

DETERMINANTS OF HOUSEHOLD ACCESS TO BANK CREDIT IN LESOTHO

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ABSTRACT

Access to bank credit has become one of the key elements in improving households' incomes and their standards of living in an economy. This study examines the various factors that influence household access to bank credit in Lesotho. The study used the 2002/2003 Household Budget Survey (HBS) data set. The probit model was used to determine the various factors that influence bank credit accessibility in Lesotho. The empirical results suggested that education level, being widowed; being paid employment, business ownership, household income and being married had positive and significant effects on household access to bank credit. However, household access to bank credit was negatively and significantly influenced by being a female-headed household, being in farming, being in informal employment, and rural location. These variables were statistically significant at 10 percent level of significance. The policy recommendations are that the government should maintain and enhance the on-going policy reforms that were aimed at promoting gender equality in the credit markets, and those intended at encouraging access to bank credit in the rural areas

JEL Classification: E440

Key Words: Household, access to bank credit, Lesotho

1. INTRODUCTION

Enhancing households' access to bank credit forms an integral part of improving household income and welfare in an economy (Ghosh, 2000; Amin, Rai & Topa, 2003). Also supported by Rao (2003), access to bank credit raises household income, improves its purchasing power and thereby

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upgrades the household standard of living. In many countries around the globe, bank credit has over the years played a significant role in improving the well-being of households.

The empirical literature suggests that providing low income households with access to credit facilitates their productivity, management skills, create jobs, smoothens income and consumption flows, enlarges and diversifies their businesses, and increases their income and other benefits, such as health care and education (see Diagne & Zeller, 2001; Mpuga, 2008; Ellis, Lemma & Rud, 2010).

According to the FinScope Consumer Survey Lesotho (2011), about 62 percent of Basotho are unbanked and do not benefit from any kind of formal credit access. The constrained access to bank credit in the Lesotho economy may be expounded in terms of institutional level and household level factors (Nwanna, 1995 cited in Okurut, 2008). At institutional level, the kingdom of Lesotho is characterised by an underdeveloped and imperfect credit market. Accordingly, banks incur considerably high information costs in assessing the creditworthiness of small borrowers. Banks have thus adopted strict collateral requirements screening mechanisms which have as a result rationed small borrowers from the credit market.

Additionally, given the landscape of the country where about 85 percent of the surface area consists of foothills and mountain plateaus, banks tend to be concentrated in the urban areas as opposed to rural regions. According to the International Fund for Agricultural Development (IFAD) (2008), this means that about 70 percent of Basotho who reside in the rural regions remain credit constrained. The high transaction costs incurred by banks has lead to the closing down of most rural based branches, later compelling rural borrowers to incur significant transaction costs to access banking institutions.

At household level, most families are highly entrenched in poverty which at present is 56.6 percent (International Monetary Fund (IMF), 2013). In many parts of the country, poverty is closely linked to lack of income and unemployment, as well as to severe degradation of the natural resource base on which the livelihoods of many rural poor depend (IFAD, 2008). These households experience high levels of unemployment and low income generation, and consequently low levels of asset accumulation.

There is also a high concentration of agricultural activities in the economy accounting for about 17 percent of Gross Domestic Product (GDP) (IFAD, 2008). Agricultural sector remains the major or supplementary source of employment and income for more than 50 percent of the rural population in the Lesotho economy (Maruping, 1989; African Economic Outlook (AEO), 2012). Based upon the low income generation of agricultural activities, these families in consequence lack income or viable assets that maybe used for repayment hence are considered high risk and subsequently less attractive

to banks. This study therefore investigated the key factors that influence household access to bank credit in Lesotho.

2. AN OVERVIEW OF THE BANKING SECTOR IN LESOTHO

The banking sector has over the period evolved into four commercial banks (African Development Bank (AfDB), 1994). The banking system of Lesotho is generally small, shallow and highly dominated by South African banks. The high degree of South African ownership is associated with Lesotho's membership of the Common Monetary Authority (CMA), which has ensured that the banking sectors in other Southern African Customs Union (SACU) countries followed the product innovation and pricing trends similar to those of South Africa. Consider the summary provided in table 1 below:

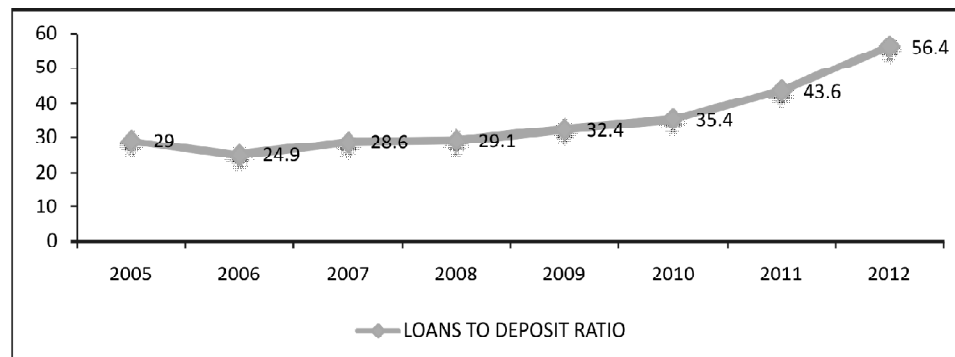
Table 1
The List of Lesotho Commercial Banks, Branch Network and Ownership

