

## **Lending Terms, Financial Literacy and Formal Credit Accessibility**

### **Abstract**

**Purpose** – To investigate the relationship between commercial bank lending terms, financial literacy and access to formal credit by SMEs

**Design/methodology/approach** – In this cross-sectional study, we surveyed 384 business owners or managers of SMEs in Uganda. We applied confirmatory factor analysis to reduce the number of factors and identify the important elements that capture commercial lending terms, financial literacy and access to formal credit. We put forward and tested two hypotheses relating to the significance of the relationship between perceived commercial bank lending terms, financial literacy and access to formal credit using Structural Equation Modeling (SEM) with Analysis of Moment Structures (AMOS) 18.

**Findings** – The results suggest a positive and significant relationship between perceived commercial bank lending terms, financial literacy and access to formal credit. Moreover, the ANOVA results serendipitously show that access to formal credit varies with type of business and turnover. However, collateral and loan repayment periods are not observed variables for commercial bank lending terms. The most significant observed variable for commercial bank lending terms is interest rates. This, together with financial literacy, explains 31 percent of the variances in access to formal credit by SMEs in Uganda.

**Originality/value** – The results provide initial evidence of the aggregate explanatory power of interest rates and financial literacy for the criterion variable, access to formal credit by SMEs.

**Result limitations/implications** – Our study is limited to the SME firms registered and operating in Kampala, Uganda and it is possible that our results are only applicable to these firms in Uganda. Nevertheless, our findings have implications to commercial banks wishing to improve the turnover of their micro-lending schemes. The findings also have implications for governments aiming at improving access to finance to overcome income inequality problems, and also improve their growth prospects.

**Practical implications** – Efforts by the stakeholders to improve financial literacy of SMEs owners and managers must be matched with favourable interest rates if access to formal credit is to be enhanced.

**Key Words:** Access to formal credit, Lending terms, Literacy, Development, SMEs, Uganda

**Paper type:** Research paper

## **Introduction**

Development theory emphasizes the importance of access to finance in overcoming income inequality and achievement of growth (Pande, Sivasankaran, Bastian and Durlacher, 2012). According to Pande et al. (2012) the inability to access financial services prevents consumption and investments thus limiting growth opportunities. By having access to finance poor people can get out of the poverty cycle. The financial inclusion of the poor will ultimately lead to higher incomes hence removing inequalities. Prior studies also indicate a positive relationship between the availability of finance and economic growth. For example, Butkiewicz and Yanikkaya (2005) in a study of the effects of IMF lending indicate that IMF lending stimulates growth primarily by increasing investment. Economic models by Bencivenga and Smith (1991) and Greenwood and Jovanovic (1990) also suggest a positive relationship between financial intermediation and economic growth. In this paper, we investigate the relationship between commercial bank lending terms, financial literacy and access to formal credit by Small and Medium Enterprises (SMEs). In the quest to improve access to formal credit by SMEs, most commercial banks have recently included SMEs in their portfolios through their micro lending schemes (Kakuru, 2008). In spite of this initiative, SMEs continue to borrow less often from commercial banks. According to Heikkila, Kalmi and Ruuskanen (2009) out of 1128 SMEs in Uganda that applied for loans, only 179 SMEs were successful. Moreover, the World Bank investment climate survey (2007) cited in Kakuru (2008) revealed that 41.2 percent of small enterprises were credit constrained and only 24.8 percent received loans from banks. The survey also indicated that 28.2% of medium enterprises were credit constrained and only 32% had received loans from banks. Ironically, evidence suggests that most SMEs in Uganda rely more on the informal credit than the formal and yet the informal sources have left them with insufficient capital to grow and expand (Mutesasira et al. 2001; Uganda Bureau of Statistics, 2007; Stevenson & St. Onge, 2005; Aryeetey, 2008).

Literature indicates that there are two constructs that might explain variances in SMEs' access to credit: lending terms which include collateral, loan repayment periods and interest rates (Yehuala, 2008; Stiglitz & Weiss, 1981; Atieno, 2001; Aryeetey et al; 1994 and Safavian, Fleisig & Steinbuks, 2006) and financial literacy (Cole, Sampson & Zia, 2009; Hilgerth, Hogarth & Beverly, 2003 and Chen & Volpe, 1998). Financial literacy is defined as the ability to make informed judgments and to take effective decisions regarding the use and management of money (Noctor, et al., 1992; Beal & Delpachitra, 2003; ANZ, 2008). Research evidence suggests that SMEs borrowers who lack collateral to support their borrowing usually have limited access to credit (Tucker & Lean, 2000; Mason & Stark, 2004). In most cases, SMEs are required to present collateral of at least 150% of the loan amount and are usually given short repayment periods normally not exceeding twenty four months with interest rates ranging from 23 percent to 30 percent per month (Kakuru, 2008; Seibel, 2003).

