Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol 2, No 2, 2011 

# Factors that Influence the Demand for Credit for Credit Among Small-Scale Investors: a case study of Meru Central District, Kenya

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**Abstract**

The recovery of the Kenyan economy that registered a steady growth rate of ranging between 0.5% in 2002, and 6.1% in 2006 (CBS-GoK, 2007) reflected broad-based expansion of credit markets. This is demonstrated by the level of competition among credit lending institutions. Each institution is actively marketing their own tailor-made credit products that are targeting different needs of low income earners. However, despite the high supply of credit, MSE operators are still confining themselves to narrow market operations where competition is high and profits margins are low. The outcomes are being manifested in MSEs stagnating, retrogressing to micro status or closing up after few years of operation. Very few for instance are graduating to large enterprises. Using a sample survey data collected from Meru Central District, descriptive statistics and logistic regression models were employed to analyze factors that may influence demand for credit among the small-scale entrepreneurs. The study results show that education level of an entrepreneur, the number of dependants, and household income are significant factors that influence small-scale entrepreneurs to borrow credit from formal credit institutions. Demand for credit among women entrepreneurs in the MSE sector was found to be lower compared to their male counterparts. Based on these research findings, MSE operators can improve their participation in credit market by improving their business skills and knowledge plus maintaining proper accounting and book-keeping systems. The government needs to improve efficiency of DFIs while at the same time facilitate participation of MSE operators in local and international trade fairs as a way to expose them to wider markets. To achieve gender balance on credit access from formal financial institutions, there is need to relax some of the cultural norms and allow women to have equal share of family assets so as to empower them in trade activities. This may call for government intervention.

**Keywords:** Demand; Credit; Small-Scale Investors; financial institutions

**Abbreviations**

**K-REP:** Kenya Rural Enterprise Program.

**KWFT:** Kenya Women Finance Trust.

**LDCs**: Less Developed Countries.

**MSEs**: Micro and Small Enterprises.

**NGOs:** Non-Governmental Organizations.

**RBI:** Reserve Bank of India.

**ROSCAs:** Rotating Savings and Credit Associations.

**SMEs:** Small and Medium Enterprises.

## 1.0 Introduction

### *1.1 Background of the Study*

Small-scale investments are reputed to be behind most of the socio-economic transformation of many economies. They play a significant role in development especially in the third world countries and generate wide-spread economic benefits. Survey studies done in other countries such as Malawi, by McPherson and Michael (1991) and in Zimbabwe by McPherson and Michael (1998), underscore the importance of the small-scale enterprise sector in employment participation and income generation for the bulk of low-income workers. In Kenya, the significance of the sector can be seen in terms of its contribution to economic development. The CBS/ICEG/K-Rep (1999), revealed the existence of some 1.3 million small enterprises employing as many as 2.4 million Kenyans. CBS-GoK (2007) reported that total employments in Kenya including small-scale activities, stood at 8.7 million persons in 2006, up from 8.3 million recorded in 2005. From the 469 new jobs generated within that period, 89% were in the informal sector. Other studies have shown that the sector is dynamic (Ministry of Labour and Human Resource Development, 2004) and has the potential of generating wide spread economic benefits which in turn lead to reduction of poverty among low income earners.

Kenyan small-scale enterprises are a mixture of self-employment outlets involving a dynamic array of activities mainly concentrated in urban cities/towns and trading centers in the rural areas. These small enterprises cut across all sectors of the Kenyan economy and provide one of the most prolific sources of employment, income generation and poverty reduction (Ministry of Labour and Human Resource Development -GoK, 2004). The sector plays an important role in industrialization, promotion of rural-urban balance and indigenous people's participation in the economic development. CBS-GoK (2003) indicates that employment within the small scale sector increased from 4.2 million persons in 2000 to 5.1 million persons in 2002, accounting for 74.2% of the total persons engaged in the sector in 2002. The sector had contributed 18.4% of the country's GDP by 2002. However, despite the critical role played by the sector, it is faced with many challenges and constraints that inhibit the realization of its full potential. Lack of power to generate sustainable income from business operations coupled with limited access to financial services are key factors that make the sector players confine themselves to narrow markets where intense competition drive prices down resulting in low profit margins. This has lead to either early deaths of their businesses (closure) or retardation of the enterprises. On the one hand, very few manage to graduate to medium and large-scale enterprises (Ministry of Labour and Human Resource Development - GoK, 2004). On the other hand, credit supply appears to be very high. This is demonstrated by the level of competition among credit lending institutions. Each institution is hawking their own tailor-made credit products that are targeting different needs of low income earners. From this observation, there seems to be an imbalance between utilization of circulating credits and MSEs' growth and expansion.

This study therefore investigated factors that influence demand for credit among small-scale entrepreneurs and restricted itself to the formal financial credit market. Previous literatures reveal that access to financial services by small-scale entrepreneurs is normally seen as one of the constraints limiting their benefits to improve their economic status (CBS/ICEG/K-Rep, 1999). In most cases the access problem especially experienced from formal financial institutions is one created by the credit institutions. Commercial banks and other formal institutions fail to cater for the credit needs of smallholders mainly due to their lending terms and conditions.

Generally, it is the rules and regulations of the commercial financial institutions that have created the perception that since the poor cannot afford the required collaterals (land/Buidings title Deeds), they are

considered uncreditworthy (Adera 1995). For comparison purpose, financial services in the informal sector are client oriented. Transaction costs are reduced making the services attractive to customers but they have high explicit costs (Atieno 2001). This contrasts with the formal lender practices, which charge relatively low interest rates but often impose procedures on borrowers that substantially increase their transaction costs. Also, there are the government formal financial lending institutions and programmes such as KIE, ICDC (current Centum Investment), K-rep, KWFT, and JLBS which were developed with considerable flexibility to enable low income earners to access credit.

Demand for credit from these institutions has not been impressive despite the financial constraints experienced by the sector players (Meru Central Development Plan, 2002 – 2008). From the lenders' side, the major reason identified in the preliminary investigations was lack of adequate finances but from the borrowers' side, the facts were not clear. In addition to the above formal credit markets are the NGO financial lending programmes. The CBS/ICEG/K-Rep (1999) revealed that Kenya had 150 organizations with credit programmes for small-scale enterprises. These organizations serve all regions of the country although they are more concentrated in the urban centers and rural towns.

Table 1 shows credit utility among small-scale investors as reported in the CBS/ICEG/K-Rep (1999) National MSE Baseline Survey. Only 10.4 percent of the small-scale entrepreneurs had ever received credit from any source. Overall, 89.6% of the sector operators stated that they had never received credit, 2.8% reported having received loans from NGOs, 2.5% from ROSCAs, 1.5% from family and friends and 1.5% from commercial banks. 1.2% borrowed from cooperatives and 0.9% from government, moneylenders and trade credit supplies.

As shown in Table 1, the proportion of loans from the formal sources in 1999 was more (5.7%) compared to 3.4% in 1995 and 4% in 1993. This perhaps can be attributed to an increase in the number of the support organizations providing credit to the small-scale sector. Of the formal sources, microfinance NGO institutions are the most important source of credit. This is reflected in the increase in number of microfinance NGOs from 46 in 1995 to 130 in 1999 (CBS/ICEG/K-Rep, 1999).

The CBS/ICEG/K-Rep (1999) National MSE Baseline Survey used household samples as bases for determining and identifying economic units to be interviewed in detail. Therefore, the 1999 MSE Baseline survey belongs to the category of mixed surveys recommended at the international level for capturing the variety of small-scale economic units in the context of household approach. Other economic surveys done in 2003 and 2004 on micro and small enterprises focused on the enterprises and their contribution to the economy in relation to GDP and levels of employment.

The National Development Plan (Republic of Kenya, 2002 – 2008) analyzes performance of the Kenyan economy at a macro-economic level from years 1964 to 2000, and points out that overall, there had been a declining trend in economic performance which was attributed to several factors. The key factors are identified to be liberalization and declining of donor inflows from 1990, declining tourism activities and poor performance of the manufacturing sector. (Table 2).

According to Meru Central District Development Plan (Repulic of Kenya, 2002 -2008), two significant undertakings by the District Development Board are: extension of credit facilities to enhance growth and stability of MSEs, and to identify and promote other alternative sources of finance for micro and small–scale enterprises.

In view of the fact that participation in credit market is a self choice process, and given that most of the general conclusions of the CBS/ICEG/K-Rep (1999), Ministry of Labour and Human Resource Development –GoK (2004) and other existing empirical literatures related to this study remain valid, factors that influence demand for credit among the MSE operators in Meru Central District were investigated.