<i>Name of Institution</i>	<i>No. of Branches</i>	<i>Ownership</i>
Lesotho Post Bank (LPB)	15	Domestic
Standard Lesotho Bank Ltd	15	Foreign (South African)
Ned-bank (Lesotho) Ltd	3	Foreign (South African)
First National Bank (FNB)	1	Foreign (South African)

Source: Central Bank of Lesotho (website August 2013)

Over the past eight years, banks have increasingly drawn their assets to meet the increasing local demand for credit by the private sector (business enterprises and households). Based on figure 1 below, the commercial banks' lending activity shows a satisfactory accumulation. The loans-to-deposit ratio of banks had increased from 29 percent in 2005 to 56.4 percent in 2012. This is said to have been supported by low rates of interest and inflation, positive performance of economic growth as well as the significant distribution of the banks service points across the country (CBL, 2012).

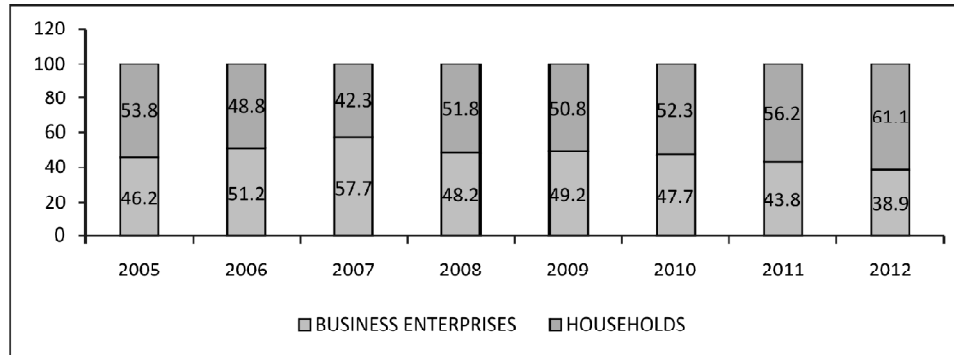
Figure 1: Loans to Deposit Ratio Growth in the period 2005-2012



Source: (IMF, 2013).

Bank lending activity may further be disaggregated into business enterprise credit and household credit. Figure 2 below depicts the fraction of each component to the total credit extended in each year.

Figure 2: Credit to the Private Sector Components (Percentage Share)



Source: Central Bank of Lesotho (2012).

Based on the chart, credit has been more or less evenly distributed between households and business enterprises. Nevertheless, beyond the year 2010, more credit has been diverted to meet households' demand. Households' credit increased from 56.2 percent in 2011 to 61.1 percent in 2012. On the contrary, the credit share of business enterprises declined from 43.8 in 2011 to 38.9 percent in 2012. In contrast with other economies where a share of credit to business enterprises is higher than a share of credit to household, the Lesotho economy is generally characterized by a higher share of credit to the household than to the business enterprises.

Despite an overall increase in credit to GDP ratio from 10 percent in 2007 to 18 percent in 2012, the volume of bank credit relative to total output remains especially small compared to other countries in the SSA (CBL, 2012). Some people argue that since the privatisation and liquidation of state-owned banks, banks have rationalised their operations and branch network with the objective of enhancing their profitability as opposed to mobilising deposits and accordingly expanding credit to households (Maruping, 1989).

Moreover, poor communications infrastructure (such as poor internet access and the use of unsophisticated technology) is among the most problematic factors facing the financial sector. Another point of debate cited is the issue of CMA. Albeit CMA permits free movement of funds among member countries, in the specific case of Lesotho, the flow of funds had tended to be in one direction, which is out of the country (Maruping, 1989). This could mean that serious competition can be created from outside the country.

To address some of these limitations, the GoL has put into place several measures of which some have been considered earlier. The GoL has in addition proposed the Legal Capacity of Married Persons Act 2006 and the Land Act 2010. These reforms were designed to improve households' access to bank credit by granting women the right to access credit and to acquire immovable property in their own names. The reforms also facilitated the use of land as an economic asset which may be used as collateral by borrowers (CBL, 2012). Moreover, the GoL together with the Millennium Challenge Corporation (MCC) in conjunction with IFAD are working towards modernizing the LPB so as to facilitate the extension of financial services to rural areas and to small and medium enterprises (AEO, 2012).

3. LITERATURE REVIEW

Different models have been used in empirical work for estimation of determinants of household access to credit. These include the binary probit model (Okurut *et al.*, 2009; Kedir, 2003; Mpuga, 2008 and Akpan *et al.*, 2013); the Heckman probit model (Okurut, 2006; Okurut & Schoombee, 2007); the binary logit model (Dzadze, *et al.*, 2012); the truncated normal regression model (Duy *et al.*; 2012); the duration model (Duflo *et al.*; 2008); and the Instrumental Variable (IV) probit and tobit models (Ibrahim *et al.*, 2007). The key variables identified in empirical literature that influence household access to credit include age of household head, household size, dependency ratio, employment status, main economic sector, household income, business ownership, gender, education level, rural-urban location, marital status, race, and religion.

