa (2011) established that, individuals who save portion of their income or remittance depend on it when faced with financial constraints and so no demand for loan resulting in the negative relationship. On the other hand, individuals who do not save portions of their income resort to loans when confronted with financial constraint hence the negative relationship.

## **Credit worthiness**

Credit worthiness variable identifies individuals as being credit worthy or not in terms of loan repayment. It is measured by whether an individual has ever defaulted in loan repayment before or not; having good or bad credit history. It is a dummy variable which takes value of 1 for individuals who have not defaulted before and 0 for otherwise. The relationship is expected to be positive or negative. That is, individuals who are credit worthy and have good credit history are more likely to demand loans from the formal financial institutions as a result of their repayment ability leading to the positive relationship (see Pastrapa, 2011, Kausar, 2013 and Cheng and Ahmed, 2014). On the other hand, individuals with bad credit history or bad records in loan repayment may also decide to demand loan which may be granted through adverse selection (Stiglitz and

Weiss, 1981) and hence the negative relationship.

### **Financial literacy**

Financial literacy variable relates to the general understanding of the terms and conditions (interest rate and consequences of loan default) attached the loans demanded by the individuals. It identifies the individuals as being financially literate or illiterate in terms of loan demand.

It is measured by whether individuals know and understand interest rate on loans as well as the consequences of defaulting in repayment. Financial literacy variable is a dummy and categorized into four; 1 for individuals having no knowledge about interest rate and consequences of defaulting, 2 for having knowledge on interest rate, 3 for having knowledge on the consequences of defaulting and 4 for having knowledge on both. The relationship is expected to be positive or negative. That is, individuals who know and understand the price of the loan they demand and also aware of the consequences when they default, are those who are more likely to demand loans *ceteris paribus* hence the positive relationship. Again, individuals who have no knowledge on loan are less likely to demand loan due to fear and also future inconveniences if unable to repay the loan leading to the positive relationship (see Boakye and Amankwah, 2012 and Akpandjar et al., 2013).

On the other hand, there may be other individuals who may have adequate financial knowledge on the loan but may not demand due to their risk averse nature and also the consequences of repayment default such as losing of assets to the financial institutions hence the negative relationship. Again, some individuals may not have adequate financial

knowledge about interest rate on loan as well as the consequences of default, but may possess repayment ability. Individuals who possess repayment ability without financial knowledge and having the need for extra money may disregard the financial knowledge and go ahead to demand loan ceteris paribus resulting in the negative relationship.

### **3.3 Pre-Testing of Instrument for data collection**

The data was collected on individuals who were eighteen (18) years and above. To ensure high response rate, the individuals were sensitized prior to the administration of the questionnaires and the interview. Pilot survey was conducted in May 2015 where 10 respondents were sampled from each of the four selected communities (Nkawkaw, Awenade, Fodoa and Nsuta) to fill questionnaires. This helped the researcher to fine tune the questions which were ambiguous, not clearly asked, among others and also to take notice of mistakes the participants made such as leaving questions unanswered and ticking more answers than necessary, before the main survey was conducted. This was to ensure good response from the participants in order to have good results from the analysis and to make reliable inferences as well.

### **3.4 Ethical Issues**

In order to protect the image and dignity of the respondents who participated in the survey, the researcher first sensitized the respondents and made it known to them that this study is solely for academic purposes and as such all information provided will be treated with utmost confidentiality. Again, to further assure the respondents of maximum confidentiality, their names, telephone numbers and any other information that will make

a respondents being identified easily including house numbers, place of work and area of residence were not elicited. These assurances facilitated the study by getting the maximum information from the respondents which helped in achieving the study objectives. Again, in reporting the outcome respondents' names, house numbers and place of work among others were not reported in the study.



## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.0 Introduction

This chapter deals with the analyses of the data as well as discussion of the results in line with the objectives set. The chapter is in three main parts. Part one presents the descriptive analysis of the data and chi-square test of independence. Part two presents the reliability test and part three presents logistic regression results.

#### 4.1 Descriptive Analysis

This section presents the description of demographic and socio-economic characteristics of individuals who demand loans. The analyses are based on the 600 respondents who filled their questionnaires correctly and were coded in SPSS.

##### 4.1.1 Age distribution of Respondents

Table 4.1 shows the age distribution of the respondents in categorical years ranging from 18 to 60 years and above.

**Table 4.1 Age distribution of respondents**

Age (years)	Frequency	Percent
18-24 years	100	16.7
25-39 years	278	46.3

40-54 years	171	28.5
55-60 years	42	7.0
Above 60 years	9	1.5
Total	600	100.0

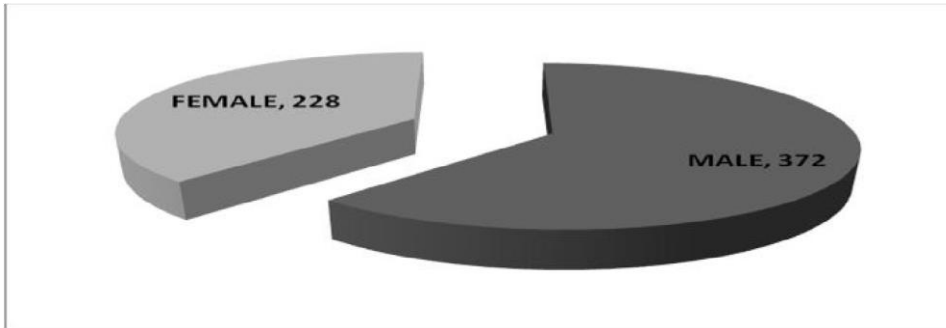
Source: Author's computation using field survey data, June-September, 2015

The result in Table 4.1 indicates that, 100 respondents representing 16.7% are in the age category of 18 to 24 years. The result shows that 278 and 171 respondents representing 46.3% and 28.5% respectively are between the ages of 25-39 years and 40-54 years accordingly. Respondents between ages of 55-60 years and above 60 years are 42 and 9 and these represent 7.0% and 1.5% respectively. By implication, majority of the respondents (491) representing 81.83% are between 25 to 60 years who are in the active labour force. Respondents who are below 24 years and above 60 years are 109 and this represents 18.17%. The result in Table 4.1 further reveals that, more than 50% of the respondents are between the ages of 18 and 39 years. The results indicated that, among the 400 respondents out of the 600 respondents who indicated yes for loan demand ( see appendix IV–Table 8), 218 (54.5%) are between the ages of 18 to 39 years. This means that, most of them might be in school or might be furthering their education.

#### 4.1.2 Sex distribution of Respondents

Figure 4.1 shows the sex distribution of the respondents employed in the study. The result shows that 372 out of the 600 respondents are males and 228 are females. These represent 62% and 38% respectively.

**Figure 4.1 Sex distribution of respondents**



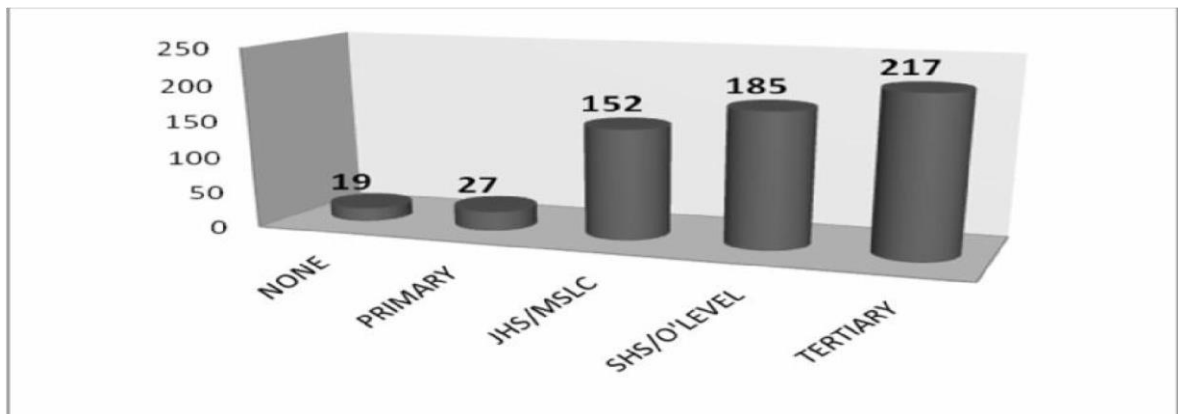
Source: Author's construction using field survey data, June-September, 2015

By implication, the males are more than the female respondents. Out of the 400 respondents who indicated yes for loan demand, 138 are females and 262 are males, representing 35% and 65% respectively. This shows that males apply for loans more than females counterparts do.

#### **4.1.3 Education Level of Respondents**

With regards to the education level of respondents shown in Figure 4.2, the result reveals that individuals who have attained no level of formal education are 19 representing 3.2%. Respondents who have attained primary and junior high school/middle school leaving certificate (MSLC) are 27 and 152 and these represent 4.5% and 25.3% respectively. Respondents who have attained senior high school and tertiary education are 185 and 217 representing 30.8% and 36.2% accordingly.

**Figure 4.2 Education level of Respondents**



Source: Author's construction using field survey data, June-September, 2015

By implication, majority of the respondents have attained tertiary education among all the categories of education level. It can be deduced also from the result that, majority of the respondents (554) representing 92.3% have attained at least junior secondary education. The cross tabulation of education level and loan amount applied for by the 400 respondents (see appendix IV- Table 6) who indicated yes for loan demand shows that, loan amount applied increases with education level. Out of the 266 respondents who applied for loan amount above GH¢ 1 ,000.00, 141 respondents representing 53% have attained tertiary education. On the hand, among the 137 respondents who applied for loan amount of GH¢1000.00 and below, 100 respondents representing 74.63% have attained a maximum of senior secondary education and 34 respondents have tertiary education and this represent 25.37%.

#### **4.1.4 Employment Status of Respondents**

The employment status of the respondents is shown in Table 4.2.

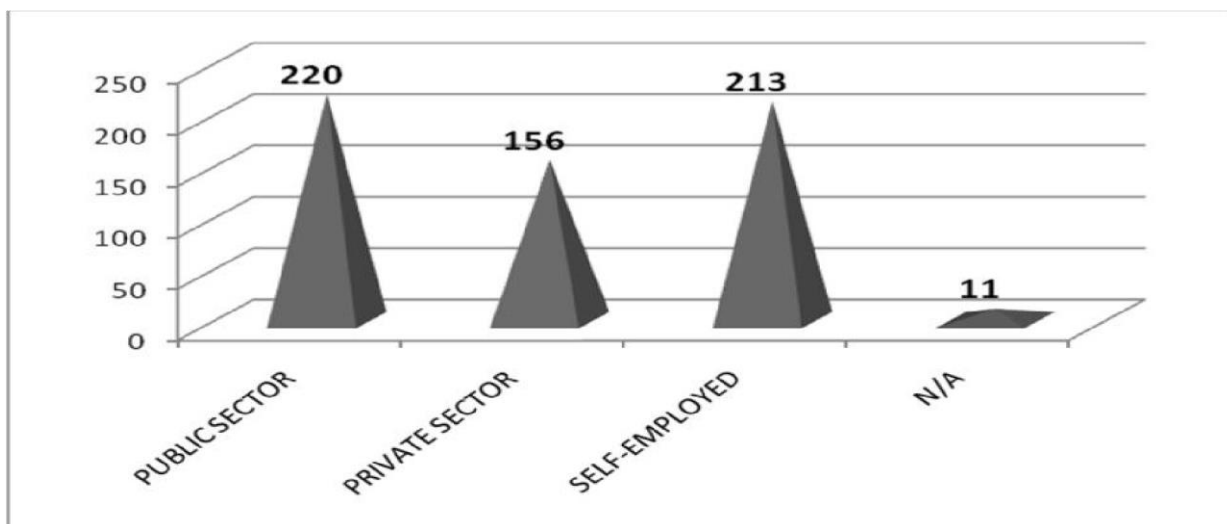
**Table 4.2 Employment status of respondents**

Employment status	Frequency	Percent
Employed	589	98.2
Unemployed	11	1.8
Total	600	100.0

Source: Author's computation using field survey data, June-September, 2015

The result in Table 4.2 shows that 589 respondents out of the 600 respondents are employed and 11 respondents are unemployed. These represent 98.2% and 1.8 % respectively. By implication, majority of the respondents are employed. Figure 4.3 further shows the sectors of employment of the respondents. It is revealed that, 220 respondents are employed by the public sector and this represents 36.7%. Respondents who are employed by the private sector and those who are self-employed are 156 and 213 respectively and these represent 26% and 35.5% accordingly. This further implies that, majority of the respondents are employed by the public sector and this is followed by those who are self-employed. The private sector is contributing to the economy in terms of employment as it has provided employment for 35.5% of the respondents who would have unemployed but for the private sector contribution. Among the 400 respondents who indicated yes for loan demand, 186 (46.5%) respondents are employed by the public sector, 64 (16%) are employed by the private sector and 149 (37.3%) are self-employed.

**Figure 4.3 Sectors of employment of respondents**



Source: Author's construction using field survey data, June-September, 2015

#### **4.1.5 Occupational Distribution of Respondents**

The occupation of the respondents based on the 600 sample employed is shown in Table 4.3. The result shows the occupation of respondents to be farming, trading, teaching, banking, civil service, vocational and others which were specified by the respondents. They include, policing, nurses, doctors, butchers and scrap dealers. Trading activities include auto spare parts, merchants and wholesale and retail of food stuffs and the farmers engage in cocoa production and cultivation of plantain and cassava among others. Respondents who engage in vocational jobs are into hair dressing, carpentry, auto mechanics and mobile phone repairers among others.