### *1.2 Problem Statement*

Small enterprises have become important contributors to the Kenyan economy. The sector is contributing to the national objective of creating employment opportunities, generating income and providing a source of livelihood for the majority of low-income households especially in rural Kenya (Republic of Kenya, 1992). Despite the significant role played by the sector, the market players have over the years experienced many constraints that have inhibited realization of their full potential. According to the CBS/ICEG/K-Rep (1999), the two key challenges include poor access to markets and limited access to financial services. Lack of tangible security, the procedural bureaucracies of credit borrowing were some of the facts highlighted that constrain small-scale entrepreneurs from accessing credit from formal credit institutions. The impact of these challenges has led to majority of MSE operators confining themselves to narrow markets where profit margins are low due to intense competition. Consequently, most of the MSEs are stagnating, retrogressing to micro status or closing after few years of operation. Very few manage to graduate to medium and large-scale enterprises (Ministry of Labour and Human Resource Development-GoK, 2004).

Credit is an important instrument that can enable small-scale business operators overcome their liquidity constrains. The Kenyan credit market consists of both formal and informal financial lending Institutions. Recovery of the Kenyan economy that has been registered since 2002 (CBS-GoK, 2007) has reflected broad-based expansion of credit markets. This is demonstrated by the level of competition among credit lending institutions. Each institution is vigorously marketing their own tailor-made credit products that are targeting different needs of MSE operators. In view of the challenges pointed out in previous studies relevant to this research, performance of MSEs in relation to the recovering economy of Kenya, and considering the fact that land in Meru Central District is demarcated, the need was felt to investigate factors that influence demand for credit among small-scale entrepreneurs.

### *1.3 Research Objectives*

The main objective was to investigate factors that influence demand for credit among small-scale investors in Meru Central District.

The specific objectives of the study were:

1. To analyse factors that influence participation of MSE operators in the formal credit markets;
2. To investigate variability of credit demand by the different business activities in the small-scale sector;
3. To give relevant recommendations based on the above two specific objectives.

### *1.4 Hypotheses*

The study tested the following hypotheses:

1. There is a significant relationship between individual characteristics of a small-scale entrepreneur and his/her demand for credit.

2. There is no relationship between individual characteristics of a small-scale entrepreneur and his/her demand for credit.

*1.4 Assumptions*

There was an assumption in this study that demands for credit by MSE operators in trade, manufacturing and service sectors were not the same. Consequently one of the specific objectives was to investigate variability of credit demand by the different business activities in the small-scale sector.

The findings of this study can make a difference in the way of doing business among MSE operators in the former Meru Central District if the recommendations given can be incorporated into the development plans of the districts.

*1.5 Scope of the Study*

This study was carried out in Meru Central District (currently subdivided into three districts: Imenti North, Imenti South and Meru Central) between the months of May 2007 and February 2008. The data used for analysis was collected from the MSE sector using sample frame of licensed small scale enterprises (maintained in a register) by the Ministry of Trade and Industry, Meru Central District for the period January to December 2005. Sampling unit (respondent) was the owner of the enterprise. The total population was 417 households; though 217 MSEs were sampled, the study has information on 110 households which were successfully interviewed. These enterprises were located in the main trading centers of each division: Meru Municipality, Nkubu, Kariene, Timau, Kiirua, Kanyakine, Igoji, Githogo, Mitunguu, and Giaki Markets. The study was limited to investigate factors that influence demand for credit from formal financial institutions by small-scale entrepreneurs.

## 2.0 Literature review

*2.1 Theoretical literature review*

Economists have attempted to explain consumer behaviour on demand for a commodity using different theoretical and empirical economic concepts. A large number of social-economic factors play an important role in determining demand for a commodity by an individual entrepreneur. Credit is an important commodity for improving the welfare of the poor in their micro-economic activities especially in developing countries. In the Kenyan economy, most of small-scale enterprises are operated within the informal sector. The sector covers all semi-organized and unregulated economic activities that are small scale in terms of employment. It's economic contribution is more than double that of medium and large enterprise sectors that stands at 7% of the country's GDP (CBS-GoK, 2003). The sector therefore is a major source of employment and income to many households in Kenya.

Demand theory was first raised as a fundamental principle of microeconomics by a French economist Leon Walras (1834-1910). The theory is an analysis of the relationship between the demand for goods or services and prices which examines purchasing decisions of consumers and subsequent impact of prices on commodity demanded. According to Walras (1834-1910), price of a commodity influences its demand. This theory was criticized by later up-coming economists as shallow; however, they used it as a base to develop the law of demand, stated by many economists as: an inverse relationship exists between the price of a commodity and the quantity demanded of the product, that is, when the price of some commodities goes up, the quantity we consume of these commodities goes down and vice versa, other things held equal (Lispsey et al., 1987; Livingston and Ord, 1994; Saleemi, 2000; Mudida, 2003).

Livingston and Ord (1994), argued that the amount an individual wishes to buy of a commodity depends on several factors. Firstly is his/her taste or preference, which may be influenced by factors such as age, sex, education or religion. Secondly, the amount an individual buys may depend on the price of the commodity. Therefore, if the goods are very expensive, the buying power is reduced and vice versa. In the credit market, this consideration is on implicit and explicit costs of credit, which are added costs to business operators and have to be considered when making a decision to borrow or not to borrow and from which source. Thirdly, Livingston and Ord (1994) explained that amount bought is affected by availability of other goods. This applies more to close substitutes like in this case, consideration of borrowing credit from commercial formal institutions, formal government subsidized institutions, or from informal credit markets. If formal markets prove expensive, borrowers are likely to turn to informal markets. The opposite will apply if the informal markets are expensive. Lastly, Livingston and Ord (1994) pointed out that the size of a household's income affects the amount it buys of a commodity. If the income increases, they will be able to buy more. This argument holds only for necessity goods such as credit borrowing to finance business operations, otherwise it will not apply to inferior goods.

The theory of Livingston and Ord (1994) can be supported by the econometric model of Mukras (1993) on demand which is expressed as;

$Q_c = f(Y, P_c, P_r)$

$Q_c$ = Quantity demanded of a commodity

Y = Income

$P_c$ = Price of commodity

$P_r$ = Price of related commodities

The broad conclusion of this econometric model on analysis of demand is that quantity demanded of a commodity is a factor of income, price of the commodity and price of related commodities.

David (2001) also argues that when cost of credit goes up, the marginal utility per Shilling raised from that credit goes down. The household therefore chooses to consume, or use less of the credit . The concept of utility and marginal utility used by economists explains consumer demand on a commodity. Utility is the capacity or power of a commodity to satisfy the desire of a user (Lisper et al., 1987). Any commodity that satisfies human wants has utility. For example, if credit borrowed will satisfy financial needs of a household, then credit has utility (Saleemi, 2000). The main objective of any individual business operator is to maximize satisfaction out of any financial support borrowed, given or self made.

Jhingan (2001) highlights the application of the Keynesian Theory given by J.M. Keynes (1891) to underdeveloped countries. The theory is about relationship between consumption and income. Jhingan points out that one of the important tools in Keynesian economics is the propensity to consume. When income increases, consumption also increases but by less than the increment in income. This behaviour of consumption further explains the rise in savings as income increases.

Keynesian theory goes further to analyze this consumption behaviour, that relationships between income, consumption and savings do not hold in underdeveloped countries because people are too poor. When their income increases, they spend more on consumption because their tendency is to meet their unfulfilled wants. Keynes' assumption was supported by Long (1968) when he set-up a formal model for household borrowing where the household has to choose the allocation of wealth between present and future consumption, between holding capital in risky and less risky forms, and the allocation of time between labour and leisure. Based on data from India and Thailand, his results indicate that giving loans to poor households at low interest rates will do little to improve their plight unless the loans are accompanied by other inputs which shift their productions.

Nyandemo and Singh (2003) defined demand as that quantity of a commodity which consumers are willing and able to purchase at a given price over a period of time. Small-scale industry is mostly operated by people with low income who have many needs but have limited purchasing power. Though the need for credit may be there, the sector operators may not be able to demand credit. An individual's level of income has important effect on his/her level of demand for most products. Mudida (2003), points out that if income increases, the demand for most goods will increase. Small-scale investors tend to cluster and limit their business activities to similar products mostly of low quality that target low income earners. This leads to low business returns that cannot empower the business owners to borrow credit from formal institutions where the trader will be required to undergo implicit and explicit costs. Mudida (2003) further states that prices of related goods, which may be either substitutes or complementary goods or services, affect behaviour of consumers. The CBS-GoK, (1993) showed that the bulk of the small-scale enterprise credit came from informal savings and credit associations that is 69.1%. This finding compares with the 1995 Economic Survey which showed that 10.8% of the small enterprises had accessed credit and that only 3.4% received credit from formal sources.