Age of the Household Head

A majority of studies realised a positive and significant relationship between age of the household head (borrower) and access to bank credit (see Kedir 2003; Quach, 2005; Okurut, 2006¹; Okurut & Schoombee, 2007; Mpuga, 2008; Okurut, 2008; Okurut *et al.*, 2009; Akpan *et al.*, 2013). Alternatively some studies established a negative and significant relationship between household access to credit and the age of the household head (see Okurut 2006²; Duflo *et al.*, 2008; Togba, 2009). For those who found a positive relationship, the intuition was based on the wealth accumulation theory whereby older borrowers are believed to have accumulated enough resources over their life-time, thus are able to meet the banks credit requirements (for instance, collateral). Furthermore, older persons are more likely to control household resources hence they have a higher repayment capacity. For those who found a negative relationship, the rationale was based on the life cycle hypothesis, which emphasises on the borrower's distribution of income in correspondence to their age. Based on the hypothesis, old and

retired household heads are characterised by low income earnings, thus have low repayment capacity.

Household Size

In contrast, some studies (Quach, 2005; Okurut & Schoombee, 2007; Duflo *et al.*, 2008) revealed that the size of the household had positive and statistically significant relationship with household access to bank credit. This perception was associated with the idea that large families whose members are economically active and are involved in high income generating activities have high repayment capacity. Conversely, Akpan *et al.* (2013) and Okurut (2006) found a negative relationship between household size and access to credit. He established that as the household increases the household expenditure increases to accommodate the entire family's welfare, thus lowering the family's repayment capacity.

Dependency Ratio

Kedir (2003); Okurut (2006); Ibrahim *et al.* (2007); Duy *et al.* (2012) and Mpuga (2008) established a negative relationship between household access to credit and the dependency. By intuition, household dependency ratio is likely to lower the income earning capacity of a household, and therefore lowering the household repayment capacity. A rational lender therefore prefers households with lower dependency ratios as compared with large households.

Employment Status

Many studies found that the occupational choice of a household significantly determines whether or not a household would have access to bank credit. In addition, some studies realised an inverse relationship between informal employment and household access to bank credit. Employment in the formal sector (public and private) had a positive relationship with household access to bank credit (Okurut & Schoombee, 2007; Duflo *et al.*, 2008; Mpuga, 2008; Okurut, 2008; Togba, 2009; Okurut *et al.*, 2009). These findings were based on the intuition that household heads with formal employment have more stable income flows as compared to other groups and as a result have high repayment capacity.

Being unemployed had a negative relationship with household access to bank credit (Togba 2009). In others studies, Duy *et al.* (2012), Okurut (2008) and Okurut *et al.* (2009) found that being in a paid employment had a positive relationship with households' access to credit. These findings were based upon the intuition that household heads in paid employment in either the private or public sector have regular monthly income which enhances their credit worthiness.

Based on the arrangement between financial institutions and employers, the employees' loan repayments are deducted from their salaries and remitted to the respective banks that have extended loans. This way the employers act as guarantors who ensure that loan repayments are made thus reducing loan default risk and increasing the probability of credit market access by those in paid employment.

Main Economic Sector

Mpunga (2008) established that off-farm activities had a positive and significant effect on the probability of credit access. A possible explanation for this result is that credit institutions prefer to finance off-farm activities (as compared to agricultural activities), which have a high turnover, so as to service short-term loans. Also, clients who engage in off-farm activities are perceived by credit institutions to have a higher repayment capacity compared to agricultural households with high income variability due to exogenous production and price shocks (Conkling & Yeates, 1976; Okurut & Schoombee, 2007).

Business Ownership

A majority of reviewed studies (see Okurut *et al.*, 2009; Mpunga, 2008) realised a positive relationship between household access to bank credit and business ownership. This was based upon the intuition that many banks would consider business ownership to determine the repayment capacity of borrowers. That is, owning a business increases the repayment capacity of a household.

Household Income

Income is a key variable observed by lenders in the credit market. According to Gup & Kolaro (2005) it defines the borrower's financial ability to repay the loan via cash flow and earnings. Depending on the flow of revenue, households are either granted credit or constraint (Togba, 2009). The majority of the reviewed studies established that income had a positive and significant relationship with household access to bank credit (Kedir, 2003; Okurut, 2006; Okurut, 2008; Togba, 2009; Okurut *et al.*, 2009). The higher the amount of income a household earns, the higher the household repayment capacity. Based on Okurut & Schoombee (2007) however, the amount of household expenditure³ was found to have a negative relationship with access to bank credit.

A majority of studies found a positive relationship between household access to bank credit and the amount of physical wealth such as land ownership or ownership of business (Kedir, 2003; Quach, 2005; Okurut & Schoombee, 2007; Ibrahim *et al.* 2007; Okurut, 2008; Togba, 2009; Okurut

et al., 2009; Duy *et al.*, 2012). This is based on the intuition that an increase in wealth essentially increases the ownership of assets that will meet the banks collateral⁴ requirements. Therefore, a household with more assets has more repayment capacity as compared to the asset-poor households.