Moreover, evidence also indicates that the national financial education levels in Uganda are very low at all ages and social groups which explains their low levels of financial inclusion and low saving rates. Hatega (2007) found that many SMEs owners/managers have limited information on financing products, personal financial management and lack financial knowledge, skills and abilities to carry out budgeting, proper book-keeping and financial planning. More so, Bitature (2010) observed that many citizens of developing nations including Uganda lack financial literacy and management skills and this accounts for low levels of wealth creation.

Beck et al. (2007) argue that when individuals are financially illiterate, they will not be familiar or comfortable with financial products and will not demand for them.

While commercial lending terms and financial literacy are important to access formal credit, there are reasons that limit the value of previous empirical studies results to developing countries. First, previous studies that explain variances in access to formal credit by SMEs use financial literacy (Beck et al., 2007) and lending terms (Stiglitz & Weiss, 1981; Schmidt & Kropp, 1987) independently of each other. Yet factors related to the participation of credit users in the credits market can be divided into borrowers characteristics, and the loan terms and conditions imposed by lenders (Kashuliza and Kydd, 1996; Zeller, 1994). We argue that the effect of these factors on access to formal credit should be investigated simultaneously. Secondly, it is emphasised by development theory that one of the crucial functions of a financial system is to allocate resources to most productive uses, thus boosting economic growth, improving opportunities and income distribution, and reducing poverty. Accessing finance for firms with growth opportunities and entrepreneurs with ideas helps improve income distribution and promotes growth. However, measures of financial development that are commonly employed in the empirical literature do not reflect this access dimension that is emphasized in theory (Demirgüç-Kunt & Levine, 2008). Our study therefore contributes to extant literature by investigating two explanatory factors for access to formal credit in a single study.

The results of this study are particularly noteworthy because commercial banks and other formal lending institutions might wish to improve on their lending terms to increase credit accessibility and returns from a wider clientele particularly to identify innovative options and institutional arrangements that would serve as an input for lending institutions and policy makers in formulating lending terms. We believe that because of the lack of access to credit in the formal sector, productive assets of SMEs can be depleted and assets used as collateral transferred from the poor to wealthier informal lenders.

The rest of the paper proceeds as follows: The next section is literature review and hypotheses development. This is followed by the research methodology. The penultimate section is the results and discussion. The final section is the conclusion, implications and areas of further research.

## **Literature review and hypotheses development**

### ***Definition of terms***

Lending terms have been understood to mean collateral, repayment periods and lending interest rate (Atieno, 2001). Collateral is the security given by a borrower to a lender as a pledge for the repayment of a loan (Atieno, 2001) and operates as broad insurance against uninsurable risk or intentional default leading to non-payment of the loan (Ayyagari, Beck & Demirgüç-Kunt 2003). Loan repayment period is the time in which the borrower should repay the loan (Atieno, 2001; Yehuala, 2008). Lending interest rate is the rate which is charged or paid for the use of money (Cowling & Westhead 1996) and is used as a means of compensating banks for taking risk (Smith & Smith, 2000). Noctor et al. (1992) define financial literacy as the ability to make informed judgements and to take effective decisions regarding the use and management of money. Later, Schagen and Lines (1996) added that such a person also possess a facilitating attitude to the effective and responsible management of financial affairs. Orton (2007) describes a financially literate person as one who must read, analyze, manage and communicate personal financial conditions that affect his material well-being and should be able to discern financial

choices, discuss money and financial issues without discomfort. Claessens (2006) defines credit accessibility as the availability of a supply of reasonable quality financial services at reasonable costs. However, Akudugu, Egyir and Mensah-Bonsu (2009) define access to credit as a situation in which an individual has the right, makes an attempt to possess and makes decisions regarding the use of funds in the short term and to repay with interest at a time schedule that is convenient to both the borrower and lender. According to Akudugu et al. (2009) a person lacks access to credit if such a person makes efforts to acquire it and fails.

### ***Lending terms***

There is a myriad of studies that have investigated the relationship between lending terms and access to credit (Mann, 1997; Ang et al., 1995; Avery et al., 1998; Hernandez & Martinez-Solamo, 2006; Yehuala, 2008; Kakuru, 2008; Mutesasira et al., 2001; Chan and Kanatas, 1985; Bester, 1987; Besanko and Thakor, 1987; Lehmann and Neuberger, 2001; Shen, 2002; Atanasova and Wilson 2004; Zeller, 1994; Stiglitz and Weiss, 1981; Atieno, 2001; Kimuyu and Omiti, 2000; Besley, 1995). The findings, reasoning and arguments made by these studies/writers indicate that stringent lending terms discourage borrowers to apply for bank debt even when they are searching for finance to execute valuable investment projects.