### *2.2 Empirical literature review*

Emphasis on credit could be attributed to the prolonged and persistent call for credit by both local and international researchers ever since the ILO's landmark report advocating small-enterprise development (ILO, 1972). Sources of credit to small-scale investments in Kenya currently include the formal credit institutions which include commercial banks, development finance institutions (DFIs) such as KIE, ICDC (current Centum Investments), JLBS and non- governmental organizations such as KWFT and K-REP, and the informal financial institutions such as ROSCAs, family and friends, money lenders and trade credit supplies. In less developed countries, there is a very thin difference between households and small-scale business owners in decision making and in most cases, these two are synonymous.

Pani (1966) formulated an econometric model which helps to investigate the propensity of different classes of households to borrow in relation to changing rates of interest on cash loans, certain expenditures, etc. The broad conclusions of his analysis based on the Reserve Bank of India (RBI) district level were that the average household's demand for credit is not wholly inelastic (this is responsiveness of demand to a change in price where with change in price, demand remains the same). In addition, the value of assets held by the household does not by itself seem to be significant in explaining demand behaviour. He also found that the marginal tendency to borrow when capital expenditure in households is rising is same for all classes.

Iqbal (1980, 1983) formally set up a household model which explains demand and supply of funds for investment and consumption. The model concluded that: firstly, the households in a position to benefit from a change in the technical sphere tend both to borrow more and face a lower interest rate. Secondly, the household-specific interest rates, when introduced endogenously, are quite sensitive to personal and location characteristics and are significant determinants of borrowing. However, the estimations on Iqbal's model does not include non-borrowers and only single transaction loans are considered. In addition, there is no attempt to separate the demand for credit from the lender's decision on access of the credit. Other economists Nagarajan, Meyer, Hushak (1995) investigated factors affecting loan demand using 1989 – 90 data from the Philippines. The estimation considered multiple loans and found that loan demand was more elastic with respect to the interest rate than when only one transaction was taken per household.

Schmidt and Kropp (1987) pointed out that in most cases the access problem especially among formal financial institutions, is one created by the institutions mainly through their lending policies. What is displayed in form of prescribed minimum loan amounts, complicate application procedures and give restrictions on credit for specific purposes. The type of financial institution and its policy will often determine the access problem to credit borrowers. Where credit duration, terms of payment, required security and the provision of supplementary services do not fit the needs of the target group, potential

borrowers will not apply for credit even where it exists and when they do, they will be denied access (Schmidt and Kropp, 1987). Development Financial Institutions (DFIs) have their lending policies which according to Schmidt and Kropp (1987) assumption, the loan borrowing policies that the DFIs put up play a part in influencing credit demand among credit borrowers.

Bell (1990) demonstrated that incomplete information or imperfect contract enforcement generates the possibility of loan default and eventually problems of credit rationing. The result is loan supply and implicit credit demand functions, both of which are simultaneously determinants of credit demand. Bell further agues that the credit demand function can only be interpreted from the borrower's participation decision, that is, the decision to borrow or not to, and from which sector to borrow from. Such decision will depend on, among other things, the borrower's economic endowment and opportunities.

Zeller (1994) used a probit regression model to estimate factors that determine an individual's credit borrowing decision in terms of their participation in the formal or informal credit markets in Madagascar. He divided the factors into individual characteristics, labour assets, household events that affect credit demand and reasons for participation. This approach assumed that credit demand is only influenced by internal factors. Zeller's findings reveal that the probability of applying for credit significantly increases with the number of years of schooling, increase in age and income that is the poor significantly rely on short-term credits. Zeller also identified that when borrowing credit is perceived as a decision making process, then it starts with the decision of the individual to apply for the credit or not. This depends on whether the individual has demand for credit. The choice on source of credit is a decision that an individual household makes (Kimuyu and Omiti 2000), which is partly determined by the information available to the potential borrower on the available sources and their specific requirements. This information is in turn influenced by proximity of the different sources and perceptions about the sort of customers that a particular finance credit source entertains. Therefore credit demand identification problem may be explained through a study on borrower's participation decision.

Empirically, research on the use of credit by rural households tends to suggest that although it is not obvious that demand for credit far outweighs the supply, there are significant obstacles to the transformation of potential demand into revealed demand (Aryeetey, 1996). The absence of supply creates a lack of demand expressed in low revealed demand. According to Aryeetey, due to market failure in the credit market, the transaction cost involved in obtaining credit is considered greater than the utility, prompting households to switch profits between activities as a way of financing working capital. This explains that working capital is a big constraint to small-scale business operators. There is need therefore to investigate the significant consideration that households give to development financial institutions (DFIs) alongside other sources of finance.

Studies carried out by International Labour Organization (ILO) following financial crises in East Asia (Mark 2003), on financial support for micro and small enterprises in Thailand, revealed that 36% of these enterprises had difficulties in arranging start-up funds, 55% had funded their enterprises with their own funds, 17% obtained funds from government subsidized programmes and 20% of the survey group had borrowed from a bank. Gok-CBS (1999) also indicates that out of the interviewed group, 10.4% had received credit from different sources. On overall, 89.6% of the small enterprise operators had never received credit. In Zimbambwe, a similar pattern emerged 89% of the small-scale operators had never received loan for business purposes, 10% received credit from family or friends, 1% from formal credit institutions and less than 1% from money lenders (McPherson et al., 1998). Despite the liquidity constraints, demonstrated in these surveys, credit borrowing from formal credit markets seems to be low amongst small-scale business operators.

Kimuyu and Omiti (2000), found that low levels of credit demand by enterprises in rural Kenya is a response to a credit supply constrain and an outcome of the spatial structure of the credit market. It is true that concentration of enterprises in rural trading centers is not adequate for sustaining branches of the

formal financial institutions. As a result, formal financial institutions tend to be limited to large urban centers. The supplementary survey of Kimuyu and Omiti (2000) on institutional impediments to access to credit by micro and small scale enterprises in Kenya, showed that even in some of the relatively large urban centers such as Mwatate in Coast Province of Kenya, entrepreneurs had not heard of some of the more popular microfinance institutions. Using descriptive statistics and simple regressions (logit estimates and OLS analysis), there were observed differences in the amounts borrowed by entrepreneurs in different business activities and in the level of loan applications in relation to gender, location of enterprise and formality status of the enterprises. These factors were reported to be complimented by entrepreneur's age, educational achievements, membership in support groups and enterprise size.

However, Mpuga (2004) analyzed demand for credit in rural Uganda and the findings were that rural households are at a disadvantage in terms of demand for credit. Whereas being in the rural area has no significant impact on the probability of applying for credit and the success of the application, loan applications for individuals from the rural areas are about 44% smaller in magnitude than that of those in the urban areas.

Atieno (2001) pointed out that access to credit by borrowers can be explained in terms of credit rationing behaviour of lending institutions. Atieno's study used mainly descriptive statistics to analyze the role of institutional lending policies of formal and informal credit institutions in determining access to and uses of credit facilities by small-scale entrepreneurs in rural Kenya. Reports from a randomly selected sample of 334 respondents indicated that 15% had not applied for credit because they had no need for credit therefore classified as not credit constrained. 36% were credit constrained but had not also applied for credit. From the research findings, the major reasons for not seeking credit were lack of information about credit and lack of required security. Only 49% revealed their demand by applying for credit. Amongst this number there were those whose loan applications were rationed and did not get the total amount they applied for. A comparison of the amount applied for and amount received showed that the amount applied for was significantly higher than the amount received from both formal and informal sources. This suggested credit rationing in the credit market. These findings can be assumed not to interpret lack of credit demand among the large number of respondents who indicated did not seek for credit, since only 15% implied they had no need for credit.

Swain (2002) hypothesized that some of the households with positive demand for credit are not rationed at all, whereas, others are either quantity rationed or loan size rationed. Using a theoretical model, Swain takes household as the unit of analysis and measures demand for credit variable as a dummy. The research findings show that in addition to household characteristics, interest rate, land ownership and the area of business operation are also significant determinants of demand for credit. According to Swain (2002) loan quantity rationing arises when the potential borrower is denied credit while loan size rationing occurs when the loan amount received by the borrower is smaller than the one they demanded. There might also exist households which do not demand any loan even though they would not be denied access by the lenders. Considering that inadequate finance is primary problem to most small-scale entrepreneurs, there is need to investigate performance of small-scale enterprises operated with no external funding.

Credit rationing has been found to influence credit demand to small-scale investors. This was reported by Okurut (2004). The research focused on identifying factors that influence credit demand and also those that result in the poor being rationed by lenders in Uganda. Using logit regressions, analysis of credit demand was performed at individual levels with dataset containing social economic characteristics of households. The findings reviewed that it is possible most small-scale entrepreneurs who seek credit would be able to obtain it, but costs and conditions may be prohibitive for the high risk borrowers. Lenders determine how much credit is allocated based on the probability of default, often resulting in credit rationing.

According to Okurut 2004) the probability of default may be influenced by a number of factors such as expected returns of the business, the terms of the loan, market imperfections and borrower characteristics.