The positive sign of wealth also supports the theoretical assertion that collateral can help solve some of the consequences of information asymmetry inherent in the credit market (Stiglitz & Weiss, 1981). Collateral serves as a signal that allows banks to sort equivalent loan applicants according to their risk type (Berger, Frame, & Ioannidou, 2013). High risk borrowers generally prefer to have contracts with low levels of collateral, and vice versa. To reduce the level of loan risk banks require borrowers to pledge, thus there exist a negative relationship between the loan risk and collateral (Berger, Frame, & Ioannidou, 2013). In conclusion, an increase in the household's wealth implies an increase in collateral assets and subsequently a lower degree of a default risk.

Being poor was also found by Okurut (2006) and Okurut (2008) to reduce the probability of a household access to bank credit. This is basically based on the intuition that poor households do not hold any valuable assets or enough income to meet bank requirements. Specifically, the poor individuals are much more likely to be working as daily labourers on other people's land, they are engaged in rural agricultural activities, they are also likely to run a small business such as a small shop, service or handicraft thus generating income which maybe just enough for food. In summary, the poor households have low repaying capacity.

Gender

Gender as some form of a group identity may be seen as a powerful predictor of social preference. A majority of studies observed a positive relationship between household access to bank credit and being a male (Okurut, 2006; Okurut, 2008; Okurut & Schoombee, 2007). According to United Nations Economic Commission for Africa (UNECA) (2007) women's access to formal credit sources such as bank loans remains extremely low as compared to men's primarily due to lack of regular income and inability to guarantee the loans.

Most women's economic activities tend to be limited to the informal sector which is characterized by small income-generation (AfDB, 2005). Moreover, women's access and control over land and other resources is affected by customary and statutory land tenure system that has been adopted in most African countries (Marite, 2005; UNECA, 2007). Women are in the guardianship of their fathers (before marriage) and to their husbands (after marrying) without the right to inherit a share in their

matrimonial homes. Based on property rights in these African countries only men are entitled to a bank loans(UNECA, 2007).

Despite the on-going legal reforms that have taken place in several African countries, women's access to and control economic resources is still on average less than that of men (UNECA, 2007). On the contrary, Akpan et al. (2013) realised a negative relationship between being a male and access to credit among poultry farmers in Akwa Ibom State, Nigeria.

Education Level

In general, studies found that the number of years of schooling had a positive relationship with household access to bank credit (see Kedir, 2003; Quach, 2005; Okurut, 2006; Okurut, 2008; Mpuga, 2008; Okurut *et al.*, 2009; Dzadze, 2012; Akpan *et al.*, 2013). The intuition is based on notion that education builds human capital thus enhancing the effective use of bank credit by households. In addition, educated household heads are said to be more entrepreneurial and informed about the application procedures as well as other activities in the loan market than those with no education.

Rural-Urban Location

Okurut (2006), Ibrahim *et al.* (2007), Okurut (2008) and Okurut & Schoombee (2007) found that there is a negative and statistically significant relationship between access to formal credit and a household being located in rural regions. Moreover, Duy *et al.* (2012), Dzadze (2012) and Akpan *et al.* (2013) found that living not far from the city centre or bank increases the household likelihood of accessing a bank credit. These results were based upon the rationale behind the single Thunen's model, whereby most banks are located in the heart of the city (Conkling & Yeates, 1976). Based on this model, households around the city have more advantage in accessing the banks in terms of both transportation costs and access to information as compared to those in the rural and distant places.

Okurut, 2006; Okurut, 2008 and Okurut & Schoombee, 2007 found that there is a negative and statistically significant relationship between access to formal credit and a household being located in the rural regions. They further realised that the probability of access to formal credit by the poor increased if household is in either Gauteng or Mpumalanga relative to the Limpopo province, while it falls if the households comes from in Eastern Cape, Northern Cape and Free State province. Moreover, Duy *et al.* (2012) found that living not far from the centre as well as living in Can Tho or Tra Vinh provinces increased the probability of a household access to credit as opposed to living far from the market and in Soc Trang province. Ibrahim *et al.* (2007) realised that relative to Mekele, households in Addis Ababa, Bahar Dar, Dessie, Dire and Jimma are less likely to get access to bank credit.

The results are based upon the rationale based on the single Thunen's model in which all business activities wish to locate to the heart of the city so as to acquire the maximum market, where most employment opportunities are based, and all workers also wish to locate as close as possible to their work places as possible in order to minimize the costs and time spend in daily commutation (Conkling & Yeates, 1976). Consequently, banks desire locations that will maximize the number of potential customers (depositors and borrowers), and these locations are based mainly in the centre of the city.

Based on this model, those households around the city have more advantage in accessing the banks in terms of both transportation costs and access to information as compared to those in the rural and distant places. Following the lack of banking infrastructure, rural households turn to have no access to banks and bank accounts; as a result no access to loans. On contrary, those households around cities have access to banks and hence access to information about the services banks offer, most of them have bank accounts, and therefore are more likely to get credit from a bank.