**Table 4.3 Occupation of respondents**

Occupation	Frequency	Percent
	27	4.5

Farming	192	32.0
Trading	166	27.7
Teaching	73	12.2
Banking	64	10.7
Civil servant		
Vocational (hair dressing, carpentry, repairer)	27	4.5
Other	40	6.7
None	11	1.8
Total	600	100.0

Source: Author's computation using field survey data, June-September, 2015

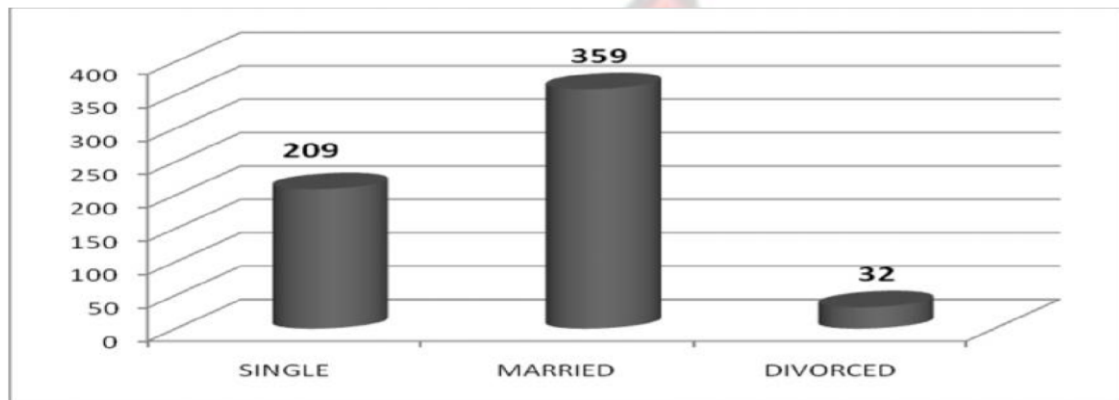
Respondents who are farmers and traders are 27 and 192 and these represent 4.5 % and 32% respectively. 166 and 73 respondents are teachers and bankers representing 27.7% and 12.2% accordingly. Civil servants and respondents who engage in vocation comprise

64 (10.7%) and 27 (4.5%) respectively. Respondents in the "other" category are 40 and it represents 6.7%. Respondents who do not do anything due to unemployment are 11 and this represents 1.8%. By implication, large fractions of respondents are traders and teachers; 192 and 166 representing 32% and 27.7% respectively. This is as a result of commercial activities and many educational institutions in the study area. Again, among the 400 respondents who indicated yes for loan demand, large fraction (273) of them are traders and teachers and this represents 68.2%.

#### 4.1.6 Marital Status of Respondents

Figure 4.4 shows the marital status of the respondents. The data collected indicated that 209 respondents representing 34.8% are single (never married), 359 and 32 respondents representing 59.8% and 5.3% are married and divorced respectively.

**Figure 4. 4 Marital status of respondents**

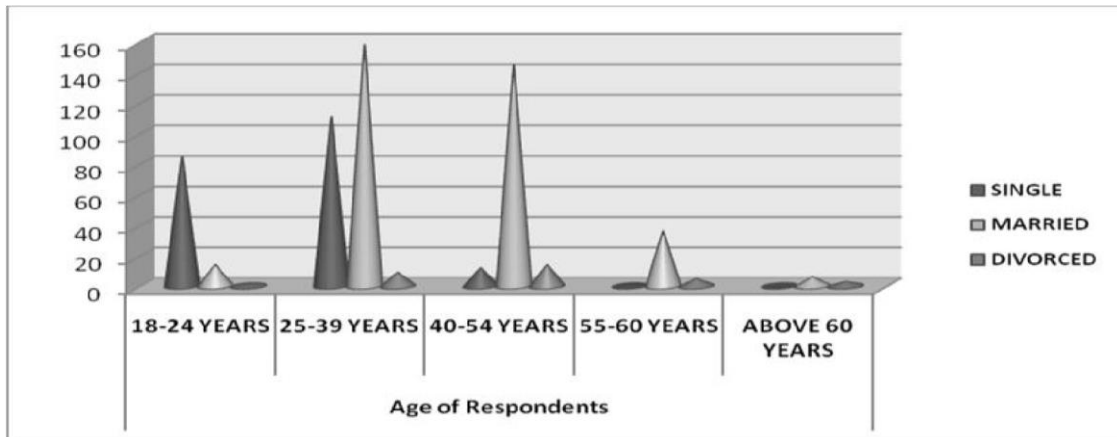


Source: Author's construction using field survey data, June-September, 2015

Among the 400 respondents who demanded loan, 84 (21%), 293 (73.2%) and 23 (5.8%) are single, married and divorced accordingly. By implication, majority of the respondents who demanded loan are married and this could be probably due to more responsibilities compared to respondents who are single.

The cross tabulation of age and marital status shown in Figure 4.5 further shows that large fraction of married respondents are in the age group of 25 to 54 years indicating that most Ghanaians get married at the age of 25 years and above where they would have completed tertiary education and started job *ceteris paribus*.

**Figure 4.5 Cross tabulation of age and marital status of respondents**

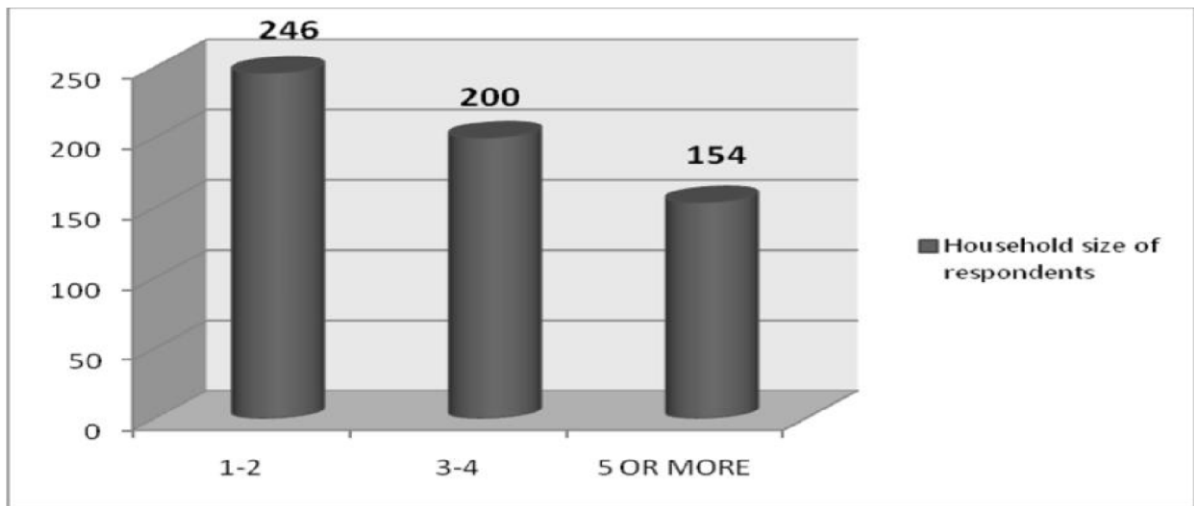


Source: Author's construction using field survey data, June-September, 2015

#### **4.1.7 Household size**

Household size may affect individuals' decision for loan demand and so information gathered on respondents' needs must be analyzed. The result for the household size is depicted in Figure 4.6. The result shows that, 246 (41%) respondents have a household size between 1 and 2, 200 (33.3%) have a household size between 3 and 4, and 154 (25.7%) have a household size of 5 or more. By implication, a majority of the respondents (354) representing 59% have a household size of 3 or more, indicating a relatively high dependency among the respondents and Ghanaians at large. The relatively high dependency among the respondents is in accordance with the study by Boateng and Amponsah (2015).

**Figure 4.6 Household size of respondents**



Source: Author's construction using field survey data, June-September, 2015

#### **4.1.8 Wealth of Respondents**

The result of wealth of respondents is shown in Figure 4.7. The result reveals that, 146 respondents have no property and this represents 24.3%. That is, they own no house, business/firm, land, farm, land, and car among others.

**Figure 4.7 Wealth of respondents**

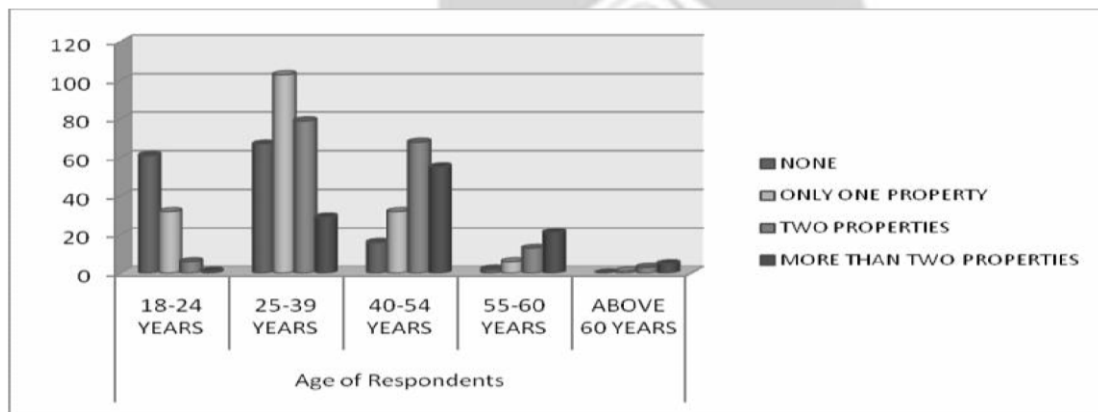


Source: Author's construction using field survey data, June-September, 2015

Respondents who have one property and two properties are 174 and 169 and these represent 29% and 28.2% accordingly. Respondents who have more than two properties are 111 and this represents 18.5%. This implies that, majority of the respondents (454) representing 75.7% have at least one property. By implication, individuals who have properties may use the properties as collateral for loan demand ceteris paribus.

The cross tabulation of age and wealth shown in Figure 4.8 also indicates that majority of the respondents who own at least one property fall within the ages of 25 to 54 years.

**Figure 4.8 Age and wealth of respondents**

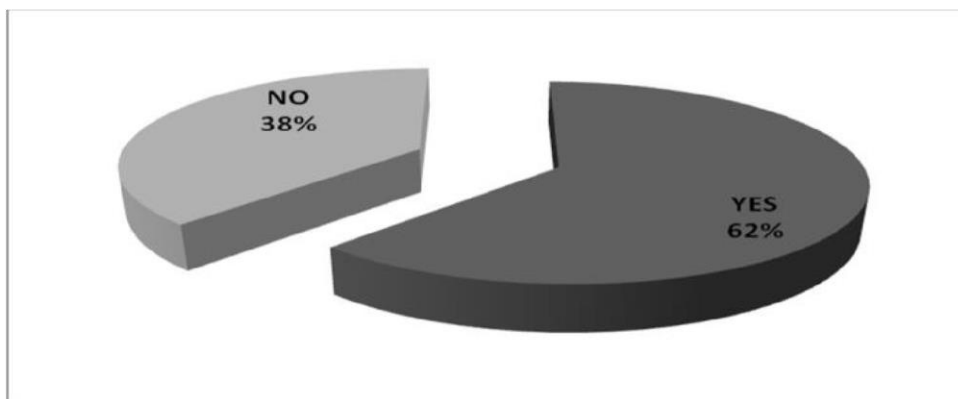


Source: Author's construction using field survey data, June-September, 2015

#### 4.1.9 Household Health Status of Respondents

Figure 4.9 shows the health status of respondents used for the survey. Based on the 600 sample size employed, respondents who directly pay hospital expenses rather than health insurance or any health financial scheme are 373 representing 62%. Respondents who do not pay directly for the expenses are 227 and this represents 38%.

**Figure 4.9 Nature of hospital expenses payment by respondents**



Source: Author's construction using field survey data, June-September, 2015

By implication, majority of the respondents pay directly their hospital expenses when there is a visit to the hospital. This shows that, majority of the respondents pay directly for their health care other than using the national health insurance or any health financial scheme. Again, among the 400 respondents who indicated yes for loan demand, 296 (74%) directly pay for hospital expenses whilst 104 (26%) do not directly pay for hospital expenses and this may influence their decision for loan demand.

**4.1.10 Remittance Received by Individuals from Relative(s) / friends abroad** Regarding remittance received by respondents, the result is shown in Table 4.4.

**Table 4.4 Remittance received by individuals**

Response	Frequency	Percent
Yes	161	26.8

No	439	73.2
Total	600	100.0

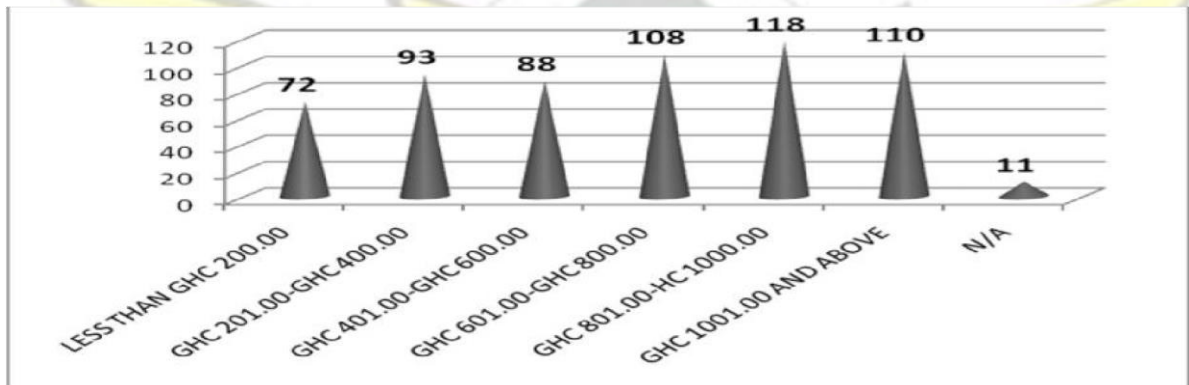
Source: Author's computation using field survey data, June-September, 2015

It is revealed that respondents who receive remittance and those who do not receive are 161 and 439 and these represent 26.8% and 73.2% respectively. This implies that majority of the respondents do not receive remittance and depend on their income for survival.