Information asymmetry in credit markets arises because borrowers have better information about their potential risk of default than lenders. This asymmetry is compounded in informal credit markets by the fact that the credit histories of borrowers are not documented in the informal credit markets. The costs of acquiring this information are very high both in terms of time and financial resources. The other complication comes from its reliability. If lenders collect such information from the potential borrowers themselves, borrowers are likely to give an exaggerated view of their creditworthiness. This calls for an investigation to validate information from other sources. Okurut (2004) further states that if lenders try to collect such information from other community members, there is a tendency to withhold information if the one soliciting such information is a stranger. To compensate for the high cost of information gathering or reliability, lenders consider it logical to increase interest rates.

However, should they do so, this may result in lowering demand for the credit. These findings are consistent with Aleem (1990) and Baydas (1994).

Mpuga (2004) analyzed demand for credit in rural Uganda. Using the household surveys data for 1992/93 and 1999/2000, a probit estimation model on demand for credit showed that individual characteristics have important implications on demand for credit. Age of an individual is positively related to the decision to apply for credit and the amount of credit applied for. Following the life-cycle hypothesis, the young and energetic individuals with ambitions to earn higher incomes are expected to be more active in terms of saving in order to accumulate wealth.

The young may tend to save or borrow more for investment while the old may be less inclined to save and borrow. The life-cycle hypothesis predicts that the old are likely to rely more on their past savings and accumulated wealth for consumption. Those at intermediate ages (18-40 years) have positive and significant demand, while the old are less inclined to demand for credit, particularly from the formal and the semi-formal sources. Other characteristics such as level of education, value of household assets owned by household and other dwelling characteristics strongly influenced demand for credit.

According to Mpuga (2004) there is no concrete evidence on impact of distance from urban centers (remoteness) on demand for credit, while availability of different sources of credit have limited impact on demand for credit. In any economy, majority of people engaged in the informal sector of small-scale enterprises are in the age-group of 18-40 years. Therefore, given the levels of loan borrowing, for instant, the findings as per CBS/ICEG/K-Rep (1999) National MSE Baseline survey, there is need to verify Mpuga's findings.

### *2.3 Summary of literature review*

The theoretical literature presented above revealed that the basic assumption of economic theories of individual/household consumer behaviour is that they try to maximize their total utility within the circumstances in which they find themselves. The theories explain mechanisms in which scarce resource allocation decisions are made. The determinants of the quantity one is willing to purchase will typically be the price of the good, one's level of income, personal tastes, the price of substitute goods, and the complementary goods.

Most of the empirical literature that exist on credit to small-scale investors have focused on the supply aspect, that is: credit rationing to small-scale investors, problems of accessing credit in both formal and informal sectors, and credit markets and their lending policies as determinants of credit demand. The studies on rural credit markets indicate that the market is characterized by high lending costs, borrowing policies that are not affordable by most small-scale investors and high interest rates being charged to the credit borrowers. Credit rationing arises either through 'loan quantity rationing', that is when the potential borrower is denied the total credit that he borrows or through 'loan size rationing', that is when the loan amount received by the borrower is smaller than the amount demanded. Scanty literature exists on the demand side, for example, Mpuga (2004), Swain (2002) and the CBS/ICEG/K-Rep (1999) National MSE Baseline Survey.

Basically, these studies analyze credit demand at macro level with the objective of estimating the contribution of the low income workers to the economy in terms of employment, income and gross domestic product (GDP). Considering individual small-scale enterprises rarely graduate to medium or large industries despite the growth of credit markets, existence of demand for credit among small-scale business owners at the individual level has therefore not been addressed. This study will fill this gap by investigating factors that influence demand for credit among small-scale investors.

*2.4 Conceptual framework*

From the literature review, Zeller, 1994; Swain, 2001; Mpuga 2004; Okurut, 2004, did related research in different parts of the world and successfully analyzed demand for credit using different models. Mpuga (2004) used a multinomial logit regression model to estimate demand for credit from different sources of credit market in Uganda. The results show that age, education level, household income, household size, occupation and business location are significant determinants of demand for credit. Mpuga divides the factors into individual characteristics and attributes of financial institutions. This approach assumed that the decision to apply for credit is affected by both internal and external factors. Based on these previous successfully researched papers, this study derives a conceptual framework from the literature review that a large number of demographic and socio-economic factors play an important role in determining whether a MSE operator applies for credit or not. From a broader perspective, this concept is expressed as a conceptual framework as figure 1:

To enable measurement of variables that are considered important in analyzing demand for credit among MSE operators in Meru Central District, the conceptual concept shown above is operationally defined and presented figure 2:

*2.4.1 Operational framework explained*

$$DC = \alpha_o + b_1AG + b_2SX + b_3MS + b_4HS + b_5Y + b_6ED + b_7BL + b_8BA + b_9BAG + b_{10}MT + b_{11}IR + b_{12}CD + b_{13}LR + \varepsilon$$

Where DC represents demand status, $\alpha_o$ and $b_{1i}$ are parameters to be estimated, AG, SX, MS, HS, are age of entrepreneur, gender, marital status and household size/ number of dependants respectively. Y, ED, BL, BA, BAG, represent net income of entrepreneur, education level, business location, business activity (sector) and business age respectively, while MT is a dummy representing markets where products / services are traded, IR, CD, LR are interest rates, collaterals demanded by lending institutions, and loan rationing. ε is the error term assumed to be normally distributed.

*2.5 Description and measurement of the variables used in the study*

The dependent variable demand for credit is defined as the probability that an individual answered yes to the question, 'Have you borrowed a loan in the last three years (before the survey)?' Age, gender, marital status, household size, income and education level are entrepreneurs' attributes. Age variable is the age of the MSE owner and is performed on entrepreneurs aged 18 years and above. Gender variable is a dummy representing male and female respondents. For the purpose of analysis, marital status has only two categories: married, otherwise single (single status includes not married, widow/widower, separated and divorced). Household size considered number of family members being supported by the MSE operator, income is net profit in Kenya shillings generated from business operations, while education level considered entrepreneur's number of years of study.

Business location, business activity, and business age are the attributes of the enterprise where: business location specifies where the enterprise is located (within municipality or in the markets), business activity is the economic sector operated by the entrepreneur (trade, service or manufacturing), while business age is the number of years the enterprise has been operating. MT represents the markets where goods are traded

(international or local markets). Interest rates, collateral and loan rationing are the attributes of financial lending institutions.

Interest rates are the cost of the credit measured in percentage, collaterals are the securities required to secure a loan which is in the form of an asset, while loan rationing is the difference between amounts applied for and amount received. The above measurements have been widely used by various researchers in investigating demand for credit (Mpuga, 2004). Table 3 gives a summary of the variables and their measurements as used in this study.

## 3.0 Methodology

### *3.1 Study design*

A descriptive research was undertaken in order to ascertain reliability of data collected so as to be able to describe the characteristics of the variables of interest in the study and consequently test the research hypothesis. A sample survey method was used to collect data from MSE operators in Meru Central District. This is consistent with other previous researches that have successfully been anlysed using the same design and proven appropriate (chapter 2: Section 2.3), Mpuga, (2004), Kimuyu and Omiti (2000) and Atieno (2001).

### *3.2 Population, data type and sources*

The study used mainly primary data collected from individual owners of MSEs in the three districts of Meru: Imenti North, Imenti South and Meru Central (former Meru Central District). Table 4 below shows divisions of Meru Central District and the main trading center for each division. Small-scale enterprises licensed by the Ministry of Trade and Industry (Meru office) between January and December 2005 are also shown. The data for each trading center is further classified to show enterprises involved in the trade, service and manufacturing sector. Total population of the licensed MSEs shown in table 4 below was 417 enterprises (276 in trade, 121 in service and 20 in manufacturing).

### *3.3 Sampling procedures*

A register maintained by the Ministry of Trade and Industry (Meru office) for MSEs who had bought trading licenses between January and December 2005 was used as the sampling frame to draw the samples. Table 5 below is a list of the main trading centers showing the total number of licensed MSEs in each trading center. The enterprises are further divided into three commercial sectors: Trade, Service, and Manufacturing. The number of small-scale enterprises licensed in each trading center under the respective commercial sector is indicated. A sample size of 217 respondents (59 from municipality and 68 from markets) was initially targeted, distribution was 30% from each commercial sector (trade, service and manufacturing) in the municipality and the markets (table5). However, only 110 respondents were successfully interviewed, distributed as follows: Trade- 70 respondents, service and manufacturing sectors- 28 and 12 respondents respectively. Two key reasons were that some of the respondents declined the interview, and few of the sampled enterprises had closed down. (Table 5).

Stratified random sampling and simple random method were both used to select respondents to be included in the study. Firstly, using stratified random sampling, trading centers were divided into two subgroups; 'Municipality' and 'Markets'. Secondly, simple random method was used to pick samples from each subgroup for the study.