In addition, the rural land use theory stated rural areas are concentrated with activities directed mainly toward agriculture and animal industries, which are highly dependent on factors such as weather conditions (Conkling & Yeates, 1976). Therefore, when a major segment of borrowers are from the agricultural household, factors such as bad weather conditions or low rainfall adversely affect income generation and as a result leads to low recovery of bank loans (Rao, 2003). Urban households thus have a more diversified income base compared to that of rural households which is highly affected by the various shocks.

Furthermore, urban areas are primarily characterised by the existence of flat surfaces, many roads and many communication channels, thus facilitating the movement of goods and services, (Conkling & Yeates, 1976). In rural areas however, there are no proper roads or at least many communication channels, and this implies increases in the cost of the provision of bank services. This does not only discourage banks to locate in this areas but further makes it hard for the household in the region to smoothly access banks.

Marital status

According to Kedir (2003) and Mpuga (2008) being married has a positive and significant relationship with household access to bank credit. Moreover, Mpuga (2008) also discovered that being a separated or widowed household head increases the likelihood of a household access to bank credit as compared to the unmarried household heads. This was based on the argument that married individuals have at least more than one sources of

revenues (that is, the husband or the spouse income) thus increasing the household repayment capacity.

4. METHODOLOGY

4.1. Theoretical Models

The empirical modelling of the determinants of access to credit draws from the binary discrete choice models. Based on these models, the dependent variable is assigned a set of binary numbers, 0 and 1 as an indicator of whether a household has access to bank credit or otherwise (Davidson & Mackinnon, 2004). The probability that a household belongs to either group is a function of some observable characteristics such as: age, income, household size, location, and so on. To derive the binary choice model employed in this paper we consider the random utility framework formulated below (Greene, 2003);

$$\begin{aligned} U^A &= x' \beta_A + \varepsilon_A \\ U^B &= x' \beta_B + \varepsilon_B \end{aligned} \quad (1)$$

Where:

A = a choice of accessing a loan from the bank

B = a choice of accessing a loan from other sources

U^A = utility function of choice A

U^B = utility function of choice B

x' is a vector of observable household characteristics

β_A and β_B are parameters

ε_A and ε_B are random disturbance terms.

Based on the framework, a household utility depends on the choice between A and B. The observed choice reveals the alternative which yields the household with the highest utility. A rational consumer would thus choose getting a loan from the bank over other sources if the utility derived from doing so is higher than that of acquiring a loan from other sources. Formally, the observed indicator Y equals to 1 if $U^A > U^B$ and 0 if $U^A \leq U^B$. The probability of a household accessing a loan from the bank may be determined as follows:

$$\begin{aligned} Prob[Y = 1 | x] &= Prob[U^A > U^B] \\ &= Prob[x' \beta_A + \varepsilon_A - x' \beta_B - \varepsilon_B > 0 | x] \end{aligned} \quad (2)$$

$$= Prob[x'(\beta_A - \beta_B) + \varepsilon_A - \varepsilon_B > 0 | x]$$

$$= Prob [x' \beta + \varepsilon]$$

$$y = x' \beta + \varepsilon \quad (3)$$

The derived probability defines the model and this can be estimated using the various binary probability models [the linear probability model (LPM), the probit and the logit models]. For this particular study the probit model was used.

4.2. Model Specification

To examine the key factors that influence access to bank credit in Lesotho, the probit model was used as specified below:

$$y_i = x_i' \beta + \varepsilon_i, i = 1, 2, 3, \dots, \quad (4)$$

Where:

y_i = a dummy variable which is the probability of access to bank credit by the i^{th} household. This was the dependent variable.

$y_i = 1$ if a household has access to a bank loan.

$y_i = 0$ otherwise.

β = a vector of unknown parameters to be estimated

ε_i = an error term, $\varepsilon_i \sim N(0, 1)$

x_i = a vector of household characteristics that influence access to bank credit (age of household head, household size, dependency ratio, employment status, main economic sector, household income, business ownership, gender, education level, rural-urban location, marital status, race, and religion).

The binary probit model was used for estimation.

4.3. A Priori Expectation

Table 2 below presents the variables considered in model, their measurement and expected signs.

4.4. Data Sources

The study utilized cross sectional data from the 2002/03 Household Budget Survey (HBS) compiled by the Bureau of Statistics (BoS) Lesotho. The survey was conducted based on the nationwide income and expenditure surveys under the National Household Survey Capacity Program (NHSCP). The survey covered a sample of 5992 households selected using a multi-stage sampling design. The first stage involved Primary Sampling Units (PSUs) which were selected using Probability Proportional to Size (PPS). The Second Stage Sampling Units (SSUs) were the households within these PSUs were selected using a systematic sampling technique. To capture the seasonal variations across time the survey ran over a 12 months period.