#### 4.1.11 Income level of Respondents

The net monthly income of respondents is shown in Figure 4.10.

**Figure 4.10** Income level of respondents



Source: Author's construction using field survey data, June-September, 2015

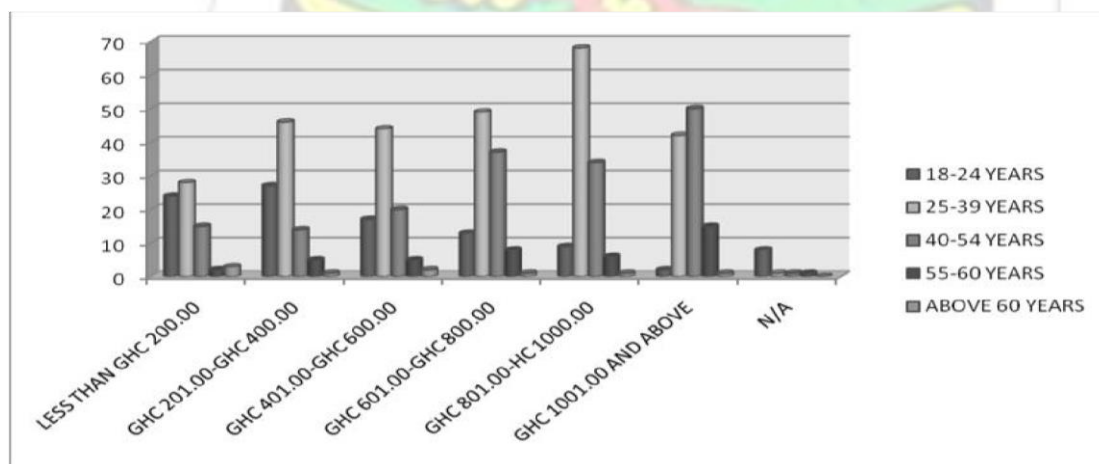
The result shows that 72 respondents (12%) earn income less than GH¢ 200.00. Respondents who earn income ranging from GH¢ 201.00 to GH¢ 400.00 and GH¢ 401.00 to GH¢ 600.00 are 93 and 88 and these represent 15.5% and 14.7% respectively.

Respondents who earn income of GH¢ 601.00 to GH¢ 800.00 and GH¢ 801.00 to GH¢ 1000.00 are 108 and 118 representing 18% and 19.7% accordingly. The result further shows that 110 respondents earn income above GH¢ 1000.00 and this represents 18.3%.

11 respondents representing 1.8% do not earn income. By implication, majority of the respondents (336) representing 56% earn income above GH¢ 600.00.

The cross tabulation of age and income level of respondents shown in Figure 4.11 indicates that income increases with age. 66 respondents out of 110 respondents who earn income above GH¢ 1000.00, 140 are 40 years and beyond and this represents 60% and 44 respondents representing 40% are in the age group of 18 years and 39 years. On the other hand, 186 respondents (73.5%) out of 253 respondents who earn income of GH¢ 600.00 and below are in the age group of 18 years to 39 years and 67 respondents representing 26.5 % are 40 years and beyond.

**Figure 4.11 Cross tabulation of age and income level of respondents**



Source: Author's construction using field survey data, June-September, 2015

#### 4.1.12 Savings by Individuals

On savings by the respondents, the outcome is presented in Table 4.5. Respondents who save portion of their income or remittance received are 530 and this represent 88.3%. Respondents who do not save portion of their income or remittance are 70 and this represents 11.7%. By implication, majority of the respondents save parts of their income or the remittance they received.

**Table 4.5 Savings by Individuals**

Response	Frequency	Percent
Yes	530	88.3
No	70	11.7
Total	600	100.0

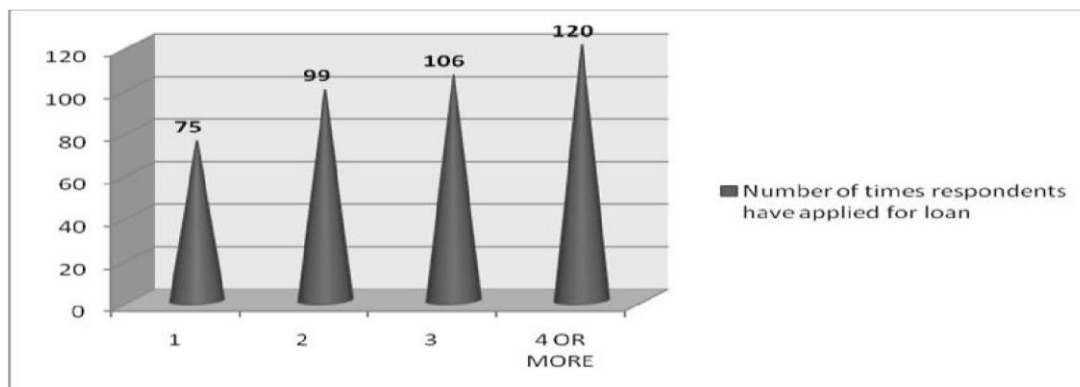
Source: Author's computation using field survey data, June-September, 2015

Cross tabulation of household size and savings (see appendix IV-Table 2) indicates that, relatively large number of respondents (223) out of 530 respondents who save have household size of at most two and this represents 42.1%. Respondents with household size of 3-4 and 5 or more and save portion of income are 175 and 132 representing 33% and 25% respectively. By implication, respondents with relatively small household size are more likely to save compared to respondents with relatively large household size.

#### 4.1.13 Number of times respondents have applied for loan

With regard to the number of times respondents have applied for loan, the result is shown in Figure 4.12.

**Figure 12 Number of times respondents have applied for loans**



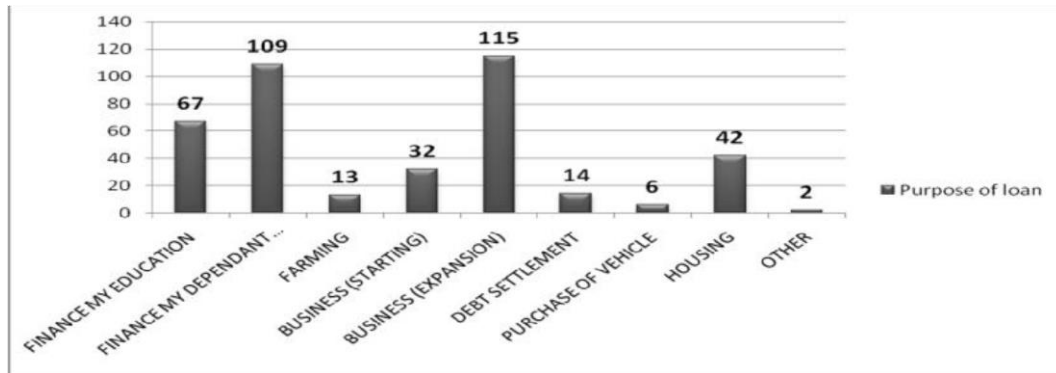
Source: Author's construction using field survey data, June-September, 2015

It is revealed that 75 (18.8%) and 99 (24.8%) respondents out of the 400 respondents who indicated yes for loan demand have applied for loan once and twice in their life time respectively. 106 (26.5%) and 120 (30%) have applied 3 times and 4 or more respectively. This implies that mass of the respondents, 325 (81.3%) have applied for loan at least twice in their life time. A cross tabulation of household size and number of times respondents have applied for loan (see appendix IV-Table 3) depicts that, 92 respondents out of 120 respondents who have applied for 4 times or more have household size which is 3 or more. This supports the fact that individuals with relatively larger household size continuously demand loans in order to provide social and economic needs of dependants.

#### **4.1.14 Purpose of Loan Received**

Figure 4.13 shows the purpose of the loans received by the 400 respondents out of the 600 sample size. The respondents indicated financing of education (self and dependants), farming, business (starting and expansion), debt settlement, purchase of vehicle and housing among others as the purpose of the loan received.

**Figure 4.13 Purpose of loan received by respondents**



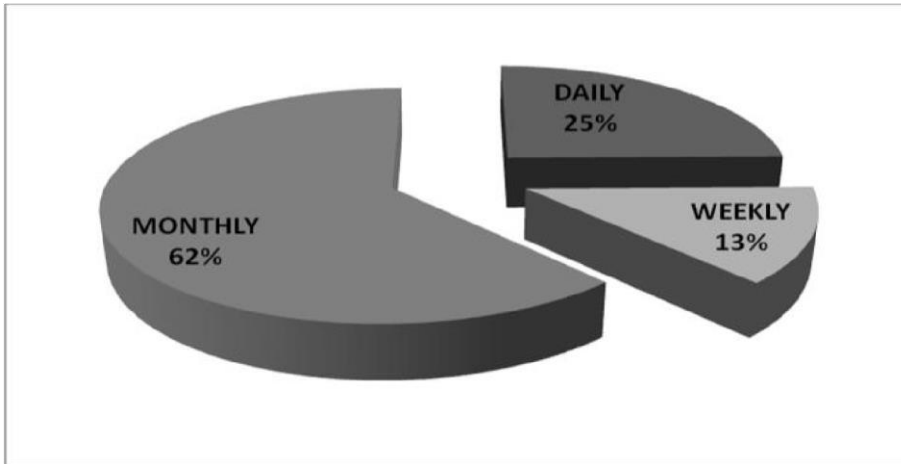
Source: Author's construction using field survey data, June-September, 2015

The result reveals that greater portion of the respondents, 224 (56%) used the loan for business expansion and financing of dependants education. 2 (0.5%) respondents who indicated “other” as the loan purpose used the loan for funeral expenses. This further implies that most respondents do not have funds readily available to expand their business, finance their dependants’ education, start a business, put up buildings and settle their debt among others which could be due to high dependency which limits savings abilities.

#### **4.1.15 Loan Repayment Mode**

The outcome of the loan repayment mode for the 400 respondents who indicated yes for loan demand is presented in Figure 4.14.

**Figure 4.14 Loan repayment options for respondents**



Source: Author's construction using field survey data, June-September, 2015

It is revealed that daily, weekly and monthly are the various loan repayment options available to the respondents. Respondents who indicated daily, weekly and monthly as their repayment option are 99, 53, and 248 representing 25%, 13% and 62% respectively. The daily and weekly repayment options adopted by the financial institutions are to ensure no or lower default rate among borrowers. These options have indeed reduced the rate of loan default as shown by the study. 40 respondents out of the 400 respondents who applied for loan indicated that they have once defaulted. The cross tabulation of repayment mode and loan default (see appendix IV-Table 4) shows that 29 out of 152 respondents who repay their loan on daily and weekly basis have defaulted before. However, 11 out of 248 respondents who repay their loan monthly also mentioned that they have defaulted before.

#### **4.1.16 Financial Literacy of Respondents**

Table 4.6 shows the level of financial literacy of the respondents.

**Table 4.6 Financial literacy of respondents**

	Frequency	Percent
None	40	6.7
Only interest rate	20	3.3
Only consequences of default	32	5.3
Both interest rate and consequences	508	84.7
Total	600	100.0

Source: Author's computation using field survey data, June-September, 2015

The result shows that, 40 respondents representing 6.7% indicated no knowledge on either interest rate or consequences of loan default. 20 respondents representing 3.3% have knowledge on interest rate whilst 32 (5.3%) also indicated that they have knowledge on consequences of loan default. 508 respondents however indicated that they have knowledge on both interest rate and consequences of loan defaults and this represents 84.7 % of the total respondents. The result implies that majority of the respondents (560) are financially literate and this represents 93.3%.

#### **4.1.17 Loan demand status of respondents**

The loan demand status of respondents which is the dependents variable in this study need to be analyzed in terms of number of respondents who have ever demanded loan and those who have never demanded loan in their life time. The result is shown in Table

4.7.

**Table 4.7 Loan demand status of respondents**

Response	Frequency	Percent
No	200	33.3
Yes	400	66.7
Total	600	100.0

Source: Author's computation using field survey data, June-September, 2015

The result shows that out of the 600 respondents used in the study, 400 have ever demanded loan from formal financial institutions and this represent 66.7%. On the other hand, 200 respondents representing 33.3% have never demanded loan in their life time. By implication, respondents who have ever demanded loan are more than individuals who have never demanded loans.

#### **4.2 Reliability Test Analysis**

This section presents the reliability of the items used in the questionnaire in eliciting information from the individuals on the factors which might influence their decision for loan demand.

In testing for the reliability of the questionnaire used in collecting information from the respondents for the study, Cronbach's alpha ( $\alpha$ ) value is used as a measure for the level of reliability. The result of the reliability test is presented in Table 4.8.

**Table 4.8 Reliability Test Results**

Average inter item correlation	Number of items in the scale	Scale Reliability Coefficient (alpha value)
0.0661	46	0.7650

Source: Author's computation using field survey data, June-September, 2015

The Cronbach's alpha value from Table 4.8 shows that the level of internal consistency is 0.7650 (76.5%). The alpha value ranges from 0.7470 (74.70%) being the minimum to 0.7707 (77.07%) being the highest as shown in Appendix II. This value indeed shows a relatively higher level of internal consistency among the items and can therefore be concluded that the questionnaire used for eliciting information on the respondents is reliable. That is, same or similar information or results will be obtained when the questionnaires are administered to the same respondents at a different period. The average inter item correlation value of 0.0661 in the reliability test table also indicates that the independent variables are not correlated. The minimum and maximum average inter item correlation are 0.0616 and 0.0695 respectively. The correlation matrix test indicates that the explanatory variables are not highly related indicating the absence of multicollinearity. The positive and negative correlation coefficients range from 0.001 to 0.4 and 0.26 to 0.005 respectively (see appendix II).