The total population of licensed MSEs in the municipality was 195, trade with 129, service 63 and manufacturing 3 MSEs. Using simple random method (rotary method), 30% from each commercial sector were selected, distributed as: 39 respondents from the trade, 19 from service and 1 from manufacturing sector. Total target sample size from the municipality was 59 respondents; however, 3 respondents declined to respond so only 56 respondents were successfully interviewed (trade 37, service 18 and manufacturing 1).

Procedure for selecting respondents from the markets followed the same sampling method (simple random method) as in the municipality. Initially a sample size of 68 respondents was targeted. However, only 54 respondents were successfully interviewed (trade 33, service 10, Manufacturing 11). Out of the 68 enterprises picked to be included in the study, 5 enterprises had closed down while 9 respondents out of the remaining 63 who had been issued with the questionnaire did not respond.

### *3.4 Data collection method and data reliability*

Small-scale entrepreneurs engaged in trade activities (buying and selling of goods), service and manufacturing activities were sampled using simple random sampling (rotary method). Primary data was collected using self administered structured questionnaires. Interviewees who were not able to interpret the questions in the questionnaire mostly due to their educational level were subjected to oral interview using researcher administered questionnaire.

To minimize random errors and hence increase reliability of data collected, pretesting of the questionnaires was earlier carried out and necessary improvements done. Well trained, and skilled persons were asked to collect data. Data editing and coding were carried out to spot any inconsistencies or errors associated with data collection, and to minimize errors that occur during data entry and processing respectively.

### *3.5 Data analysis procedures*

Using Stata version 8.2, descriptive statistics and logistic regression methods were applied to analyze the data. Descriptive statistics was meant to summarize the data and establish characteristics of the study population. The tools of analysis used to present the result findings are frequency distribution and percentages. To be able to establish whether the independent variables in the study predict the dependent variable and consequently test the study hypotheses, further analysis was done using inferential statistics. The dependent variable in this study is a dichotomy (a dummy variable) and the independent variables are a mixture of nominal and scale measurements, logistic regression analysis was considered appropriate and was successfully used. A logistic equation was fitted to a group of sampled MSE operators, where the subject was DC (Y=1) if one had borrowed credit and 0 otherwise. Therefore, the logistic working model for this study is expressed as:

$$DC = b_0 + b_1X_1 + \ldots\ldots b_n X_n$$

Where: $P(Y=1) = \exp(b_0 + b_1X_1 + \ldots\ldots b_n X_n) / [1 + \exp(b_0 + b_1X_1 + \ldots\ldots..b_n X_n)]$

Where:

Exp = odds ratio

$b_0$ = constant

$b_{1, n}$ = is the regression coefficient for independent variables

$X_{1, n}$ = Independent variables

Logistic regression is a form of regression technique which is used when the dependent variable is a dichotomy and the independent variables are of any type. The technique applies maximum likelihood estimation after transforming the dependent variable into a logit variable (the natural log of the odds of the dependent occurring or not). In this way, logistic regression estimates the probability of a certain event occurring.

## 4.0 Findings and discussion

### *4.1.1 Demand for credit*

This is the dependent variable captured from response to the question "What was your source of initial (or additional) capital for the enterprise?" . To capture this status, the study limited itself to households demand for credit from commercial banks, government programmes and NGO programmes. Swain (2002) measured demand for credit using a dummy variable. This study borrows from such previous research and defines demand for credit as a dummy taking value of one if an entrepreneur has ever applied for credit from a formal lending institution and zero otherwise. The results are presented in Table 6 below.

Out of 110 respondents, study statistics show 71% had applied for credit at one time or another. This high positive credit application may possibly be explained by the observed growth and diversity of formal credit markets. The rapid growth of the credit market has led to financial lending institutions hawking credit in the rural areas reducing constraints that formally limited small-scale entrepreneurs from accessing credit information and the bureaucracies of loan application and management. The study results can be interpreted that most small-scale entrepreneurs perceive borrowing as necessary. Out of the 29% indicated to have zero demand for credit, the conclusion that they had no demand for credit cannot categorically be drawn since majority expressed fear of the risk involved in loan repayment which at times can amount to losing their assets to financial lenders. Others were pessimistic about their own ability to access credit and manage it.

### *4.1.2 Demographic variables*

An entrepreneur's attributes such as gender, age, marital status and number of dependants are the demographic independent variables that may influence demand for credit for business pursuits. Each of these variables is descriptively analyzed and the results presented in Table 6.

Consistent with the CBS/ICEG/K-Rep (1999), this study finds gender distribution to be 41% females and 59% males. This implies that a significant number of the SME operators are men. However, according to Ministry of Labour and Human Resource Development-GoK, (2004), female entrepreneurs tend to mainly concentrate on micro-businesses due to gender inequalities in income distribution. The research findings may probably be explained by the fact that Kenya like most African countries is a patriarchal society where men dominate in most spheres of life. It is important to note that within the Meru community, social roles and norms still dictate segregation of activities by gender. Demand for credit services is therefore expected to be different between male and female entrepreneurs.

### *4.1.3 Socio-economic variables*

Level of education and income of MSE operators were the individual characteristics that were included in socio economic variables this study finds the sector operators to posses impressive academic backgrounds. This finding may probably be explained by the fact that, secondary schools, colleges and universities have tremendously increased in both private and public sectors enabling majority of people to advance their education.

Due to lack of formal employment these college and university graduates have crowded the informal sector dominating small-scale businesses. On the other hand, the education curriculum in Kenya has incorporated entrepreneurship concepts in secondary schools and colleges teaching programmes and as core courses in most of university programmes.

Results on sectoral distribution (business activity) show that 64% of the MSEs were in the trade sector. This implies that a large proportion of small-scale entrepreneurs were involved in buying and selling of goods to generate income. The dominance of trade activities over other economic activities is not

uncommon in many developing countries. This is attributed to the fact that financial requirements of a trade business is mostly the working capital, that is cash at hand, inventories of raw materials, accounts receivable, work-in- progress and finished goods. Working capital is self liquidating over the short–term of the enterprise's operating period making it possible to operate on the cash being generated by the business.

Two factors that influence MSE operators' decision to apply for credit are interest rates and collaterals demanded by formal financial lending institutions (Okurut 2004). Interest rate is used as a screening device by credit lenders to limit the probable number of defaulters. According to Aleem (1990), the credit market is characterized by imperfect information which arises from the fact that borrowers have better information about their potential risk of default than the lenders. The interest rates variable was captured under four categories: First category were no interest rates charged (either an entrepreneur borrowed credit but was denied due to lack of collateral or did not borrow any loan). The other three were those who borrowed credit successfully and were charged different interest rates: 10%-14%, 15% - 19%, or 20% and above.

Results presented in Table 6 show 36% of the respondents did not pay any interest rates. This group included those who may have successfully borrowed credit and were not charged interest rates, those who unsuccessfully borrowed credit and those who for one reason or another never borrowed any loan. Further analysis uses this category (no interest charged) to measure its influence on demand for credit against where the lending institution imposes interest rate on borrowed loan. This study established that commercial banks and microfinance banks charged interest rates of 15% and above while Sacco Societies and government lending programmes had the least charges of interest rates (10% - 14%).

The decision to borrowing credit and success of getting it tends to be inversely related to both interest rates charged and the collaterals that are required by formal credit institutions. In most cases, interest rates are used as screening devices by financial lenders. The study findings show that out of 78 respondents who applied for credit from formal lending institution, 98.7% of the loans issued were pegged on collaterals. 83% of the entrepreneurs sampled were able to secure the loans with the required securities, 14.3% did not have sufficient securities but partly provided the required securities while 2.6% had no collateral to provide

### *4.2 Simple logistic regression on factors affecting demand for credit*

This section presents results of simple logistic regression on each predictor variable to the response variable when other factors are held constant. The dependant variable takes value 1 if an entrepreneur borrowed credit and zero if no credit was borrowed. The results are presented in Table 7.

The age of the business owner is a significant determinant of the risk of borrowing. Simple logistic regression shows that the age of an entrepreneur is positively related to the probability of applying for credit. The estimates of the coefficient for age (0.051, $p = 0.066$) were statistically significant at 10% level of significance. The odds that a small-scale entrepreneur with age zero years would demand for credit were 0.355 to 1.00. For each year of age, the odds were increased by about 5.1 %. This implies that as the age of a household increases, so does his business experience, practical, wisdom and his income generating capacity (Swain 2001). This argument is supported by the statistical data distribution which shows that the number of respondents aged 40 years and above were more (46%) than those aged 29 – 39 years (45%) and 18 -28 years (9%). Conclusion can therefore be drawn that due to capability of the older entrepreneurs to accumulate assets which are used as collaterals, formal financial institutions perceive them as creditworthy. As a result, they are more likely to access credit from commercial banks than the younger entrepreneurs.