Table 2
A Priori Expectation

<i>Variable Name</i>	<i>Definition</i>	<i>Expected Signs</i>
	Dependent Variable	
Access to bank credit	(=1 if a household has access to a bank loan, otherwise zero)	
	Independent Variables	
Age	Age of household head (in complete years).	Positive
Income	Total household income (in Maloti)	Positive
Gender	Female dummy (=1 if female, otherwise zero)	Negative
Household Size	Number of people living in a household	Undefined
Education Level	Number of years of schooling of a household head	Positive
Primary occupation	Informal sector dummy (=1 if the household head works in the informal sector, otherwise zero).	Negative
Location	Rural dummy (=1 if a household is from a rural region, otherwise zero).	Negative
Marital Status	Married dummy (=1 if a household head is married, otherwise zero)	Positive
Farming	Being a farmer (=1 if the household head is involved in farming, otherwise zero).	Negative
Business	Being involved in business (=1 if a household head has a business, otherwise zero)	Positive
Paid Employment Status	Paid employment in public/private sector	Positive

5. THE EMPIRICAL RESULTS

5.1 Descriptive Statistics

The key focus of this study was to investigate the key determinants of household access to bank credit in Lesotho and this section presents the key socio-economic characteristics of the respondents.

Table 3
The Summary Statistics of Variables used in the study

<i>Variable Name</i>	<i>Observations</i>	<i>Mean</i>	<i>Standard deviation</i>
Age (in complete years)	5992	49.02	15.36
Gender (1=female)	5992	0.36	0.48
Primary Occupation (1=employment in the informal sector)	5992	0.16	0.37
Location (1=rural)	5992	0.49	0.50
Marital status (1=married)	5992	0.55	0.50
Business (1=business ownership)	5992	0.18	0.38
Farming (1=involved in business)	5992	0.26	0.44
Paid Employment (private/public sector employment)	5992	0.39	0.49
Household Size (Total number of people in a household)	5992	4.62	2.53
Household Total Income (in Maloti)	5990	1115.08	2491.67

Table 3 provides the summary statistics of some of the variables considered in the analysis. Of all the 5992 households considered in the sample, the average age of the household heads was 49 years. Based on gender, about 36 percent of the household heads were females. The table also shows that 16 percent of the household heads were employed in the informal sector. In terms of location, 49 percent of the households in the sample were based in the rural regions. Turning to marital status, 55 percent of the household heads were married. Of all the 5992 household heads, 18 percent were involved in business and 26 percent in farming. Moreover, 39 percent of the household heads were in paid employment (either in the public or private sector). Based on household size, a majority of households had an average of 4 to 5 members. In terms of household total income, the average income for an individual household was M1115.08.

Cross tabulations were undertaken between access to credit and the main socio-economic variables which are presented in table 4 below. Urban households were more likely to access bank credit (50.2%) as compared to rural households (24.5%). By gender, the male headed households were more likely to access bank credit (42.6%) as compared to female headed households (28.6%). The higher the education level, the higher the likelihood of access to bank credit. Being in paid employment increases the likelihood of access to bank credit (58%) as compared to those in un-paid employment (24.4%). Business ownership increases the likelihood of access to credit (41.5%) as compared to those with no businesses (36.8%). These results are consistent with empirical literature (Okurut, 2006; Okurut & Schoombee, 2007; Duy *et al.*, 2012; Dzadze, 2012; Akpan *et al.*, 2013).

Table 4
Cross-tabulation of Access to Bank Credit and Socio-economic Variables

<i>Socio-economic Variable</i>	<i>Access to Bank Credit (%)</i>		
	<i>Access to Credit</i>	<i>No Access to Credit</i>	<i>Total</i>
Rural-Urban Location			
Rural	24.5	75.5	100
Urban	50.2	49.8	100
Gender of Household Head			
Female	28.6	71.4	100
Male	42.6	57.4	100
Main Occupation			
Informal Employment	38.6	61.4	100
Formal Employment	37.4	62.6	100
Education Level of Household Head			
None: Can't read/write	15.5	84.5	100
None: Can read/write	26.3	73.7	100
Primary	41.4	58.6	100
Secondary	69.6	30.4	100

contd. table 4

<i>Socio-economic Variable</i>	<i>Access to Bank Credit (%)</i>		
	<i>Access to Credit</i>	<i>No Access to Credit</i>	<i>Total</i>
Vocational	90.0	10.0	100
Teacher/technical training	86.2	13.8	100
University or higher	91.5	8.5	100
Marital Status of Household Head			
Married	44.8	55.2	100
Not Married	28.8	71.2	100
Employment Status of Household Head			
Paid Employment	58.0	42.0	100
Non-paid Employment	24.4	75.6	100
Farming Status of Household Head			
Being a farmer	17.2	82.8	100
Not being a farmer	44.9	55.1	100
Business Ownership			
Own Business	41.5	58.6	100
No Business	36.8	63.2	100

5.2 Econometric Estimation Results

The econometric results from the probit model are presented in table 5 below. Based on the value of LR χ^2 (=1454.87) and the probability (Prob > χ^2 = 0.0000), the estimated parameters are jointly statistically significant.