### 4.3 Chi-square Test of Independence

This section presents the chi-square test of independence between the dependent variable and the explanatory variables. It is used to determine linear by linear the relationship between the dependent and the explanatory variables. That is, how the dependent variable depends on the independent variables and also to ascertain whether there exist linear or non-linear relationship between the dependent and the independent variables. In pursuit of this relationship, hypothesis of linear relationship and no linear relationship was tested.

**H<sub>0</sub>:** There is no linear relationship between the dependent and the explanatory variables.

**H<sub>1</sub>:** There is linear relationship between the dependent and the explanatory variables.

The null hypothesis of no linear relationship is rejected when the p-value or Fisher's exact test is less than 0.05 (p-value / FET < 0.05). On the other hand, the null hypothesis is not rejected when the p-value or Fisher's exact test is greater than 0.05 (p-value / FET > 0.05).

The chi-square test of independence results are presented in Table 4.9. The results indicate that there is a linear relationship between demand for loan and all the independent variables with the exception of savings (see appendix III). However, neither natural logarithm nor square could be applied to savings variable which exhibited nonlinear relationship with demand for loan due to its categorical nature.

**Table 4.9 Chi-square Test of Independence Results**

<b>Dependent variable: Demand for loan</b>			
<b>Explanatory variables</b>	<b>p-value / Fisher's exact test</b>	<b>Decision</b>	<b>Interpretation</b>
AGE	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and age of respondents
SEX	0.012 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and sex of respondents
EDUC	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and education level of respondents
EMPST	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and employment status of respondents
MAST	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and marital status of respondents
HHS	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and household size of respondents
INDW	0.000 < 0.05	H <sub>0</sub> is rejected	There is linear relationship between demand for loan and wealth of respondents

HHHST	$0.000 < 0.05$	$H_0$ is rejected	There is linear relationship between demand for loan and household health status of respondents
REM	$0.027 < 0.05$	$H_0$ is rejected	There is linear relationship between demand for loan and remittance.
MINC	$0.000 < 0.05$	$H_0$ is rejected	There is linear relationship between demand for loan and monthly income of respondents
SAV	$0.719 > 0.05$	$H_0$ is accepted	There is no linear relationship between demand for loan and savings
CREDW	$0.000 < 0.05$	$H_0$ is rejected	There is linear relationship between demand for loan and credit worthiness of respondents
FINLIT	$0.000 < 0.05$	$H_0$ is rejected	There is linear relationship between demand for loan and financial literacy of respondents

Source: Author's computation using field survey data, June-September, 2015

#### 4.4 Robustness check

To determine whether the results obtained using logistic regression (Logit) and discussed above is robust, the study adopts the probability regression (Probit) estimation procedure to examine the models. The result obtained from the probit estimation is not significantly different from that obtained from the logit estimation (see appendix V). This proves that the results obtained and discussed above is robust.

## 4.5 Analyses of Regression Results

This section seeks to present the results from the logistic regressions used in measuring the impact of demographic and socio-economic factors of individuals on demand for loan.

In achieving the second objective of measuring the impact of demographic and socioeconomic factors on loan demand, equations 3.7 and 3.8 are estimated.

### 4.5.1 Analysis of Regression Result for Model I

This section presents the estimated results of demand for loan and demographic characteristics of individuals in equation (3.7).

In measuring the impact of the demographic characteristics of individuals on demand for loan, equation (3.7) is estimated and the result is presented in Table 4.10.

The results in Table 4.10 reveal that there is a mixture of positive and negative relationship between age categories and loan demand. There is a positive relationship between individuals between the ages of 25-29 years, 40-54 years and 55-60 years and loan demand. There is also a negative relationship between individuals who are above 60 years and loan demand.

**Table 4.10 Logistic results for impact of demographic characteristics on demand for loan**

**Dependent Variable: Demand for loan**

Variables	Coefficient	Robust Std. Error	Marginal Effect (dy/dx)
<b>Age (18-24 years )</b>			
25-39 years	0.2463452	0.3225771	0.0490939
40-54 years	0.8512943**	0.4006734	0.1555473
55 -60 years	0.4479137	0.5965947	0.081628
Above 60 years	-1.82832*	0.9441284	-0.4272298
<b>Sex ( Female )</b>			
Male	0.1677759	0.2183471	0.0338802
<b>EDUC (Tertiary)</b>			
No education	-2.129908***	0.610536	-0.4871432
Primary education	-0.3893621	0.6509284	-0.0836666
JHS/MSLC	-1.232387***	0.3658369	-0.2711493
SHS/O'level	-1.228808***	0.3024108	-0.2647964
<b>EMPST (Public Sector)</b>			
Private sector	-1.228808***	0.2981112	-0.3278337
Self-employed	-0.2504268	0.3424533	-0.0509109
Unemployed	-3.248735***	1.108954	-0.6377498
<b>MAST (Married)</b>			
Divorced	0.1086097	0.5215331	0.0212658
Single	-1.842181***	0.3076	-0.3920649
<b>HHS (1-2)</b>			
HHS-3-4	-0.3274682	0.3156482	-0.0670652
HHS-5 or More	-0.4574488	0.3598952	-0.0957853
Constant	2.668247	0.4793781	

Number of observations = 600      Prob > Chi-square = 0.0000

Wald Chi-square (16) = 157.20      Pseudo R<sup>2</sup> = 0.2788

Note: Reference categories are in parentheses and \*\*\*, \*\* and \* denote 1%, and 5% and 10% Significance level

Age categories of 40-54 years and above 60 years are significant at 5% and 10 % significance level respectively. This implies that individuals between the ages of 25-60 years are more likely to demand loans compared to individuals who are below 25 years who are perceived to be relatively younger. Again, individuals who are above 60 years are less likely to demand loans compared to counterparts who are in the active labour force. The marginal effect shows that, increasing age from the reference category (18-24 years) increases the probability of demanding loan by 4.9%, 15.5% and 8.2% and decreases probability of demanding loan by 42.7% for 25-39 years, 40-54 years and 55-60 years and above 60 years respectively.

Following life cycle hypothesis, as individuals commence work at the age of 25 years all things being equal, income is earned and portion is saved for investment, wealth accumulation and future consumption as well. The income and wealth accumulation affirms the individuals' ability to repay loan as properties are often required as collaterals in demanding loan from financial institutions. Again, matured individuals (25-60 years ) have enough experience, skills, knowledge and this enhances their incomes generating capacities. Increasing income generating capacity increases individuals repayment abilities and hence increasing the desire for loan demand *ceteris paribus*.

Contrary, younger individuals (18-24 years) are either mostly in school or have not started work for long. As a result, their income generating abilities are limited and also not able to acquire enough properties and wealth which can be used as collaterals for loan demand.

In addition, these younger individuals do not possess repayment abilities and also not credit worthy which turn to limit their desire for loan demand *ceteris paribus*. The financial institutions also feel reluctant in granting loans to individuals who are relatively younger and with no work and individuals above 60 years because of their inability to repay the loan and this therefore reduce the desire of loan demand for these categories of individuals. The result is supported by the field survey data as 61 out of the 100 respondents who are between the ages of 18-24 years have no properties. 32, 6 and 1 respondents have only one property, two properties and more than two properties respectively. This result is consistent with the studies conducted by Cheng and Ahmed (2014), Olomola and Gyimah-Brempong (2014) and Amao (2013).

On sex and loan demand, the result reveals that, males are more likely to demand loan compared to female counterparts. Being male increases the probability of demanding loan by 3.4%. This result agrees with studies conducted by Amao (2013) and Chen and Chivakul (2008) but however not significant.

The insignificant impact of sex on loan demand means that, being male does not necessarily mean that the desire for loan demand will increase for males. One reason may be that, both males and females can equally demand loans from financial institutions. It may also be due to the data collected as either sex can equally be head of household which will influence decision for loan demand but the data collected favours males the most in terms of household head. Another reason may be that, needs may not be the same for both gender. Males might have few needs which might not necessarily influence their decision for loan demand. Females on the other hand may have more needs and this can influence

their decision for loan demand. It can therefore be deduced that gender is not a significant factor that influences individuals' demand for loan in Ghana.

The result in Table 4.9 shows that, there is a negative relationship between individuals with lower level of education and loan demand. That is, individuals with lower level of education (None, Primary, JHS/MSLC and SHS/O' level) are less likely to demand loan compared to counterparts with tertiary education. The marginal effect indicates that attaining no level of formal education, primary education, JHS/MSLC and SHS/O' Level reduces the probability of demanding loan by 48.7%, 8.4%, 27.1% and 26.5 % respectively. With the exception of primary education, the negative relationship between loan demand and no level of formal education, JHS/MSLC and SHS/O' Level are all significant at 1% significance level.

By implication, individuals who have acquired tertiary education have knowledge on where to demand these loans which turns to influence their demand for it. The higher education level obtained enables them to understand the terms and conditions attached to the loan contract which also facilitate the processing of the loan contract. The high level of education again helps them to assess the cost and benefits involved in the loan demand as well as the associated risks such as losing assets to the financial institution in event of loan default. On the other hand, individuals with lower level of education at times finds it difficult locating where to demand these loans as well as understanding the loan contract

which reduces their desire for loan demand. Again, fear of inability to repay the loan after demanding which may be as a result of mismanagement, lack of skills owing to the low level of education, moral hazards among others reduces their desire for loan demand.

This result is confirmed by the field survey data as large fraction, 175 (43.75%) out of 400 respondents who demand loans have attained tertiary education compared to 9

(2.2%) , 22 (5.5%), 98 (24.5%) and 96 (24%) for no level of formal education, primary, JHS/MSLC and SHS/O'level counterparts who also indicated yes for loan demand. This result is consistent with the study conducted by Olaoye et al. (2012), Messah (2011) and Magri (2002) but contradicts the study result by Amao (2013).

With regards to employment and loan demand, the result shows that there is a negative relationship between individuals who are unemployed, self-employed and employed by private sector and loan demand. This means that, individuals who are unemployed, selfemployed and employed by private sector are less likely to demand loans compared to individuals who are employed by the public sector. The relationship between these categories and loan demand are all significant at 1% significance level with the exception of self-employed individuals.

The marginal effect further shows that being employed by private sector, self-employed and unemployed reduces the probability of demanding loan by 32.8%, 5.1% and 63.8% respectively. By implication, individuals who are unemployed do not earn income ceteris

paribus and for that matter do not possess repayment ability which turns to reduce their desire for loan demand compared to public sector employed counterparts. Individuals who are employed (by public sector) earn income and the income earned affirms repayment ability which increases the desire for loan demand. Again, individuals who are employed by the private sector of which most of them are informal find it difficult obtaining loans from financial institutions as they are unable to meet the requirement of providing public and official pay slips for inspection and onward granting of loan. Most of these private sectors employers even do not provide pay slips for employees which even exacerbate the situation when demanding loan from formal financial institutions as compared to public sector employees who have pay slips. The pay slips provided for public sector workers makes it easier for them to demand loans from the formal financial institutions as it enhances deductions, hence increases their desire for loan demand. This result is consistent with the study conducted by Bendig et al. (2009).

The result in Table 4.10 further shows that, there is a mixture of positive and negative relationship between marital status and loan demand. There is a positive relationship between loan demand and being divorced whilst negative relationship exists between being single and loan demand. This means that, individuals who are divorced are more likely to demand loan compared to married counterparts. Again, individuals who are single are less likely to demand loan compared to married counterparts.

The marginal effect shows that being divorced increases probability of demanding loan by 2.1% but however not statistically significant. On the contrary, being single reduces the

probability of demanding loan by 39.2% and is statistically significant at 1 % significance level. By implication, individuals who are single have fewer responsibilities all things being equal compared to married counterparts who have more responsibilities.

The fewer responsibilities of single individuals reduce their desire for loan demand compared to married individuals who as a result of children that emanate from the marriage often turn to have many responsibilities. Hence, this increases their desire for loan demand to cover up their spending gap all things being equal. This is also supported by the field survey data as 293 (73.25%) out of the 400 individuals who indicated yes for loan demand are married compared to single counterparts who are just 84 representing 21 %. The negative relationship between loan demand and being single agrees with the study result by Olomola and Gyimah-Brempong (2014), Magri (2002) and contradict the study result by Amao (2013).

The result presented in Table 4.10 further reveals that, there is a negative relationship between relatively larger household size and loan demand. This implies that, individuals with relatively larger household size (3-4 and 5 or more) are less likely to demand loan compared to individuals with relatively small household size. The marginal effect shows that having household size of 3-4 and 5 or more decreases the probability of demanding loan by 6.7% and 9.6% respectively. This result is consistent with the study conducted by Olaoye et al. (2012) and disagrees with that of Magri (2002) but however not significant.

The insignificant impact does not mean that larger household size does not have influence on individuals' demand for loan in Ghana. It means that having large household size does

not necessarily mean one will demand loan as individuals with smaller household size are also likely to demand loan. The insignificant impact may be due to the relatively large fraction of individuals sampled (132) representing 33% having a household size between 1 and 2. It can therefore be deduced that having small or large household size is not a significant factor which influence individuals' demand for loan in Ghana.

#### 4.5.2 Analysis of Regression Result for Model II

This section presents the estimated results of demand for loan and socio-economic characteristics of individuals in equation (3.8).

In measuring the impact of the socio-economic characteristics of individuals on demand for loan, equation (3.8) is estimated and the result is presented in Table 4.11.

The results in Table 4.11 reveal that, there is a positive relationship between individuals wealth and loan demand. This means that individuals with at least one property are more likely to demand loans compared to counterparts without properties. The result further shows that having one property, two properties and more than two properties increases the probability of demanding loan by 12.4%, 18.8% and 19.8% respectively and are statistically significant at 5%, 1% and 1% accordingly.