As hypothesized and as highlighted in the descriptive analysis, education of small-scale entrepreneurs positively affects the decision to apply for credit. Holding other factors constant, the results show that the odds of an entrepreneur with no education background demanding credit from a formal lending institution were 0.116 compared to one with education. An additional year of education increased demand for credit by about 2%. The results are statistically significant at 1% level of significance. This implies that the more educated a small-scale entrepreneur is, the more likely it is for him/her to seek for external funding from formal financial institutions. This finding can probably be attributed to their superior record keeping and their higher level of adoption and absorption of credit information being floated by money lenders.

The level of income of a small-scale entrepreneur is an important component that determines demand for credit. Simple logistic regression analysis on predictor variable income to demand for credit shows, the odds that a small-scale business operator with zero income would demand for credit are 0.896 to 1.00. For each additional income, the odds that an entrepreneur with low income will borrow credit are increased by about 0%. The results are significant at 1% level of significance. This study finding implies that, holding other factors constant, there is always demand for additional finances for the household utilities but, at low levels of income, the entrepreneur has limited resources to save hence less demand for credit than at higher levels of income (this is a probable assumption because economic activities, needs and expenditure, increase with the individual's income). It may also be a true assumption that with higher income, the entrepreneur may be able to save more and acquire assets which can be used as collateral to borrow loans.

Simple logistic regressions did not establish significant relationship between the risk of borrowing and gender, household size, business attributes (business activity, business location, age of business and number of employees employed). Holding other factors constant, there was also no statistically significant relationship between the odds of borrowing and interest rates charged by formal financial institutions. To quantify the results of simple logistic regressions further, a multiple logistic regression model that gives potential information on relationships after interaction of variables between the dependant variable (demand for credit) and entrepreneur and enterprise attributes plus credit institutions' characteristics was run and results presented in Table 8 below.

*4.3 Multiple logistic regressions on factors affecting demand for credit*

This section presents findings of multiple logistic regression models. The section purposely gives the relative importance of various predictor variables to the determinant of demand for credit. Results are presented in Table 8 below. A similar model was successfully used by Kimuyu and Omiti (2000) to track loan application behaviour by MSEs in Kenya.

As hypothesized in the study, the education level of a small-scale entrepreneur has a positive influence on his/her demand for credit from formal financial institutions. When the education variable interacts with other factors, the odds in favour of entrepreneurs with higher educational level were 1.2 times greater compared to those with less education (primary level and those with no education background). The results are significant at 10% level of significance. This research finding may be explained by the fact that operations of formal financial institutions are tailored to offer credit services to formally registered businesses, which meet criteria such as proper maintenance of books of accounts and a verifiable asset base. Though most MSE operators with low level of education have adequate collaterals for securing loan from the formal commercial institutions, they are limited by their knowledge in accounting (Ministry of

Labour and Human Resource Development-GoK, 2004). Presumably, their record keeping is unacceptable to formal financial lenders. In conclusion, from the study findings a plausible assumption can be made that inclination towards seeking credit from formal financial lenders is a product of a mixture of entrepreneur and enterprise attributes. Specifically, the older, more educated and operating formal/registered enterprises are more likely to seek for external funds from formal credit institutions.

While simple logistics estimation results revealed that household size is not a significant determinant of demand for credit, in multiple logistic estimations, household size has a negative coefficient on demand for credit and is statistically significant. The study used respondents with smaller family size (up to 4 dependants) as a reference group. The risk of borrowing was 0.74 times less among entrepreneurs with larger families compared to those with smaller families. The results are significant at 10% level of significance. The number of dependants reflects the life cycle situation of the household. Within Meru communities, large families are associated with the poor and less educated people. In most cases, their propensity to generate and save income is limited by the high consumption need of the household. Their ability to accumulate assets which they can use as collaterals to borrow credit is therefore limited. Presumably where the collaterals can be offered, ability to repay back the loan is limited. The outcomes associated with limitations experienced by households with large families are revealed in low demand for credit.

The coefficient for income is positive implying income variable is an important determinant of demand for credit. The results indicate that entrepreneurs with high income are more likely to demand for credit than those with low income. Comparing those with low income with households who reported monthly net income of Ksh.51,000 and above, the results show an increase in the value of assets owned by small-scale entrepreneur increases the odds ratio of demand for credit from formal credit institutions by 1.0. The results are significant at 5% level of significance

Conclusion drawn from both simple logistic regressions and multiple logistic regression analysis on factors that affect demand for credit is that inclination towards seeking external funds from formal credit institutions is the product of a mixture of an entrepreneur's attributes. Specifically, entrepreneurs with 40 years and above who are more educated, with few dependants and with a higher business income are more likely to apply for credit from formal credit institutions. Notably, enterprise and credit institutions' attributes are not significant determinants of credit demand. The study findings therefore support the study hypothesis that, 'There is a relationship between individual characteristics of a small-scale entrepreneur and his/her demand for credit'.

*4.4 Summary*

Primary data was collected using structured questionnaires from 110 small-scale business owners in Meru Central District (current: Imenti North, Imenti South and Meru Central Districts). Applying descriptive statistics and inferential statistics on the data collected, entrepreneurs' attributes, MSEs' and the formal financial lending institutions' attributes were estimated. From the credit history results shown on descriptive analysis, an impressive number (approximate 71%) of the respondents had at one time or another borrowed credit. Further analysis using logistic regression technique, reviewed entrepreneur's attributes had a significant relationship with his or her demand for credit. However, from both descriptive and inferential analysis, there were no significant findings identified on MSEs' or from the financial lending institutions' attributes as factors that may influence demand for credit among MSE operators in Meru Central District.

*4.5 Conclusions*

The first specific objective was to analyze factors that influence participation of MSE operators in formal credit markets. Among all other variables, education level, number of dependents and household income were found to be significant factors.

Educational level was found to be an important element that has a positive impact on a small-scale entrepreneur's demand for credit. The strength of its impact is shown to increase with educational attainment so that entrepreneurs with higher education were more inclined to seek for external funds. A major reason why formal lending institutions perceive MSEs as high risk borrowers is usually the difficulty involved in obtaining adequate information from their bookkeeping on which the lenders can base assessments.

Since financial statements are a key requirement by formal credit institutions, presumably MSE operators with higher education level, accounting knowledge, better business management skills, and capability of absorption and adoption of technology give them an added advantage when it comes to credit borrowing.

The study results show that entrepreneurs with large families are less likely to borrowed credit from a formal financial institution compared to those with few dependants. The higher the numbers of dependants, the more are the other consumption needs suggesting that ability to save income and subsequent repayment of a loan is limited. This is therefore revealed in low demand for credit among large family households. According to Mpuga, (2004), individuals with large households are not likely to demand for credit from neither informal nor the formal credit market suggesting that their ability to participate in credit markets can only be improved through government initiatives of strengthening both macro and micro economic environments.

Demand for credit is shown to be more in households with higher income indicating that these entrepreneurs had better ability of repaying loans extended to them by formal commercial banks or any other formal financial institutions. Due to their ability to generate higher incomes, they had accumulated collaterals to secure loans. What this implies is that wealthier entrepreneurs were more likely to succeed in securing credit from formal financial institutions while the less wealthy individuals probably obtained from the informal sector. Descriptive analysis results showed that 29% of the respondents had not borrowed credit. Major reasons for not seeking credit were lack of required security and being pessimistic on their ability to repay the credit.

The second specific objective of the study was to investigate variability of credit demand by different business activities in small-scale sector. This study established that there was no significant difference in demand for credit between trade, service and manufacturing activities. This statement is based on comparison: out of the respondents sampled in trade, manufacturing and in service activities, 70%, 72% and 71% of the respondents respectively had borrowed credit in one time or another.

Conclusion that can be drawn from this analysis is that based on the findings of descriptive statistics and consequent logistic regressions, the findings of this study support the hypothesis that there is a relationship between individual characteristics of a small-scale entrepreneur and his/her demand for credit. Conclusively, it can also be stated that majority of MSE operators in Meru Central District possess right characteristics that would influence a MSE operator to demand for credit from a formal financial institution. Based on findings in Table 6 on credit history, out of 110 respondents interviewed, approximately 71% had applied for credit in one time or another. It can therefore be argued that MSE operators in Meru Central District are adequately participating in formal credit market. This being the case, there must be other significant factors that are driving MSE operators to confine their enterprises in narrow market operations. There is need therefore for a broader research to be undertaken.

*4.6 Recommendations*

Though success of MSEs is entirely the responsibility of the entrepreneurs themselves, and participation in the credit market is largely a self selection process, from this research findings three recommendations have been made: 5.3.1 recommendation to MSE operators, 5.3.2 recommendation to policy makers and 5.3.3 recommendation for further research.