Table 5
Probit Model Results for Household Access to Bank Credit

<i>Variable Name</i>	<i>Coefficient</i>	<i>z-statistic</i>	<i>Probability</i>
Female headed-household	-0.290 ***	-4.23	0.000
Married	0.216 ***	2.85	0.004
Widowed	0.186 **	2.44	0.015
Primary	0.374 ***	7.31	0.000
Secondary	0.864 ***	11.50	0.000
Vocational	1.639 ***	8.75	0.000
Teacher/technical training	1.359 ***	11.13	0.000
University	1.429 ***	7.74	0.000
Paid employment	0.195 ***	3.64	0.000
Farming	-0.145 **	-2.03	0.043
Business	1.070 ***	5.20	0.000
Informal employment	-0.962 ***	-4.57	0.000
Log of income	0.276 ***	14.35	0.000
Rural location	-0.092 *	-1.75	0.081
Log of household size	0.062	1.56	0.118
Log of age	-0.064	-0.81	0.416
Constant	-2.311 ***	-7.19	0.000
Number of observations	4385		
LR χ^2 (16)	1454.87		
Prob > χ^2	0.0000		
Reference category:	Living together and no education		

*** Significant at 1%, ** significant at 5%, * significant at 10%

The results suggest that being a female had a negative and significant relationship with household access to bank credit (at 1% level of significance). The intuition of this result is that there is gender discrimination against women in bank lending in the Lesotho economy. This finding may be attributed to the fact that despite the ongoing policy reforms, a large fraction of women still engages in low income generating activities in the informal sector. In addition, some women remain without the right to inherit any share of their family properties and as such become less credit worthy as opposed to men. These results are consistent with the priori expectations and the results of Okurut (2006), Okurut(2008) and Okurut & Schoombee (2007), who established that being a male had a positive relationship with household access to bank credit in South Africa, Botswana and Uganda respectively.

The results revealed that married household heads had a positive and significant relationship with household access to bank credit (at 1% level of significance). This result could be attributed to the fact that married household heads if both working, increase the revenue base of their household, and as a result increase their repayment capacity. The result is consistent with the priori expectation and the findings by Kedir (2003) and Mpuga (2008), who realised that being married has a positive and significant relationship with household access to bank credit in Urban Ethiopia and Uganda respectively.

Widowed household heads indicated a positive and significant relationship with household access to bank credit (at 5% level of significance). This result may be attributed to the fact that widowed household heads often become entitled to any properties or incomes that would be paid to their families following the death of the partner, and as a result, their repayment capacities are increased hence become more credit worthy. Similar results were found by Mpuga (2008) who discovered that being a separated or widowed household head increases the likelihood of a household access to bank credit as opposed to those that are not married.

Household heads who have attained primary, secondary and university education or have vocational and Teacher/technical training had a positive and significant relationship with access to bank credit (at 1% level of significance). By implication this means that educated households are more skilled and well informed about the activities in the loan market than those with no education. Furthermore, based on the notion that education builds human capital, educated household heads tend to be engaged in high income generating activities, thus becoming more eligible to bank credit. This results are consistent with the priori expectations and the findings of other researchers, who found that additional schooling enhances household access to bank credit (see Kedir, 2003; Quach, 2005; Okurut, 2006; Okurut, 2008; Mpuga, 2008; Okurut *et al.*, 2009; Dzadze, 2012; Akpan *et al.*, 2013).

Being in a paid employment had positive and significant relationship with household access to bank credit (at 1% level of significance). By implication, household heads in paid employment (either in the private or public sector) have regular monthly income which enhances their credit worthiness. This result also conform to the priori expectations and the findings of Duy *et al.* (2012), Okurut (2008) and Okurut *et al.* (2009) who established that being in a paid employment had a positive relationship with households access to credit.

Being involved in farming had a negative and significant relationship with household access to bank credit (at 5% level of significance). This result may be attributed to the fact that banking institutions prefer to finance the off-farm activities as compared to agricultural activities. This maybe explained in terms of the reliance of farming on exogenous factors such as weather conditions, as such farming activities are characterised by high income variability and price shocks. Similar results were reported by Mpunga (2008), who established that off-farm activities had a positive and significant effect on the probability of credit access.

Owning a business had a positive and significant relationship with household access to bank credit (at 1% level of significance). The intuition of this result is that banks prefer those households involved in business activities, particularly those in ownership of such business due to the fact that they tend to have a higher repayment capacity as compared to those with no businesses. This result is consistent to the priori expectations and the findings of Okurut *et al.* (2009) and Mpunga (2008), who realised a positive relationship between household access to bank credit and business ownership.

Being in an informal employment had a positive and significant relationship with household access to bank credit (at 1% level of significance). The results suggest that household heads with employment in the informal sector have less stable income flows hence are characterised by low repayment capacities. Similar results were realised in the research findings of Okurut & Schoombee (2007), Duflo *et al.* (2008), Mpuga (2008), Okurut (2008), Togba (2009), and Okurut *et al.* (2009), who argued that that household heads with formal employment have more stable income flows and would as a result have a higher probability of access to bank credit as compared those in the informal sector.