**Table 4.11 Logistic results for impact of socio-economic characteristics on demand for loan**

<u>Variables</u>	<u>Coefficient</u>	<u>Robust Std. Error</u>	<u>Marginal Effect (dy/dx)</u>
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**Wealth (No Property)**

One property	0.6445711**	0.2793482	0.1241259
Two properties	1.020686***	0.2836829	0.1878255
More than two properties	1.155478***	0.3449788	0.1977142

**HHHS (Do not pay directly)****REM (Do not receive)**

Remittance

<b>MINC (No income)</b>	-0.542508**	0.2515431	-0.1166196
GH¢ 401.00-GH¢ 600.00	1.257058***	0.3204801	0.2059217
GH¢ 601.00-GH¢ 800.00	1.637627***	0.3196013	0.256764
GH¢ 801.00-GH¢ 1000.00	1.344982***	0.3065854	0.224646
HHHS - directly pays	1.221867***	0.2217899	0.2608301

Above GH¢ 1000.00	1.980834***	0.3462997	0.2938114
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**SAV (Do not save)****CREDW (Defaulted before)**

Not defaulted before

<b>FINLIT (None)</b>	0.1264365	0.3805453	0.0264707
FINLIT- interest rate	3.316951***	0.8340479	0.2955046
FINLIT-default consequences	1.56816**	0.7156986	0.2217772
FINLIT- Both ITR and def. cons.	2.0755***	0.5992183	0.4737434
Constant	-2.626885	0.6945221	

Number of observations = 600

Prob &gt; Chi-square = 0.0000

Savings	-1.066782***	0.3893714	-0.1782169
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Wald Chisquare (14) = 121.9  
0

Pseudo R<sup>2</sup> = 0.2615

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# KNUST

Note: Reference categories are in parentheses and \*\*\*, \*\* and \* denote 1%, 5% and 10% Significance level

The result is consistent with life cycle hypothesis. Individuals save portion of the income received and accumulate wealth at the commencement of work. These accumulated wealth are then used as collaterals to demand loans from financial institutions. The wealth acquired also gives some sort of credit worthiness to the individuals which influence their decision for loan demand. Individuals without property like house, car and land among others on the contrary are unable to provide any collateral for loan demand and this reduces the desire for loan demand. The field survey data collected support this result as 332 (83%) out of the 400 individuals who indicated yes for demand for loan possess at least one property. It can therefore be deduced that wealth of individuals is a significant factor which influences individuals' loan demand in Ghana. This result is

consistent with the works of Cheng and Ahmed (2014), Pastrapa (2011) and Magri (2002).

The result in Table 4.11 further shows that, there is positive relationship between individual health status and loan demand. That is, individuals who directly pay for their health care instead of any other health insurance or financial scheme are more likely to demand loans compared to counterparts who do not pay directly but rather through health insurance or financial scheme. The marginal effect shows that paying directly for health care increases probability of demanding loan by 26.1% and is significant at 1 % significance level. This implies that, individuals who do not have money readily available as well as not having any health insurance or financial scheme will resort to loan in case of any eventuality for direct payment for health care all things being equal. This is consistent with the field data as 296 (74%) of respondents who demand loans indicated that they directly pay for their health care when they attend hospital. This result agrees with the findings of Bendig et al. (209) and opposes that of Cheng and Ahmed (2014).

Regarding remittance and loan demand, the result shows a negative relationship as presented in Table 4.11. That is, individuals who receive remittances are less likely to demand loans compared to counterparts who do not receive remittance. The marginal effect reveals that receiving remittance decreases probability of demanding loan by 11.7 % and this is significant at 5% significance level. Remittances serve as income and by implication, individuals who receive remittances use it for all purchasing purposes including consumption and investment and hence reduce their desire for loan demand ceteris paribus. This result agrees with the findings of Akpandjar et al. (2013) and contradicts that of Bendig et al. (2009).

On income and loan demand, the result in Table 4.10 reveals positive and significant relationship. This implies that, individuals who earn relatively high income (above GH¢ 400.00) are more likely to demand loan compared to counterparts who do not earn income and relatively low income (below GH¢ 400.00). The marginal effect indicates that having income between GH¢ 401.00- 600.00, GH¢ 601.00-800.00, GH¢ 801.00,1,000.00 and above GH¢ 1000.00 increases probability of demanding loan by 20.6%,

25.7 %, 22.5% and 29.4% respectively and are all significant at 1% significance level. By implication, individuals with higher income can acquire enough wealth which can be used as collateral to demand loans. The higher income also affirms their repayment abilities.

Again, individuals with higher income are perceived by financial institutions as being credit worthy which turn to influence their decision for loan demand compared to counterparts with no or lower income all things being equal. The field data support this result as 332 (83%) out of the 400 respondents who indicated yes for loan demand earn income which above GH¢ 400.00. The result agrees with those of Olomola and Gyimah-Brempong (2014), Amao (2013) and Messah (2011) and opposes the study result obtained by Cheng and Ahmed (2014) and Olaoye et al. (2012).

Concerning the relationship between savings and loan demand, the result presented in Table 4.11 shows that it is negative and significant. That is, individuals who save portion of their income are less likely to demand loan compared to counterparts who do not save. From the marginal effect, saving reduces probability of demanding loan by 17.8% and is

significant at 1% significant level. By implication and following life cycle hypothesis, individuals who save portion of their income at the commencement of work turn to dissave in case of any eventuality and even during retiring period and old age which reduces the desire for loan demand. On the other hand, individuals who do not save portion of their income depend on loans in case of any eventuality which increases the desire for loan demand. This result is consistent with the finding by Pastrapa (2011).

The result in Table 4.11 further reveals that there is a positive relationship between individual credit worthiness and loan demand. That is, individuals who have never defaulted in loan repayment are more likely to demand loan compared to counterparts who have once defaulted. The marginal effect shows that having not defaulted in loan repayment before increases probability of demanding loan by 2.6%. This is consistent with findings of Cheng and Ahmed (2014), Kausar (2013) and Pastrapa (2011) but however not significant. The insignificant impact may be due to the fact that there may be individuals who have good credit history as result of not defaulting in previous loan demanded yet they will not demand loan for third or fourth time. Therefore, being credit worthy and having good credit history does not necessarily increase with loan demand in Ghana. There may be others who have once defaulted in loan repayment but will still demand loan. Adverse selection is likely to foster this situation where individuals who have defaulted before or potential defaulters are likely to demand loan (Stiglitz and Weiss, 1981).

The result in Table 4.11 again reveals that there is a positive and significant relationship between financial literacy and loan demand. That is, individuals who are financially literate

in terms of knowledge on interest rate on loans, consequences of loan default or even both are more likely to demand loan compared to individuals who are financially illiterate. The marginal effect shows that having knowledge on interest rate on loans, consequences of loan default or both increases probability of demanding loan by 29.6%, 22.2% and 47.4% accordingly and are significant at 1%, 5% and 1% significance level respectively. By implication, individuals with good financial knowledge on loans and knowing the cost and risk associated with it in terms of interest rate and lose of assets in case of loan default are those who are more likely to demand loan *ceteris paribus*. On the other hand, individuals with no financial knowledge on the loan and also not knowing the cost and risk associated with it will not demand loan to avoid any future inconveniences.

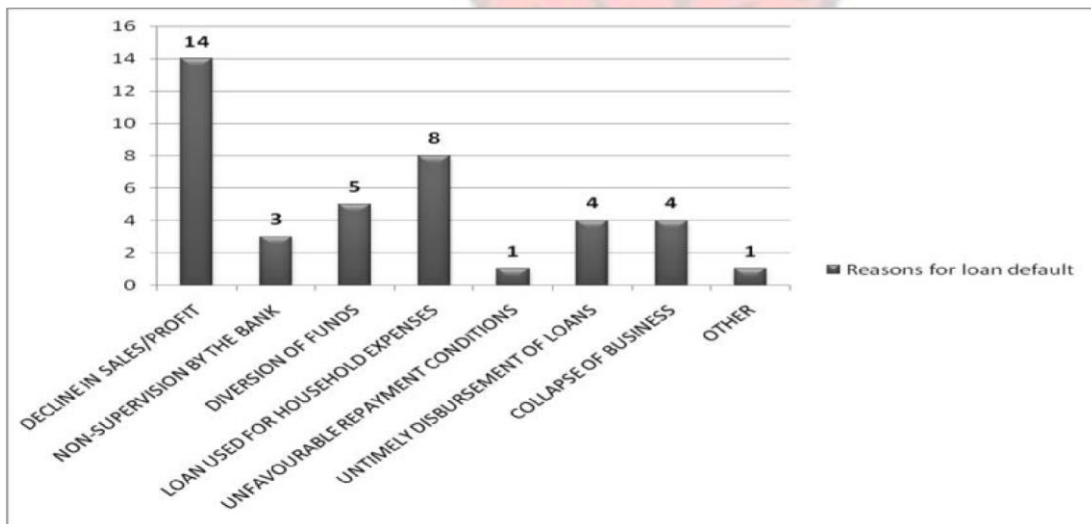
This is supported by the field data collected as 394 (98.5%) out of the 400 respondents who indicated yes for loan demand have knowledge on at least either interest rate or consequences of defaulting. A sample of 363 (90.8%) out of the 400 have knowledge on both interest rate and default consequences. This finding is consistent with the studies conducted by Akpandjar et al. (2013) and Baokye and Amankwah (2012).

The third and fourth objectives were achieved by qualitative analysis due to the nature of the data and were based on the 400 respondents who indicated that they have ever demanded loan. Concerning the third objective, individuals who have once defaulted in loan repayment were asked the reasons for loan default. The reasons were obtained from 40 respondents who indicated that they have once defaulted in loan repayment.

It is observed from cross tabulation of loan amount and number of defaults ( see Appendix IV-Table 7) that, individuals who demanded loan amount beyond GH¢1,000.00 are more likely to default compared to individuals who demanded amount of GH¢1,000.00 and below. Out of the 40 defaulters, 16 (40%) demanded an amount of GH¢1,000.00 and below and 24 (60%) demanded loan amount above GH¢1,000.00.

The various reasons which led to the default are presented in Figure 4.15.

**Figure 4.15 Reasons/causes of loan default**



Source: Author's construction using field survey data, June-September, 2015

The reasons for loan default identified are decline in sales/profit, non-supervision by banks, diversion of funds, use of loans for household expenses, unfavourable repayment conditions, untimely approval and disbursement of loan and collapse of business. Among these causes of loan default, decline in sales/profit and use of loans for household expenses were identified to be more of the reasons why individuals are mostly unable to repay the loan as indicated by 22 out of the 40 respondents. The respondents added that decline is

sales turn to reduce profit which makes loan repayment impossible. Also, the loans demanded were for purposes of household consumption like food purchases and payment of rent which do not generate any additional income to enable loan repayment.

13 respondents indicated that fund diversion, untimely approval and disbursement of loans and collapse of business are the causes of the loan default. They further added that, the financial institutions often delay in approving and disbursing the loan applied for, hence the funds are mostly diverted for other purposes which were not intended for. This makes repayment difficult as no income is generated leading to loan default. The respondents mentioned also that collapse of business makes repayment difficult leading, hence their inability to repay loan demanded.

Five respondents attributed their default in loan repayment to non-supervision by banks and unfavourable repayment conditions. The respondents mentioned that, the financial institutions do not supervise their activities in terms visiting their working premises and calling them on telephones/mobile phones to determine whether the funds are being used for the intended purposes. Unfavourable repayment conditions such as short repayment duration also make repayment difficult and leads to loan default as individuals are unable to repay all outstanding loans within the short period. The respondents attributed their inability to repay loan within the short contractual period to unexpected emergency needs that require urgent payment and decline in sales which affect income.

Regarding the final objective, individuals were asked the purpose of the loan received and how it has affected their socioeconomic lives as well as the reason for such influence

mentioned. The study considers the socio-economic lives of the individuals in the areas of education (self) and quality of education given to dependants, income level, employment status and wealth (house, farms, business, and vehicle owned).

Table 4.12 shows the purpose of the loan received by respondents as well as the effect on their socio-economic lives.

**Table 4.12 Cross tabulation of Loan received (purpose) and effect on respondents socio-economic lives**

Purpose of loan	How has the loan affected your socio-economic life?		Total
	Positively	Negatively	
Finance my education	60	7	67
Finance my dependant education	100	9	109
Farming	11	2	13
Business (starting)	29	3	32
Business (expansion)	110	5	115
Debt settlement	14	0	14
Purchase of vehicle	6	0	6
Housing	39	3	42
Other	2	0	2
Total	371	29	400

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Source: Author's computation using field survey data, June-September, 2015

The respondents indicated the purposes of the loan received as financing of education (self and dependants), farming, business (starting and expansion), debt settlement, purchase of vehicle, housing and funeral (other) as shown in Table 4.12 . From Table 4.12, 160 out of the 176 respondents who used the loan to finance their education and that of their dependants said the loan has affected their lives positively while 16 mentioned negative effect.

11 out of the 13 individuals who used the loan for farming indicated a positive effect on their socio-economic lives. On business starting, a total of 32 respondents used the loan for such purpose. Out of these, 29 reported a positive effect of the loan while 3 reported otherwise. Regarding purpose of business expansion, there are 115 respondents. 110 reported a positive effect and 5 reported negative effect. A total of 20 respondents used the loan received for debt settlement and purchase of vehicle. Interestingly, all the 20 respondents reported that the loan received has affected their socio-economic lives positively. With respect to housing and funeral (other), a total of 44 mentioned that the loan was used for such purposes. Out of these, 41 reported a positive effect and 3 reported otherwise.

The result in Table 4.12 further reveals that out of the 400 respondents who demanded loan, 371 and 29 representing 92.8% and 7.2% respectively reported that the loan has positively and negatively affected their socio-economic lives. Several reasons were given for such effect of the loan received. The 371 respondents who reported positive effect on their socio-economic lives mentioned that the loan has improved their lives in the areas of education, income level, employment (self establishment) and wealth acquisition. On education, the respondents reported that the loan received has enabled them to pursue education to the tertiary level (degree and post graduate level). They indicated further that their dependants have also benefited from the loan received as part of the loan was used to finance their education.