*4.6.1 Recommendation to MSE operators*

Given that financial statements are a key requirement by formal credit institutions, and that maintaining proper accounting records that can facilitate a formal financial institutions to obtain an accurate picture of the enterprise is important, MSE operators need to improve their accounting and record keeping systems and documentation. This will significantly improve their access to credit.

Majority of MSE operators perceive the impact of credit on business as positive however, they need to adopt a positive attitude on their ability to manage and repay business credits. They (MSEs) also need to take advantage of their recognition by formal credit sector and develop and expand their businesses.

*4.6.2 Recommendation to policy makers*

The government should formulate programmes aimed at strengthening economic power of MSE operators such that the sector players are perceived attractive by financiers. This is possible through facilitating seminars and trainings on business skills and management, providing technical assistant as well as advisory and consultation services. In addition, to promote growth of MSEs, the government should facilitate participation of MSE owners in regional and international trade fairs.

Though the government of Kenya set up specific institutions and programmes such as KIE, ICDC (Centum Investments), JLBS, KWFT, and K-REP to provide credit to the MSE sector, a few sector players have benefited from financial services of these institutions probably due to the fact that a large group of MSE operators have limited information on their operations. Therefore, there is need for the government to improve efficiency of these DFIs and use the media to bring awareness of their functionalities to the original target groups (MSEs).

It is noticeable that demand for credit by female entrepreneurs is compromised by the factor of gender inequality where women have little claim to family property. This disparity cannot be interpreted as low demand for credit among women but rather a disadvantage attributed to the community's cultural norms where women have virtually no control of assets that can be used as collaterals. In order to empower female entrepreneurs economically, the government should introduce policies on property ownership that will bring about equal participation of both genders in the formal credit market.

For the formal credit market and the MSE sector to grow, formal financial lenders need to adopt some of the positive features of the informal sector, such as low transaction costs, limited collateral requirements and informality of procedures. Since formal lending institutions are mainly concerned with default problems and loan administration costs, they can link their operations with those of informal lenders (such as ROSCAs) which guarantee loan repayment from their members. Given the wide and established

network of commercial banks, and the current wave of competition between financial institutions, improving lending terms and conditions in favour of small-scale entrepreneurs would significantly facilitate the accessibility of credit and may probably lead to an increase in demand for credit. The success story of Equity Bank that has capitalized on low income earners should be an eye opener to other formal credit lenders.

*4.6.3 Recommendation for further research*

This study was restricted to investigate factors that influence demand for credit among MSE operators in Meru Central District and focused only on formal lending institutions. Based on the study findings, there is need for a comprehensive research to explore further other factors that may be contributing to lack of MSE sector in Meru Central District keeping same growth drift with the current economic expansion.

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*Table 1: sources of credit to small enterprises (%)*

| Source | 1993 | 1995 | 1999 |
|---|---|---|---|
| None (no credit received) | 85 | 89.2 | 89.6 |
| Formal credit institutions (including NGOs) | 4 | 3.4 | 5.7 |
| Cooperatives | - | - | 1.2 |
| NGOs | - | - | 2.8 |
| Commercial Banks | - | | 1.5 |
| Government | - | - | 0.2 |
| Informal institutions | 5 | 7.4 | 4.7 |
| ROSCAs | - | 5 | 2.5 |
| Family and friends | - | 2 | 1.5 |
| Money lenders | - | 0.1 | 0.1 |
| Trade credit supplies | - | - | 0.6 |
| Total | - | 100 | 100 |

Source: CBS/ICEG/K-Rep (1999) National MSE Baseline Survey.

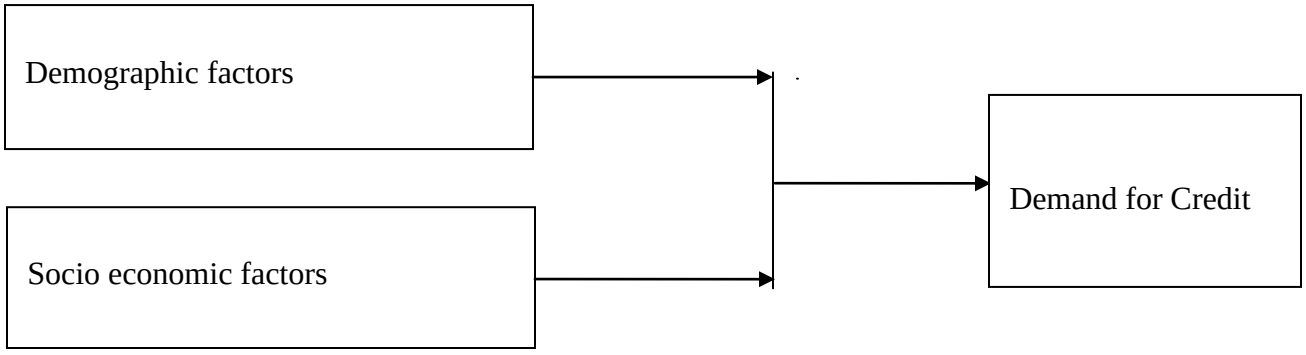
*Table 2: average annual growth rate of real GDP (%)*

| Sector | 1964 - 73 | 1974 - 79 | 1980 - 89 | 1990 - 95 | 1996 - 2000 |
|---|---|---|---|---|---|
| Agriculture | 4.6 | 3.9 | 3.3 | 0.4 | 1.1 |
| Manufacturing | 9.1 | 10.0 | 4.8 | 3.0 | 1.3 |
| Finance, Real Estates | 9.8 | 12.4 | 6.7 | 6.6 | 3.6 |
| Government Services | 16.9 | 6.5 | 4.9 | 2.6 | 1.0 |
| Private Household | 3.5 | 14.5 | 10.0 | 10.3 | 5.6 |
| Others | - | 8.8 | 7.7 | 3.6 | 2.3 |
| GDP | 6.6 | 5.2 | 4.1 | 2.5 | 2.0 |

Source: National Development Plan 2002 – 2008

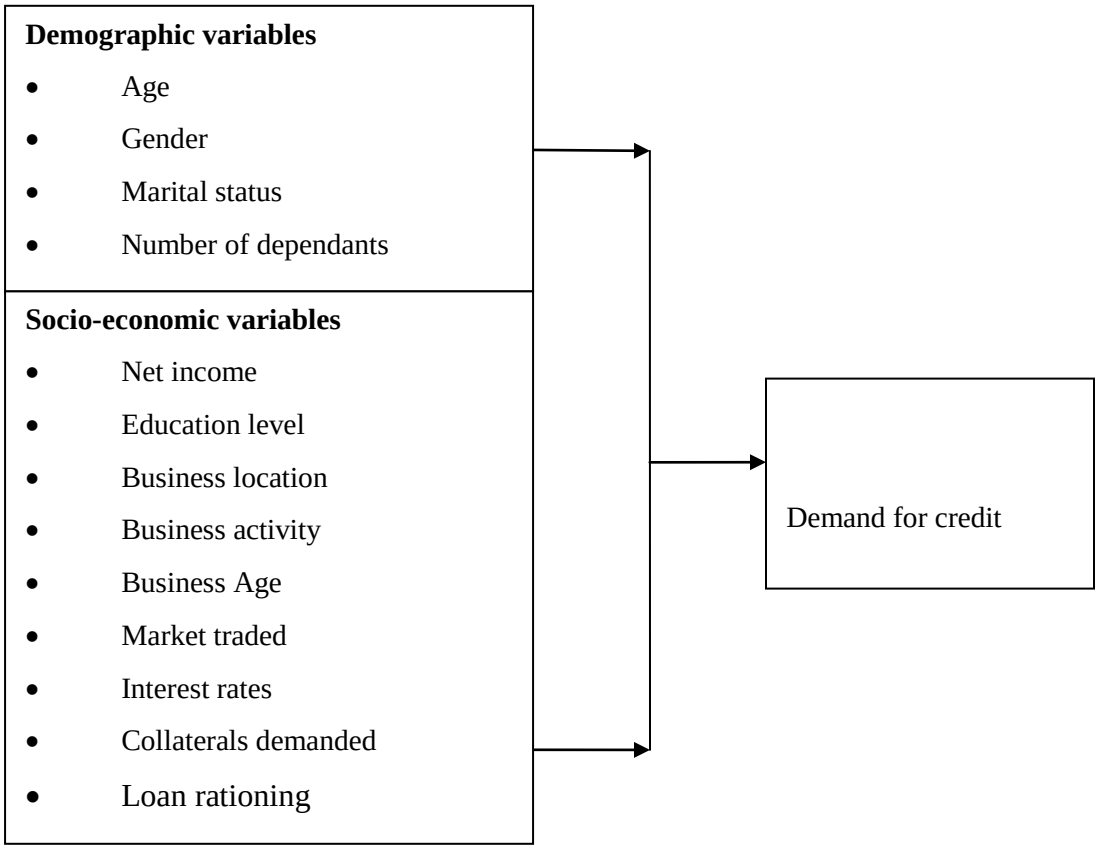
*Figure 1: conceptual framework*




(Independent variables) (Dependent variable)