For example, pledging business collateral limits the firms' ability to obtain future loans from other lenders which creates a position of power for the lending bank (Mann, 1997). According to Zeller (1994) collateral value requirements deter SME borrowers from seeking credit. Stiglitz and Weiss (1981) found out that SMEs hesitate to seek credit when they don't understand why requirements like collateral are imposed on them. Banks, however, prefer borrowers with collateral. For example, Safavian, Fleisig, and Steinbuks (2006) observed that commercial banks usually provide larger loans, longer repayment periods, and lower interest rates when borrowers offer collateral. This means that a borrower who cannot provide the type of assets lenders require as collateral often gets worse loan terms than otherwise. Indeed Lehmann and Neuberger (2001) notes that borrowers who provide more collateral receive a better rating. Access to finance is particularly difficult for SMEs with insufficient collateral that do not have any established track record or credit history. But other findings (Chan and Kanatas, 1985; Bester, 1987; Besanko and Thakor, 1987) show that low risk borrowers pledge more collateral than high risk borrowers. Nevertheless, some studies (Shen, 2002; Atanasova and Wilson, 2004) indicate that higher availability of collateral is expected to increase the supply of bank debt as collateral can mitigate the informational asymmetries between the borrower and lender. This foregoing paragraph concludes that commercial banks' requirement for collateral positively affects access to formal credit where collateral is readily available. Contrarily, where collateral is not readily available, the demand for it will negatively affect access to formal credit. In the majority of studies, this distinction has not always been made explicit.

Loan repayment period has also been found to be critical for access to formal credit. Yehuala (2008) found that loan repayment period negatively influences access to credit as it has a major bearing on the total amount to be repaid. Specifically, longer repayment period increases interest to be paid in the long run. Kakuru (2008) found that when SMEs perceive repayment period as inflexible, they will not apply for the loans. Mutesasira et al. (2001) also found out that short repayment periods do not meet SMEs long term credit needs and as a result, SMEs take any amount of loan that the banks are willing to offer them. From the discussions in this paragraph, it can be concluded that the variability in access to formal credit caused directly by loan repayment

period should be insignificant. This conclusion draws from the fact that loan repayment period has its own antecedents such as individual's capacity and financial institution's ability to collect and ensure repayments.

The other construct that has been found to be crucial for access to formal credit is interest rates charged for loans. If the interest rates are perceived to be unfair or their rationale is not understood, SMEs will not apply for credit from banks (Aryeetey et al., 1994, Stiglitz and Weiss, 1981). Kimuyu and Omiti (2000) point out that high interest rates not only transfer incomes from borrowers to lenders but also occasion a debt burden on borrowers reducing borrowers' stakes in solvency and increasing the risk for default. But Besley (1994) indicates that interest rates play the allocative role of equating demand and supply for loanable funds, and will also affect the average quality of lenders' loan portfolios. Consistent with the observation of Zeller (1994) we conclude that when SMEs experience easy access to credit they will seek further credit rather than feel that they are not efficiently served which may lead them to abandon their quest for credit.

The conclusions that: 1) commercial banks' requirement for collateral positively affects access to formal credit where collateral is readily available, 2) the variability in access to formal credit caused directly by loan repayment period should be insignificant and 3) where SMEs experience easy access to credit, they are motivated to seek further credit; lead us to state the following hypothesis:

**H1:** *Favourable commercial lending terms have a significant and positive effect on access to formal credit by SMEs*

### ***Financial literacy***

According to Wachira and Kihui (2012) financial literacy remains an interesting issue in both developed and developing economies, and has elicited much interest in the recent past with the rapid change in the finance landscape. Mounting evidence indicates that the less financially literate are likely to face more challenges with regard to debt management, savings and credit, and are less likely to plan for the future. Such evidence suggests that there is a certain relationship between financial literacy and access to formal credit. For example, the study by Miller et al. (2009) indicates that lack of financial literacy is often tied to lack of access to financial products including credit or failure to use them even when they are available. Beck, Demircuc-Kunt and Peria (2007) argued that if individuals are not familiar or comfortable with products, they will not demand them. Calvert, Campbell and Sodini (2005) also argue that households with high financial literacy and greater financial sophistication are more likely to participate in risky assets' markets and invest more efficiently. Other studies (ACCA, 2006, Johnson, 2004; Kidwell and Turrisi, 2004) confirm the view that financial literacy explains variances in access to credit by borrowers. Moreover, Lusardi and Tufano (2008) and Stango and Zinman (2009) also state that households with low levels of financial literacy tend to borrow at higher interest rates and participate less in the formal financial system relative to their more financially-literate counterparts. Kimuyu and Omiti (2000) indicate that expansion of educational opportunities including promotion of self-financing adult literacy classes in trading centres increase access to credit. Cole, Sampson, and Zia (2009) found that higher financial literacy is significantly associated with greater use of bank services suggesting that financial literacy strongly influences banking behaviour. Cole et al. (2009) reinforce earlier findings of Hilgerth, Hogarth, and Beverly (2003) that a strong link between financial knowledge and financial