On income and employment, the respondents further said that the loan received has raised their income level as a result of increase in income generating capacity through employment. This is evidenced in the field survey as 32 (8%) and 115 (28.8%) of the individuals indicated that the loan received has helped them to start and expand their own business respectively as shown in Figure 4.13. In the area of wealth acquisition, the respondents mentioned that the loan has enabled them to acquire properties such as vehicles, farms and homes. The results reveal that 13 (3.2%) used the loan received to cultivate cocoa and plantain farms. 6 (1.5%) and 42 (10.5%) used the loan for vehicle purchase and for housing project respectively. The respondents further said that these wealth acquired through the loan received generated extra income for them which has relieved them from economic hardship and improved their livelihood.

On the contrary, the 29 (7.2%) respondents who reported a negative effect mentioned that, the loan received did not improve their socio-economic lives and attributed such effect to several causes. The causes of the negative effect mentioned included decline in sales/profit, non supervision by the banks, diversion of funds, loan being used for household expenses which did not yield any return for loan repayment, untimely disbursement of loan and collapse of business.

The respondents stated further that, the loan repayment became difficult which rather aggravated their economic hardship. 14 (3.5%) indicated that there was a decline in sales and profit which made repayment difficult for them. 4 (1%) and 8 (2%) attributed such negative influence on their lives to collapse of business and loan being used for household expenses respectively. The collapse of business resulted in loan default due to non repayment of the loan which subsequently led to loss of assets used as collaterals for loan acquisition to the financial institutions. Respondents also mentioned that the loans used for household expenses did not generate extra income and so the loan deductions and repayment rather reduced their disposable income which deteriorated their living standards.

In addition, 3 (0.8%), 5 (1.2%) and 4 (1%) of the respondents attributed such effect to non supervision by the banks (including training on management and records keeping), diversion of funds and untimely disbursement of loans respectively. They added that the banks neither supervise their activities nor give them advice and training on the loan received in terms of the intended purposes. Others also mentioned that the loans received

were diverted from the intended purposes which resulted in the negative effect on their socio-economic lives. These are shown in Figure 4.15.

One of the causes of such negative effect is attributed to the time of approval and disbursement of the loan by the financial institutions. The respondents reported that the banks at times do not approve the loan applied on time as well as the disbursement which tend to affect them negatively. They mentioned emphatically that when the loans are not approved and disbursed on time to enable them undertake the intended purposes, they tend to use the money for other purposes such as household expenses and impulse purchases. They concluded that this leads to the negative effect as the loan is not repaid which subsequently leads to loss of assets to the financial institutions, making life unbearable for them. However, notwithstanding these negative effects, it can be concluded that the loans received by these individuals have affected their socio-economic lives positively as large fraction, 371 representing 92.8% mentioned positive effect of the loan received in the field survey.

## **CHAPTER FIVE**

### **SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

The thesis has investigated the major factors influencing individual's demand for loan in Ghana. The present chapter seeks to highlight the major findings, conclusions and recommendations of the study.

## 5.1 Summary of Major Findings

In pursuit of identifying factors which influence individual's demand for loan in Ghana, the study sought to achieve the following specific objectives; examine the characteristics of the respondents, measure the impact of demographic and socio-economic factors on individual's demand for loans, identify the causes of loan defaults and finally examine the effect of the loan received on the individual's socio-economic life.

With respect to the first objective, the study reveals age, sex, education, employment status, marital status, household size, wealth, health status, remittance, income, savings, credit worthiness and financial literacy as the characteristics of the respondents. It was revealed that large fraction (36.7%) of respondents are employed by the public sector. The study also revealed that, quite large fraction (54.5%) of respondents who have ever demanded loans are between the ages of 18-39 years. Out of the total of 176 respondents who demanded loan for education purposes, 103 (59%) of them were between the ages of 18 to 39 years. Majority of this category of loan clients might be furthering their education and might also not be well established to repay the loan on time.

Regarding the second objective, the study reveals that there is significant mixture of positive and negative relationship between age (40-54 years and above 60 years) and demand for loan. This implies that relatively older individuals (25 years – 60 years) are more likely to demand loans than younger and much older individuals (18 years -24 years and above 60 years). It was evident also that positive but insignificant relationship exist between sex (being male) and loan demand. The study also revealed a negative and

significant relationship between individuals with lower educational level and loan demand indicating that individuals with lower level of education are less likely to demand loan compared to counterparts with higher level of education. The study further showed that individuals who are self-employed, unemployed and employed by the private sector are less likely to demand loan and are significant with the exception of selfemployed individuals. On marital status, the study revealed that there is a positive and negative relationship between being divorced and single and loan demand respectively. The negative relationship between loan demand and being single is significant. This implies that individuals who are single are less likely to demand loan compared to divorced and married individuals. The study showed a negative but insignificant relationship between larger household size and loan demand.

With regard to socio-economic factors, the study shows that there is a positive and significant relationship between wealth, health status, income and financial literacy and loan demand. This implies that individuals with at least one property, who directly pay for hospital expenses, who earn income and who are financially literate are more likely to demand loan compared to counterparts who have no properties, do not directly pay for hospital expenses, do not earn income and are financially illiterate. The study further revealed that, there is a negative and significant relationship between individuals who receive remittance and save and loan demand. This implies that, individuals who save and receive remittance are less likely to demand loan compared to individuals who do not save and do not receive remittance. There was also an insignificant positive relationship between individuals who have never defaulted and loan demand.

On the causes of loan default, the study identifies diversion of funds, untimely approval and disbursement of loans, decline in sales/profits, non-supervision by the financial institutions, unfavourable repayment conditions, collapse of businesses and use of loan for household expenses as the causes of loan default in Ghana.

On the final objective, the study reveals that the loans received by the individuals affect their socio-economic lives positively. The loan received improves the socio-economic lives of the individuals in the areas of education, income generation, employment and wealth acquisition as reported by majority of the respondents. However, few respondents reported that the loan received affected them negatively.

## **5.2 Conclusions**

The main objective of the study was to investigate the factors which influence individual's demand for loan in Ghana using the Kwahu West municipality as a case study. The study basically relied on primary data and employed simple random sampling technique to select 600 respondents for the study.

In order to achieve the set objective for the study, logistic regression estimation method was employed and its robustness is checked using probability regression estimation technique.

The demographic and socio-economic variables examined as the characteristics of the respondents are age, sex, education, employment status, marital status, household size, wealth, health status, remittance, income, savings, credit worthiness and financial literacy.

In view of the results obtained and the discussion, the study concludes that, age, education, employment status and marital status are the major demographic factors which influence individual's loan demand in Kwahu West Municipality. The major socioeconomic factors which also influence individual's loan demand are wealth, health status,

remittance, income, savings and financial literacy. Gender, household size and credit worthiness were however not significant. The following were also identified as the causes of loan default; untimely disbursement of loans, diversion of funds, decline in sales/profit, collapse of businesses, non supervision by the bank and use of loans for household expenses. The effect of the loan received on the socio-economic lives of the individuals is a positive one.

### **5.3 Recommendations**

Based on the discussions on the individuals' characteristics and regression results in Chapter Four, the following recommendations are made.

First, it is recommended that loans granted for education purposes should be reviewed and banks should also conduct a thorough check on the individuals who demand loans to ascertain their credit history to enhance loan repayment. This is likely to reduce loan

defaults. The study revealed that, quite large fraction (54.5%) of respondents who demand loans are between the ages of 18-39 years. Out of the total of 176 respondents who demanded loan for education purposes, 59% of them are 39 years and below. Majority of these individuals might be furthering their education and might also not be well established in order to repay the loan on time which will lead to loan default. Some of them might even travel outside the country after school and the loans will not be repaid.

Secondly, banks should carry out a meticulous check on clients with no properties to ensure repayment ability of clients to enhance loan repayment. These individuals have no collaterals that could be used to defray the defaulted amount should they default in loan repayment.

In addition, banks should encourage individuals who are employed by public and private sectors to demand loans. These individuals have regular income and are more likely to repay their loans, hence decline in loan defaults.

Furthermore, financial institutions should adopt early loan approval and disbursement strategies such as verification of applicants' identification card (eg. voters' ID) and applicants' affordability (ability to repay the loan) from employers. This will ensure that individuals receive the loan on time and use it for the intended purposes. This is likely to reduce loan default in Ghana.

More so, financial institutions should educate their clients on the consequences of non repayment of loans and diversion of funds. Advisory services should be rendered to loan clients as well as prospective clients on issues like diversion of funds and its implications (loan default). Consequences of not paying the loan including not eligible for further loan, being blacklisted and seizure of collaterals used to secure loan should be stressed by the financial institutions when granting loans to individuals. This is likely to enhance repayment and also deter the clients from loan defaulting.

Financial institutions should embark on regular communication with their clients through telephone calls, short message system (SMS) and regular visits to the working premises of clients. This will enable the financial institutions to ensure that the loans are used for the intended purposes. This is likely to curtail loan default as it will serve as a reminder and supervision to the clients.

Finally, in order not to ignore individuals with low income, no or little wealth and low education level, financial institutions should identify and adopt other products which will be suitable for these categories of individuals. This will improve their socio-economic lives, hence reduction in poverty in Ghana.

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## APPENDICES

### Appendix I QUESTIONNAIRE

#### **PERSONAL CHARACTERISTICS OF RESPONDENT**

1. Age (years): 18 – 24  25 – 39  40 – 54  55 – 60  Above 60
2. Sex: Male  Female
3. Ethnicity: Ewe  Asante  Kwahu  Ga  Fante  Other (specify).....
4. Religion: Christianity  Islam  Traditional  Other: (Specify).....
5. Nationality: Ghanaian  Non-Ghanaian
6. Educational Level: None  Primary  JHS/MSLC  SHS /O'Level  Tertiary
7. Employment Status: Employed  Unemployed   
If Employed: Public sector  Private sector  Self-Employed
8. Occupation: Farming  Trading  Teaching  Banking  Civil Servant   
Vocational (Hairdressing, carpentry, repairer etc)  Other  
(specify).....
9. Marital Status: Single  Married  Divorced  Other (specify).....
10. Number of Children: None  1 -2  3 -4  5 or more
11. Household size (wife, husband, children, other dependants): 1 -2  3 -4  5 or more
12. Do you own a House?: Yes  No
13. Do you own a Business / Firm?: Yes  No
14. Do you own any other Property? (eg. Land, car, farm): Yes  No
15. How often do you visit health facility with health complication(s)? None   
Daily  Weekly  Monthly  Quarterly  Semi-annually   
Annually  Other (specify).....
16. How often do you send your dependant(s) to health facility with health complications?  
None  Daily  Weekly  Monthly  Quarterly  Semi-annually  Annually  
 Other (specify).....
17. Are you directly responsible for the payment of the hospital bills? Yes  No

#### **FINANCIAL CHARACTERISTICS OF RESPONDENT**

18. Do you have relative (s) / friend (s) outside Ghana?: Yes  No   
If Yes, do you receive remittance from them?: Yes  No
19. Do you earn income?: Yes  No   
If Yes, please indicate monthly income: Less than GH¢ 200  GH¢ 201-400

- GH¢ 401- 600  GH¢ 601-800  GH¢ 801-1 ,000   
 GH¢ 1,001 and Above
20. Do you save?: Yes  No
- If Yes, with which financial institution?: Commercial Bank (GCB, Barclays, ADB)  Savings and Loans (First Allied, Multicredit, Utrak)  Rural Bank  Credit Union  Mutual Fund  Other (specify).....
21. Have you ever demanded loan from formal financial institution? Yes  No
22. If **No**, what is/are reason (s) for not applying for loan? No need for loan   
 Unfavourable terms and conditions  Not be able to repay  Avoid seizure of properties in case of default  Other ( please specify).....
- If Yes:**
23. How many times have you applied for Loan? (from any financial institution)  
 1  2  3  4 or more
24. How much did you apply for?: GH¢ Less than GH¢ 500  GH¢ 501-1 ,000   
 GH¢ 1,001-5,000  GH¢ 5001-10,000  Above GH¢ 10,000
25. Purpose of Loan: Finance my education  Finance education of my dependants   
 Farming  Business (starting)  Business (expansion)  Debt Settlement  Vehicle   
 Housing  Other (specify).....
26. How often did you repay your loan?: Daily  Weekly  Monthly  Other (specify).....
27. Have you defaulted in repayment before?: Yes  No
- If Yes, what was/were the reason (s)?: (Please tick as many as possible)  
 Decline in sales / profits  Non supervision by the Bank  Diversion of Funds   
 Loan used for household expenses (fees, feeding, utility bills etc.)   
 Unfavourable repayment conditions (duration, interest rate, monthly installment etc.)  Untimely disbursement of loan (late loan approval)  Collapse of Business/Firm  Other (specify).....
28. Do you know and understand interest rate on loans?: Yes  No
29. Do you know and also aware of the consequences of defaulting in loan repayment?: Yes   
 No
30. How has the Loan affected your socio-economic life? Positively  Negatively   
 Please give reason (s) for your answer.....