Log of income had a positive and significant relationship with household access to bank credit (at 1% level of significance). The results suggest that high levels of household income earnings increase the repayment capacity of a household. Similar results were realised in some of the reviewed studies (see Kedir, 2003; Okurut, 2006; Okurut, 2008; Togba, 2009; Okurut *et al.*, 2009). It was established that income had a positive and significant relationship with household access to bank credit.

Being located in a rural area had a negative and significant effect on household access to bank credit (at 10% level of significance). The rationale of this result is that a lot of banks tend to be located in urban areas as opposed to rural areas, thereby, leaving rural households at a disadvantage of incurring high transaction costs in accessing banks. This result is consistent with the priori expectation and also confirm the research findings of Okurut (2006), Okurut (2008), Okurut & Schoombee (2007), Duy et al. (2012), Dzadze (2012) and Akpan et al. (2013), who established that being in a rural region or a distant place has a negative relationship with household access to bank credit.

Table 6
The MarginalEffects for the Probit Model

<i>Variable Name</i>	<i>Coefficient</i>		<i>z-statistic</i>	<i>Probability</i>
Female headed-household	-0.112	***	-4.30	0.000
Married	0.084	***	2.87	0.004
Widowed	0.073	**	2.43	0.015
Primary	0.147	***	7.33	0.000
Secondary	0.331	***	12.81	0.000
Vocational	0.513	***	17.71	0.000
Teacher/technical training	0.467	***	16.91	0.000
University	0.477	***	12.94	0.000
Paid employment	0.076	***	3.65	0.000
Farming	-0.056	**	-2.06	0.040
Business	0.402	***	6.07	0.000
Informal employment	-0.323	***	-5.85	0.000
Log of income	0.108	***	14.41	0.000
Rural location	-0.036	*	-1.75	0.080
Log of household size	0.024		1.56	0.118
Log of age	-0.025		-0.81	0.416

$y = \text{Pr}(\text{household access to bank credit}) (\text{predict}) = 0.4226$

*** Significant at 1%, ** significant at 5%, * significant at 10%

The marginal effects of the probit model present the change in the probability of household access to bank credit for an additional unit increase in the independent variables. These are presented in table 6 above. The findings show that the probability of household access to bank credit falls by 11.2 percent for a female headed household. Furthermore, married household heads increase their chance of access to bank credit by 8.3 percent, while those who are widowed increase their chance by 7.3 percent.

Household heads with primary education increase their probability of access to bank credit by 14.7 percent, while those with secondary education their probability increases by 33.1 percent. Household heads with vocational education increase their chance of access to bank credit by 51.3 percent, those with teacher/technical training their chances of access to bank credit

increases by 46.7 percent and those with university education increase their chance by 47.7 percent.

The results suggest that a household head with a paid employment increases their likelihood of access to bank credit by 7.6 percent, while those that are farmers reduce the chance by 5.6 percent. Household heads who own a business increase their probability of access to bank credit by 40.2 percent. The probability of a household access to bank credit falls by 32.3 percent if that household head is in an informal employment. Moreover, the findings established that a percentage increase in the household income increases the probability of access to bank credit by 10.8 percent. On the other hand, being in a rural location reduced the probability that a household would access credit by 3.6 percent.

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

Household access to bank credit is positively and significantly influenced by education level, household income, being in paid employment and marital status. However household access to bank credit is negatively and significantly influenced by being female headed household, rural location and engagement in farming.

From the policy perspective, mechanisms to reduce discrimination of women in credit markets should be enhanced. Policy initiatives such as Legal Capacity of Married Person Act 2006, the Land Act of 2010 and Companies Amendment Act No. 7 of 2008 are steps in the right direction. The Legal Capacity of Married Person Act 2006 aimed at abolishing the minority status of women, and providing women and men equal legal status. The Land Act of 2010 aimed at making the provision for inheritance of immovable property by the widow, specifically female widows. It also provided the joint titling of immovable property of couples married in community of property and how the property will be disposed or burdened. This Land Act was expected to ensure that women have acquired collateral, hence increasing their opportunity to obtain credit from commercial institutions. The Companies Amendment Act No. 7 of 2008, removed the provision that denied women the right to become directors of companies without consent of their husbands. This Companies Amendment Act was intended to empower and encourage women to own and manage companies/enterprises. The GoL also authored the Gender Equality in Economic rights project of the Millennium Challenge Account (MCA) Lesotho, which was expected to promote women and girls access to economic resources and opportunities for their meaningful participation in economic growth.

Since education level increases the probability of household access to bank credit, it is critical to enhance education level of both males and females. Though the GoL implemented the Free Primary Education Programme in

2000 which enabled attainment of gender parity in enrolments, the females still face challenges of high drop out rates due pregnancy and other factors. It is recommended that the policy of re-admission of girls who dropped out of school due to pregnancy as adopted by the Southern African Development Commission (SADC) should be implemented.

Notes

1. Result from the Heckman model
2. Result from the multinomial logit model
3. Used as a proxy of income.
4. Refers to any property promised to the lenders as compensation if the borrower fails to make loan payments as agreed (see Mishkin, 2007).

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