*Figure 2: operational framework*




**(Independent variables)** **(Dependent variable)**

Source: From study data

From the operational framework, an estimation model can therefore be expressed as follows:-

$$DC = \alpha_o + b_1AG + b_2SX + b_3MS + b_4HS + b_5Y + b_6ED + b_7BL + b_8BA + b_9BAG + b_{10}MT + b_{11}IR + b_{12}CD + b_{13}LR + \varepsilon$$

*Table 3: measurement of variables*

| Variable | Measurement |
|---|---|
| Demand for credit | '1' if loan borrowed within the last three years, otherwise 'zero' |
| Income | Net profit per month measured in Kenya shillings |
| Education of business owner | Completed years of study |
| Gender | ' 1' if male, otherwise 'zero' |
| Marital status | '1' if married, otherwise 'zero' |

| | |
|---|---|
| Age | Age of business owner |
| Household size | Number of dependants |
| Collaterals | '1' if demanded by lending institution, otherwise 'zero' |
| Interest rates | Interest rates charged in percentage |
| Loan size rationing | '1' if total loan amount borrowed was received, otherwise 'zero' |
| Level of savings | Amount in Kenya shillings saved per month |
| Business location | '1' if Municipality, otherwise 'zero' |
| Business type | Trade=1, service=2, Manufacturing=3 |
| Markets products traded | '1' if local Markets, otherwise 'zero' |

Source: Researchers

*Table 5: Main trading centers – Meru central district*

| Trading center | No. of reg.small-enterprises | Trade | Trade 30% | Service | Sevice 30% | Manuf. | Manuf. 30% | Total Sample |
|---|---|---|---|---|---|---|---|---|
| MUNICIPALITY (Meru town) | | | | | | | | |
| Total | 195 | 129 | 39 | 63 | 19 | 3 | 1 | 59 |
| MARKETS | | | | | | | | |
| Igoji | 8 | 4 | 1 | 3 | 1 | 1 | 0 | 2 |
| Kanyakine | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 1 |
| Nkubu | 125 | 86 | 26 | 30 | 9 | 9 | 3 | 38 |
| Mitunguu | 7 | 6 | **2** | 1 | **0** | 0 | **0** | **2** |
| Kariene | 35 | 23 | **7** | 10 | **3** | 2 | **1** | **11** |
| Githogo | 9 | 4 | **1** | 3 | **1** | 2 | **1** | **3** |
| Giaki | 2 | 2 | **1** | 0 | **0** | 0 | **0** | **1** |
| Kiirua | 14 | 8 | **2** | 4 | **1** | 2 | **1** | **4** |
| Timau | 19 | 11 | **3** | 7 | **2** | 1 | **1** | **6** |
| **Total** | **222** | **147** | **44** | **58** | **17** | **17** | **7** | **68** |

**Source**: Researchers

*Table 4: Meru central district administrative and economic profile*

| Division | Main Trading center | No of registered enterprises | Trade | Service | Manufacturing |
|---|---|---|---|---|---|
| Igoji | Igoji | 8 | 4 | 3 | 1 |
| Abogeta | Kanyakine | 3 | 3 | 0 | 0 |
| Nkuene | Nkubu | 125 | 86 | 30 | 9 |
| Abithuguchi East | Mitunguu | 7 | 6 | 1 | 0 |
| Abothuguchi central | Kariene | 35 | 23 | 10 | 2 |
| Abothuguchi West | Githogo | 9 | 4 | 3 | 2 |
| Mirigamieru West | Meru | 195 | 129 | 63 | 3 |
| Mirigamieru East | Giaki | 2 | 2 | 0 | 0 |
| Buuri | Kiirua | 14 | 8 | 4 | 2 |
| Timau | Timau | 19 | 11 | 7 | 1 |
| **Total** | | **417** | **276** | **121** | **20** |

Source: District Trade Development officer, Ministry of Trade and Industry, Meru Central District (2006)

*Table 6: Distribution Of The Data*

| Variables | Frequency | Percent |
|---|---|---|
| Credit history: | | |
| Not borrowed | 32 | 29.1 |
| Borrowed | 78 | 70.9 |
| Gender: | | |
| Female | 45 | 40.9 |

| | | |
|---|---|---|
| Male | 65 | 59.1 |
| Age in years: | | |
| 18-28 | 10 | 9.1 |
| 29-39 | 49 | 44.5 |
| 40 and above | 51 | 46.4 |
| Dependants: | | |
| Up to 2 | 29 | 26.4 |
| 3 to 5 | 69 | 62.7 |
| 6 and above | 12 | 10.9 |
| Education level | | |
| Primary | 11 | 10 |
| Secondary | 60 | 54.5 |
| College/University | 39 | 35.5 |
| Income per month (Ksh.): | | |
| Up to 50,000 | 64 | 58.2 |
| 51,000-100,000 | 28 | 25.5 |
| 101,000 and above | 18 | 16.3 |
| Business location: | | |
| Market | 50 | 41.8 |
| Municipality | 60 | 58.2 |
| Business activity: | | |
| Trade | 70 | 63.6 |
| Service | 28 | 25.5 |
| Manufacturing | 12 | 10.9 |
| Employees: | | |
| Up to 5 | 64 | 58.2 |
| 6 to 10 | 32 | 29.1 |
| 11 and above | 14 | 12.7 |

| | | |
|---|---|---|
| Interest rates: | | |
| 0% | 39 | 35.5 |
| 10% - 14% | 11 | 10 |
| 15% - 19% | 51 | 46.4 |
| 20% and above | 9 | 8.2 |

Source: Computed from research data

*Table 7: simple logistic regression: factors affecting demand for credit*

| **Demand for credit** | **Coefficient.** | **Standard errors** | **Odds ratios** | **Sig. levels** |
|---|---|---|---|---|
| **Age** | 0.0507249 | 0.0276064 | | 0.066 |
| Cons. | -1.034462 | 1.053003 | 0.355 | 0.326 |
| **Education level** | 0.2392886 | 0.0906479 | | 0.008 |
| Cons. | -2.154582 | 1.151008 | 0.116 | 0.061 |
| **Income** | 0.000008 | 7.50E-06 | | 0.006 |
| Cons. | -0.1096464 | 0.3825902 | 0.896 | 0.774 |
| **Gender: female** | 0.164846 | 0.424875 | | 0.698 |
| Cons. | 0.7949299 | 0.3220041 | 2.214 | 0.014 |
| **Household size** | -0.1349823 | 0.1216167 | | 0.267 |
| Cons. | 1.428525 | 0.535766 | 4.173 | 0.008 |
| **Business activity** | 0.4239893 | 0.3381503 | | 0.21 |
| Cons. | 0.2848959 | 0.5139096 | 1.330 | 0.579 |
| **Business location** | 0.0806889 | 0.4210908 | | 0.848 |
| Cons. | 0.8472979 | 0.3086067 | 2.333 | 0.006 |
| **Business age** | -0.066492 | 0.0808228 | | 0.411 |
| Cons. | 1.348645 | 0.6021841 | 3.852 | 0.025 |
| **Employees** | 0.0500159 | 0.0480984 | | 0.298 |
| Cons. | 0.5892579 | 0.3485442 | 1.803 | 0.091 |

| | | | | |
|---|---|---|---|---|
| **Interest Rate** | -0.0132179 | 0.0269331 | | 0.624 |
| Cons. | 1.041779 | 0.3761605 | 2.834 | 0.006 |

Source: Computed from research data

*Table 8: Demand for credit - Multiple logistic regressions*

| **Explanatory Variables** | **Coefficients** | **Standard Errors** | **odds ratios** |
|---|---|---|---|
| Education level | 0.1712103***** | 0.0990757 | 1.18674 |
| Household size | -0.3017384***** | 0.1704487 | 0.7395315 |
| Income | 0.0000197****** | 8.88e-06 | 1.00002 |
| Age | 0.0544062 | 0.0392729 | 1.055913 |
| Female | -0.3333936 | 0.5106227 | 0.7164882 |
| Business Activity | 0.3334459 | 0.3841793 | 1.39577 |
| Location | 0.0469986 | 0.496125 | 1.04812 |
| Business Age | -0.0297216 | 0.0808456 | 0.9707157 |
| Employees | 0.0269595 | 0.0548514 | 1.027326 |
| Interest rate | -0.244678 | 0.5294989 | 0.7829566 |
| Constant | -3.008709 | 1.954851 | |
| Number of observation | 109 | | |
| Log likelihood | -55.067187 | | |
| Prob > chi2 | 0.0160 | | |
| Pseudo R2 | 0.1654 | | |

* Significant at 10%, ** significant at 5%

Source: Computed from study data