*Thank you very much*  
Appendix II

**RELIABILITY TEST RESULTS AND INTER-ITEM CORRELATION MATRIX**

Test scale = mean(standardized items)

Item	Obs	Sign	item-test correlation	average item-rest correlation	interitem correlation	alpha
Loan_Demand	600	-	0.5391	0.4835	0.0627	0.7508
Age_18_24~s	600	+	0.5458	0.4907	0.0627	0.7505
Age_25_39~s	600	+	0.1433	0.0699	0.0682	0.7670
Age_40_54~s	600	-	0.4329	0.3699	0.0642	0.7553
Age_55_60~s	600	-	0.2673	0.1968	0.0665	0.7621
Age_Above~s	600	-	0.0925	0.0186	0.0688	0.7689
Male	600	-	0.2872	0.2173	0.0662	0.7613
Female	600	+	0.2872	0.2173	0.0662	0.7613
Education~e	600	+	0.0765	0.0026	0.0691	0.7695
Educati~mary	600	-	0.1186	0.0449	0.0685	0.7679
Education~C	600	+	0.1125	0.0387	0.0686	0.7682
Education~L	600	+	0.2448	0.1736	0.0668	0.7630
Educati~iary	600	-	0.3138	0.2449	0.0658	0.7602
SEMP_Publi~r	600	-	0.3499	0.2826	0.0653	0.7588
SEMP_Priva~r	600	+	0.3480	0.2806	0.0654	0.7589
SEMP_Self~d	600	-	0.0456	-0.0283	0.0695	0.7707
SEMP_Unemp~d	600	+	0.2818	0.2117	0.0663	0.7615
MAST_Single	600	+	0.6250	0.5767	0.0616	0.7470
MAST_Married	600	-	0.5647	0.5111	0.0624	0.7497
MAST_Divor~d	600	-	0.0932	0.0193	0.0688	0.7689
HHS_1_2	600	+	0.5230	0.4661	0.0630	0.7515
HHS_3_4	600	-	0.2548	0.1838	0.0666	0.7626
HHS_5_or_M~e	600	-	0.3140	0.2451	0.0658	0.7602
INDW_No_Pr~y	600	+	0.4570	0.3956	0.0639	0.7543
INDW_One_P~y	600	+	0.2286	0.1569	0.0670	0.7637
INDW_Two_P~s	600	-	0.3767	0.3107	0.0650	0.7577
INDW_More~s	600	-	0.3358	0.2678	0.0655	0.7594
HHST_Dire~s	600	-	0.4871	0.4277	0.0635	0.7530
HHST_Do_n~y	600	+	0.4871	0.4277	0.0635	0.7530
REM_Receive	600	-	0.1478	0.0745	0.0681	0.7668
REM_Do_Not~e	600	+	0.1478	0.0745	0.0681	0.7668
MINC_Les~200	600	+	0.3167	0.2480	0.0658	0.7601
MINC_GHc~400	600	+	0.2763	0.2060	0.0663	0.7618
MINC_GHc~600	600	+	0.1222	0.0486	0.0684	0.7678
MINC_GHc~800	600	-	0.1466	0.0733	0.0681	0.7668
MINC_GH~1000	600	-	0.2223	0.1505	0.0671	0.7639
MINC_Ab~1000	600	-	0.3599	0.2930	0.0652	0.7584
MINC_No_in~e	600	+	0.2818	0.2117	0.0663	0.7615
SAV_Save	600	-	0.2234	0.1515	0.0671	0.7639
SAV_Dont_S~e	600	+	0.2234	0.1515	0.0671	0.7639
CREDW_DEFA~e	600	+	0.2481	0.1769	0.0667	0.7629
CREDW_NOT~e	600	-	0.2481	0.1769	0.0667	0.7629
FINLIT_None	600	+	0.4190	0.3552	0.0644	0.7559
FINLIT_Onl~e	600	+	0.1923	0.1197	0.0675	0.7651
FINLIT_Onl~s	600	+	0.2006	0.1282	0.0674	0.7648
FINLIT_Bot~D	600	-	0.5109	0.4532	0.0631	0.7520
Test scale	0.0661		0.7650			

Inter-Item Correlation Matrix

	Age of Respondents	Gender of Respondents	Educational level of Respondents	Employment status of Respondents	Marital status of Respondents	Household size of Respondents	Wealth of the Individual	Responsible for Hospital Bill payment	Do you receive Remittance from them?	Range of Monthly income of Respondents	Do you save?	Have you defaulted repayment before?	Financial literacy individual
Age of Respondents	1.000												
Gender of Respondents	-.112	1.000											
Education level of Respondents	-.093	-.210	1.000										
Employment status of Respondents	.097	-.036	.000	1.000									
Marital status of Respondents	.392	.054	-.255	.117	1.000								
Household size of Respondents	.381	-.066	-.120	-.061	.326	1.000							
Wealth of the Individual	.443	-.027	-.193	.019	.335	.203	1.000						
Responsible for Hospital Bill payment	-.152	.085	.067	-.030	-.198	-.239	-.171	1.000					
Do you receive Remittance from them?	-.108	.026	-.025	-.089	.052	.003	-.147	.000	1.000				
Range of Monthly income of Respondents	.273	-.114	.327	.158	.080	.003	.204	-.132	-.057	1.000			
Do you save?	-.012	-.058	.083	-.018	-.026	.105	-.191	.062	.081	-.005			
Have you defaulted repayment before?	.069	-.074	.243	.017	-.052	-.026	-.030	.084	.008	.085	1.000	1.000	
Financial literacy individual													

literacy of individual	.189	.020	.052	.015	.095	.038	.153	-.129	-.100	.232	-.075	.238
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# KNUST



### Appendix III

## CHI-SQUARE TEST OF INDEPENDENCE RESULTS

#### Demand For Loan \* Age of Respondents Crosstabulation

	Value	df	Asymp. Sig. (2sided)	Chi-Square Tests		
				Sig.	Monte Carlo Sig. (2-sided)	
					90 % Confidence Interval	
Lower Bound	Upper Bound					
Pearson Chi-Square	84.018 <sup>a</sup>	4	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	84.551	4	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	83.517			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	39.179 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.00.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is 6.259.

#### Demand For Loan \* Gender of Respondents Crosstabulation

	Value	df	Chi-Square Tests <sup>c</sup>			
			Asymp. Sig. (2sided)	Exact Sig. (2-sided)	Exact Sig. (1sided)	Point Probability
Pearson Chi-Square	6.239 <sup>a</sup>	1	.012	.016	.008	
Continuity Correction <sup>b</sup>	5.802	1	.016			
Likelihood Ratio	6.184	1	.013	.016	.008	
Fisher's Exact Test				.016	.008	
Linear-by-Linear Association	6.229 <sup>d</sup>	1	.013	.016	.008	
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 76.00.

b. Computed only for a 2x2 table

c. For 2x2 crosstabulation, exact results are provided instead of Monte Carlo results.

d. The standardized statistic is -2.496.

#### Demand For Loan \* Educational level of Respondents Crosstabulation

	Value	df	Asymp. Sig. (2-sided)	Chi-Square Tests	
				Monte Carlo Sig. (2-sided)	
				Sig.	90 % Confidence Interval

					Lower Bound	Upper Bound
Pearson Chi-Square	43.433 <sup>a</sup>	4	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	44.424	4	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	44.016			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	9.372 <sup>c</sup>	1	.002	.002 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.33.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is 3.061.

#### Demand For Loan \* Employment status of Respondents Crosstabulation

##### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	95.244 <sup>a</sup>	3	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	96.083	3	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	94.766			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	18.408 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.67.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is -4.290.

#### Demand For Loan \* Marital status of Respondents Crosstabulation

##### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	102.416 <sup>a</sup>	2	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	101.543	2	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	101.159			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	77.316 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.67.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is 8.793.

#### Demand For Loan \* Household size of Respondents Crosstabulation

##### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	31.757 <sup>a</sup>	2	.000	.000 <sup>b</sup>	.000	.004

Likelihood Ratio	31.572	2	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	31.314			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	24.992 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 51.33.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is 4.999.

#### Demand For Loan \* Individual wealth of Respondents Crosstabulation

##### Chi-Square Tests

	Value	df	Asymp. Sig. (2sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	46.883 <sup>a</sup>	3	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	47.004	3	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	46.542			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	44.363 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 37.00.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is 6.661.

#### Demand For Loan \* Health status of Respondents Crosstabulation

##### Chi-Square Tests<sup>c</sup>

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	71.444 <sup>a</sup>	1	.000	.000	.000	
Continuity Correction <sup>b</sup>	69.942	1	.000			
Likelihood Ratio	70.862	1	.000	.000	.000	
Fisher's Exact Test				.000	.000	
Linear-by-Linear Association	71.325 <sup>d</sup>	1	.000	.000	.000	
N of Valid Cases	600					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 75.67.

b. Computed only for a 2x2 table

c. For 2x2 crosstabulation, exact results are provided instead of Monte Carlo results.

d. The standardized statistic is -8.445.

#### Demand For Loan \* Remittance receiving by Respondents Crosstabulation

##### Chi-Square Tests<sup>c</sup>

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2sided)	Exact Sig. (1sided)	Point Probability
Pearson Chi-Square	4.907 <sup>a</sup>	1	.027	.031	.018	
Continuity Correction <sup>b</sup>	4.483	1	.034	.031	.018	
Likelihood Ratio	4.817	1	.028	.031	.018	
Fisher's Exact Test				.031	.018	
Linear-by-Linear Association	4.899 <sup>d</sup>	1	.027	.031	.018	
N of Valid Cases	600					
						.007

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 53.67.

b. Computed only for a 2x2 table

c. For 2x2 crosstabulation, exact results are provided instead of Monte Carlo results.

d. The standardized statistic is 2.213.

#### Demand For Loan \* Income of Respondents Crosstabulation

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	103.383 <sup>a</sup>	6	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	104.132	6	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	102.232			.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	8.665 <sup>c</sup>	1	.003	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

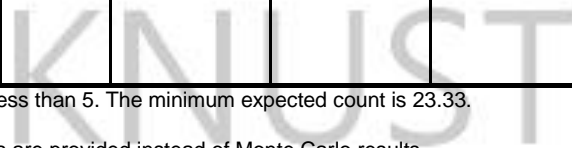
a. 1 cells (7.1%) have expected count less than 5. The minimum expected count is 3.67.

b. Based on 600 sampled tables with starting seed 2000000.

c. The standardized statistic is -2.944.

#### Demand For Loan \* Savings by Respondents Crosstabulation

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2sided)	Exact Sig. (1sided)	Point Probability
Pearson Chi-Square	.129 <sup>a</sup>	1	.719	.788	.415	
Continuity Correction <sup>b</sup>	.051	1	.822	.788	.415	
Likelihood Ratio	.130	1	.718	.788	.415	
Fisher's Exact Test				.788	.415	
Linear-by-Linear Association	.129 <sup>d</sup>	1	.719	.788	.415	
N of Valid Cases	600					
						.102



- a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.33.
- b. Computed only for a 2x2 table
- c. For 2x2 crosstabulation, exact results are provided instead of Monte Carlo results.
- d. The standardized statistic is .359.

**Demand For Loan \* Credit worthiness of Respondents Crosstabulation**

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	600.000 <sup>a</sup>	2	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	763.817	2	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	747.941	1	.000	.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	598.983 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

- a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.33.
- b. Based on 600 sampled tables with starting seed 2000000.
- c. The standardized statistic is -24.474.

**Demand For Loan \* Financial literacy of Respondents Crosstabulation**

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	90 % Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	57.920 <sup>a</sup>	3	.000	.000 <sup>b</sup>	.000	.004
Likelihood Ratio	55.566	3	.000	.000 <sup>b</sup>	.000	.004
Fisher's Exact Test	54.953	1	.000	.000 <sup>b</sup>	.000	.004
Linear-by-Linear Association	44.820 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.004
N of Valid Cases	600					

- a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.67.
- b. Based on 600 sampled tables with starting seed 2000000.
- c. The standardized statistic is 6.695.

## Appendix IV

### VARIABLE DESCRIPTION AND MEASUREMENT AND CROSS TABULATION OF SOME INDEPENDENTS VARIABLES

**Table 1:** Variables description and their categorical values

Variables	Description	Categorical values
DL	Demand for loan – Dependent variable	YES = 1(Demand for loan) NO = 0 (No demand for loan)
AGE	Age of respondents	18-24 years = 1 25-39 years = 2 40-54 years = 3 55-60 years = 4 Above 60 years = 5
GENDER	Gender of respondents	Male = 1 Female = 0
EDUC	Educational level of respondents	None = 1 Primary = 2 JHS/MSLC = 3 SHS/O'level = 4 Tertiary = 5
EMPST	Employment status of respondents	Public sector = 1 Private sector = 2 Self-employed = 3 Unemployed = 4
MAST	Marital status of respondents	Single = 1 Married = 2 Divorced = 3
HHS	Household size of respondents	1-2 = 1 3-4 = 2 5 or more = 3
INDW	Wealth of respondents	No property = 1 Only one property = 2 Two properties = 3 More than two properties = 4
HHHST	Household health status of respondents	YES (attend and directly pay) = 1 NO (attend but do not pay directly) = 2
REM	Remittance	YES (receive) = 1 NO (do not receive) = 0
MINC	Net monthly income of respondents	Less than GH¢ 200.00 = 1 GH¢ 201.00 - GH¢ 400.00 = 2 GH¢ 401.00 - GH¢ 600.00 = 3 GH¢ 601.00 - GH¢ 800.00 = 4 GH¢ 801.00 - GH¢ 1000.00 = 5 GH¢ 1001.00 and above = 6

SAV	Savings	YES (save) = 1 NO (do not save) = 0
CREDW	Credits worthiness of respondents	NO (no default) = 1 YES (defaulted before) = 0
FINLIT	Financial literacy of respondents	None = 1 Interest rate = 2 Consequences of default = 3 Both interest rate and consequences of default = 4

**Table 2:** Household size of Respondents \* Do you save? Crosstabulation

Count

	Do you save?		Total
	YES	NO	
Household size of Respondents 1-2	223	23	246
3-4	175	25	200
5 OR MORE	132	22	154
Total	530	70	600

**Table 3:** Household size of Respondents \* Number of times respondents has applied for loan Crosstabulation Count

	Number of times respondents has applied for loan				Total
	1	2	3	4 OR MORE	
Household size of Respondents 1-2	38	35	31	28	132
3-4	21	35	52	43	151
5 OR MORE	16	29	23	49	117
Total	75	99	106	120	400

**Table 4:** Repayment mode \* Have you defaulted repayment before? Crosstabulation

Count

	Have you default ed repayment before?		Total
	YES	NO	
Repayment mode DAILY	16	83	99
WEEKLY	13	40	53
MONTHLY	11	237	248
Total	40	360	400

**Table 5** Marital status of Respondents \* Household size of Respondents Crosstabulation  
Count

		House hold size of R espondents			Total
		1-2	3-4	5 OR MORE	
Marital status of Respondents	SINGLE	60	18	6	84
	MARRIED	67	119	107	293
	DIVORCED	5	14	4	23
Total		132	151	117	400

**Table 6** Education level of respondents and amount respondents applied crosstabulation

		Amount Respondents applied for					Total
		LESS THAN GHC 500.00	GHC 501.00- GHC 1000.00	GHC 1001- GHC 5000.00	GHC 5001.00-GHC 10000.00	ABOVE GHC 10000.00	
Educational level of None Respondents		1	4	2	2	0	9
	Primary	5	9	7	0	1	22
	JHS/MSLC	13	31	38	7	9	98
	SHS/O'Level	11	26	21	29	9	96
	Tertiary	7	27	59	59	23	175
Total		37	97	127	97	42	400

**Table 7** Amount Respondents applied for \* Number of defaults Crosstabulation

		Default Status		Total
		Default	No default	
Amount Respondents applied for	LESS THAN GHC 500.00	6	31	37
	GHC 501.00-GHC 1000.00	10	87	97
	GHC 1001-GHC 5000.00	13	114	127
	GHC 5001.00-GHC 10000.00	8	89	97
Total				
	ABOVE GHC 10000.00			





```

MAST_Single | .1584715 .0487458 -5.99 0.000 .0867205 .2895881
HHS_3_4 | .7207462 .2275023 -1.04 0.300 .3882416 1.33802
HHS_5_or_More | .6328963 .2277763 -1.27 0.204 .3126001 1.281374
_cons | 14.41467 6.910079 5.57 0.000 5.633228 36.8852 -----
-----

```

```

Probit regression      Number of obs =      600
                        Wald chi2(16) =      185.47
                        Prob > chi2 =      0.0000
Log pseudolikelihood = -275.07239      Pseudo R2 =      0.2797
-----

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-----
|                               Robust
Loan_Demand |           Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
Age_25_39_years |   .1876093   .1882247     1.00   0.319   -1.1813043   .5565228
Age_40_54_years |   .5635133   .2325593     2.42   0.015    .1077055   1.019321
Age_55_60_years |   .2759489   .3280231     0.84   0.400   -1.3669646   .
9188624
Age_Above_60_years | -1.044711   .534215    -1.96   0.051   -2.091753   .
0023309
Male |   .0713572   .1254806     0.57   0.570   -1.1745803   .
3172946
Education_None | -1.232453   .3613131   -3.41   0.001   -1.940614   -.5242922
Education_Primary | -.2386591   .3580686    -0.67   0.505   -.9404607   .
4631424
Education_JHS_MSLC | -.7101676   .2032949   -3.49   0.000   -1.108618   -.311717
Education_SHS_OLVEL | -.7045207   .1689007   -4.17   0.000   -1.03556   -.3734814
SEMP_Private_Sector | -.8680107   .1684232   -5.15   0.000   -1.198114   -.5379073
SEMP_Self_Employed | -.1235366   .1921383    -0.64   0.520   -.5001209   .
2530476
SEMP_Unemployed | -1.883991   .5861807    -3.21   0.001   -3.032884   -.7350974
MAST_Divorced |   .0436998   .2906474     0.15   0.880   -.5259587   .
6133582
MAST_Single | -1.066871   .1709279   -6.24   0.000   -1.401883   -.7318583
HHS_3_4 | -.1743973   .1760988    -0.99   0.322   -.5195446   .
1707501
HHS_5_or_More | -.2814862   .1951635    -1.44   0.149   -.6639996   .
1010273
_cons | 1.515597   .2665921     5.69   0.000    .9930858   2.038108 -----
-----

```

```

Logistic regression      Number of obs =      600
                        Wald chi2(14) =      121.90
                        Prob > chi2 =      0.0000
Log pseudolikelihood = -282.05227      Pseudo R2 =      0.2615
-----

```

```

-----
|                               Robust
Loan_Demand |           Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
INDW_One_Property |   .6445711   .2793482     2.31   0.021    .0970586   1.192084
INDW_Two_Properties | 1.020686   .2836829     3.60   0.000    .4646779   1.576694
INDW_More_than_Two_Properties | 1.155478   .3449788     3.35   0.001    .479332   1.831624
HHHST_Directly_Pays | 1.221867   .2217899     5.51   0.000    .7871667   1.656567
REM_Receive | -.542508   .2515431    -2.16   0.031   -1.035523   -.0494925
MINC_GHc401_GHc600 | 1.257058   .3204801     3.92   0.000    .6289286   1.885187
MINC_GHc601_GHc800 | 1.637627   .3196013     5.12   0.000    1.01122   2.264034
MINC_GHc801_GHc1000 | 1.344982   .3065854     4.39   0.000    .7440861   1.945879
MINC_Above_GHc1000 | 1.980834   .3462997     5.72   0.000    1.302099   2.659569
-----

```

```

          SAV_Save | -1.066782   .3893714 -2.74   0.006   -1.829936   -.3036284
CREDW_NOT_Defaulted_Before | .1264365   .3805453   0.33   0.740   -.6194186   .8722916
FINLIT_Only_Interest_Rate | 3.316951   .8340479   3.98   0.000   1.682247   4.951655
FINLIT_Only_Default_Consequences | 1.56816   .7156986   2.19   0.028   .1654165   2.970903
FINLIT_Both_INTR_and_CLD | 2.0755   .5992183   3.46   0.001   .9010534   3.249946
      _cons | -2.626885   .6945221 -3.78   0.000   -3.988123 -1.265647 -----

```

----- . mfx

Marginal effects after logit y =  
Pr(Loan\_Demand) (predict)  
= .71155402

variable	dy/dx	Std. Err.	z	P> z	[ 95% C.I. ]	X --
INDW_O~y*	.1241259	.04973	2.50	0.013	.026666 .221586	.29
INDW_T~s*	.1878255	.04622	4.06	0.000	.097233 .278418	.281667
INDW_M~s*	.1977142	.04692	4.21	0.000	.105744 .289684	.185
HHHST_~s*	.2608301	.04858	5.37	0.000	.165614 .356047	.621667
REM_Re~e*	-.1166196	.0562	-2.08	0.038	-.226768 -.006472	.268333
MINC~600*	.2059217	.04184	4.92	0.000	.12391 .287933	.146667
MINC~800*	.256764	.03867	6.64	0.000	.180971 .332557	.18
M~801_~0*	.224646	.04144	5.42	0.000	.143427 .305865	.196667
MINC_A~0*	.2938114	.03668	8.01	0.000	.221912 .365711	.183333
SAV_Save*	-.1782169	.05051	-3.53	0.000	-.27722 -.079214	.883333
.0264707	.08119	0.33	0.744	-.132656 .185598	.883333	
FINLI~te*	.2955046	.02916	10.13	0.000	.238358 .352651	.033333
FINLIT~s*	.2217772	.06351	3.49	0.000	.097306 .346249	.053333
FINLIT~D*	.4737434	.12283	3.86	0.000	.233009 .714478	.846667

(\* ) dy/dx is for discrete change of dummy variable from 0 to 1

Logistic regression

Number of obs = 600  
Wald chi2(14) = 121.90  
Prob > chi2 = 0.0000  
Pseudo R2 = 0.2615

Log pseudolikelihood = -282.05227

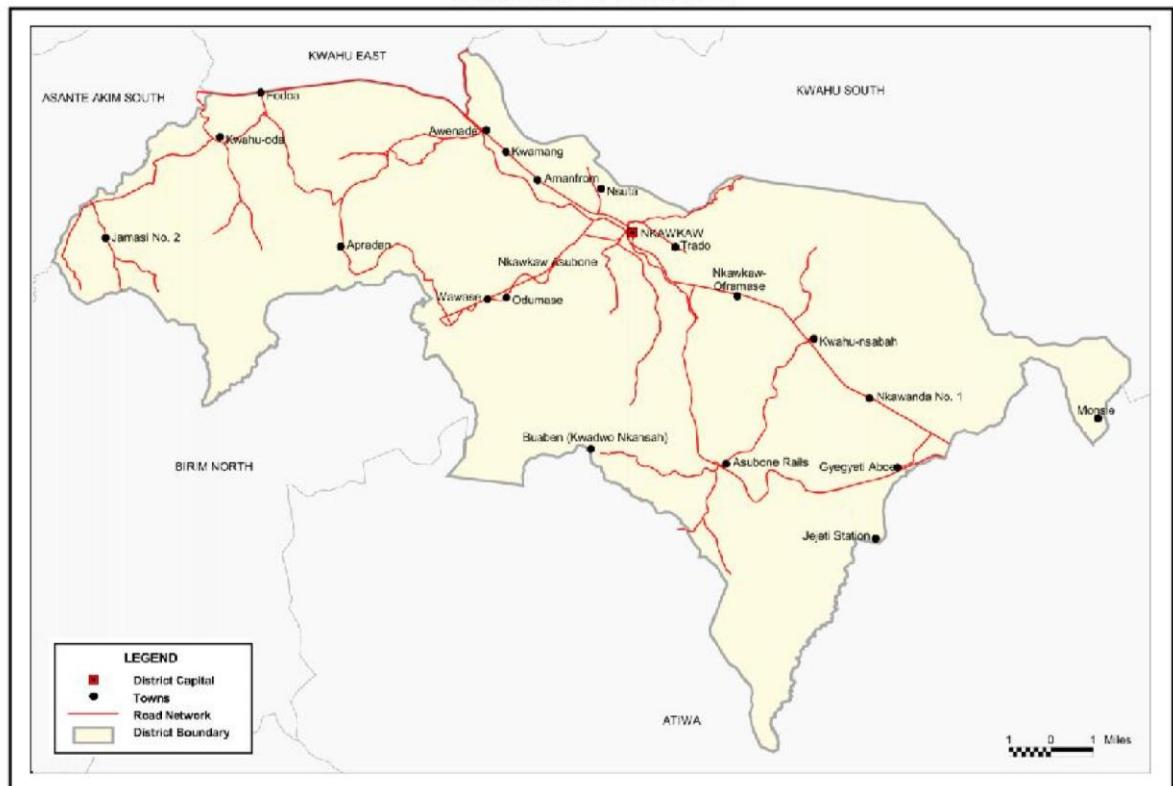
Robust						
Loan_Demand	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
INDW_One_Property	1.90517	.5322058	2.31	0.021	1.101925	3.293937
INDW_Two_Properties	2.775098	.7872478	3.60	0.000	1.591501	4.838933
INDW_More_than_Two_Properties	3.175541	1.095494	3.35	0.001	1.614995	6.244019
HHHST_Directly_Pays	3.393517	.7526479	5.51	0.000	2.197162	5.241287
REM_Receive	.5812886	.1462191	-2.16	0.031	.3550405	.9517123
MINC_GHc401_GHc600	3.515065	1.126508	3.92	0.000	1.8756	6.587589
MINC_GHc601_GHc800	5.142948	1.643693	5.12	0.000	2.748951	9.621821
MINC_GHc801_GHc1000	3.838119	1.176711	4.39	0.000	2.104517	6.99978
MINC_Above_GHc1000	7.248787	2.510253	5.72	0.000	3.677008	14.29013
SAV_Save	.344114	.1339881	-2.74	0.006	.1604238	.7381351
CREDW_NOT_Defaulted_Before	1.134777	.4318342	0.33	0.740	.5382573	2.392387
FINLIT_Only_Interest_Rate	27.57613	22.99982	3.98	0.000	5.377625	141.4087
FINLIT_Only_Default_Consequences	4.797812	3.433787	2.19	0.028	1.179884	19.50954
FINLIT_Both_INTR_and_CLD	7.968528	4.774888	3.46	0.001	2.462195	25.78895
_cons	.0723033	.0502163	-3.78	0.000	.0185345	.2820569

Probit regression

Number of obs = 600  
Wald chi2(14) = 149.94  
Prob > chi2 = 0.0000  
Pseudo R2 = 0.2615

Log pseudolikelihood = -282.04457

DISTRICT MAP OF KWAHU WEST



Robust						
Loan_Demand	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
INDW_One_Property	.3885901	.1610096	2.41	0.016	.0730171	.7041631
INDW_Two_Properties	.5887876	.1670305	3.53	0.000	.2614138	.9161614
INDW_More_than_Two_Properties	.6751853	.1927918	3.50	0.000	.2973203	1.05305
HHST_Directly_Pays	.7089114	.1259963	5.63	0.000	.4619632	.9558597
REM_Receive	-.3482067	.1391545	-2.50	0.012	-.6209444	-.075469
MINC_GHc401_GHc600	.7353065	.1848216	3.98	0.000	.3730627	1.09755
MINC_GHc601_GHc800	.9519711	.184604	5.16	0.000	.590154	1.313788
MINC_GHc801_GHc1000	.7984237	.1765715	4.52	0.000	.4523498	
1.144498						
MINC_Above_GHc1000	1.180814	.1941015	6.08	0.000	.8003821	1.561246
SAV_Save	-.5737447	.2175435	-2.64	0.008	-1.000122	-.1473672
CREDW_NOT_Defaulted_Before	.0277221	.2158123	0.13	0.898	-.3952623	.4507066
FINLIT_Only_Interest_Rate	1.853367	.4470591	4.15	0.000	.9771477	2.729587
FINLIT_Only_Default_Consequences	.8054987	.3814444	2.11	0.035	.0578814	1.553116
FINLIT_Both_INTR_and_CLD	1.130463	.3097424	3.65	0.000	.5233793	1.737547
_cons	-1.435732	.3690267	-3.89	0.000	-2.159011	-.7124533

Appendix VI

MAP OF KWAHU WEST MUNICIPALITY

Source: Ghana Statistical Service 2010 Population and Housing Census Final Report.