behaviour subsists. Hilgerth et al. (2003) aver that individuals with lower levels of financial literacy may have lower levels of education, be less interested in financial matters, be poorer, or have different discount rates. This implies that the level of an individual's financial knowledge tends to influence attitudes that in turn affect the individual's financial behaviours (Chen and Volpe, 1998). Kidwell and Turrisi (2004) study indicates that individuals with better financial knowledge keep detailed financial records and have more access to credit than their counter parts who do not keep financial records and are financially illiterate. Chen and Volpe (1998) found that groups who are more knowledgeable regulate their spending patterns and decisions by keeping detailed financial records. Also anecdotal evidence shows that banks will usually require financial statements from a borrower in order to make a decision on the borrower's loan application.

The evidence in literature indicates that individuals who are not educated or knowledgeable enough will not be able to make effective financial choices and this will limit their credit accessibility. Thus considerable efforts in education to improve financial literacy abound as experts agree that financial knowledge directly correlates with self beneficial financial behavior (Hilgert et al., 2003). Hence even though questions exist concerning the effectiveness of financial education in improving financial literacy (Lyons et al., 2006), there are consistent findings of a positive relationship between financial knowledge and access to credit. Having knowledge of the different sources from which one can borrow increases the chances of success in borrowing (Akudugu, Egyir and Mensah-Bonsu, 2009). Accordingly, the following hypothesis is stated:

**H2:** *Appropriate financial literacy positively and significantly affects access to formal credit*

### **Methodology**

We utilized a sample of 384 SME owners or managers drawn from Kampala's 5 divisions proportionately. Kampala is the capital city of Uganda, East Africa. Most of the respondents (54%) had at least a bachelor's degree. We measured lending terms using Atieno's (2001) measures that include collateral requirements, repayment periods and interest rates. Financial literacy was measured using financial knowledge, financial skills and abilities according to Sebstad, Cohen and Stack (2006), Schagenand Lines (1996). Both lending terms and financial literacy questions were anchored on a five-point Likert scale. Access to formal credit was measured using amount received and frequency of access (number of times) (Diagne and Zeller, 2001).

A Likert-scale questionnaire, designed to measure the opinion or attitude of a respondent (Burns & Grove, 2009), was utilised to obtain self-reported information. A survey was adopted as the most appropriate method of data collection and previous research supports the reliability and validity of the self-report measures (Brush and Vanderwerf, 1992; Lechner et al., 2006). This approach consists of a selection of key information providers by virtue of their position, knowledge and information available (McEvily and Marcus, 2005). Data was cleaned according to recommendations by Field (2009) hence the use of owners or managers for SMEs in this study. A common concern when faced with multivariate data with missing values is whether the missing data are missing completely at random (MCAR); that is whether the missing data depends on the variables in the data set (Little, 1988). Using the E-M (Expectation – Maximisation), the MCAR, was not significant (a. Little's MCAR test: Chi-Square = 213.138,

DF = 244, Sig. = .924). This meant that data was missing completely at random. Because structural equations modelling (SEM) deals with cases with complete data, we used linear interpolation technique to replace missing values for its simplicity. The results of the Content Validity Index (CVI) returned validity indices of above 0.80. According to Nunnally (1978) these ratios are acceptable since they are above the cut-off point of 0.70. Regarding reliability, the Cronbach's alpha results were as follows: commercial bank lending terms, .828, financial literacy, .585 and access to formal credit, .810. To reduce data to a manageable level consistent with Field (2009)'s recommendation, we performed a factor analysis. We did this using SPSS Version 19 with Varimax rotation and Kaiser normalization and all component loadings of 0.50 were suppressed. The cut-off for the factors identified by was an eigenvalue of 1. The resulting observed variables were then subjected to a confirmatory factor analysis.

We estimated the model of commercial lending terms, financial literacy and formal access to credit by employing Structural Equations Modelling (SEM). SEM helps in understanding the patterns of correlational/covariance among a set of variables and according to Kline (2011) explains as much variance as possible with the model specified. We used the estimation procedure in AMOS 18 (Arbuckle, 2009) to construct the models. The overall fit of our models were tested using the following fit criteria: The chi-square test p-value should be < .05; Root Mean Square Error of Approximation (RMSEA) should be < .06 and Tucker-Lewis Index (TLI) values of .95 or higher (Hu & Bentler, 1999). Others like Kim (2007) and Yang (2006) recommend Goodness of Fit (GFI) >.90, Adjusted Goodness of Fit Index (AGFI) > .85, TLI > .95, CFI > .90, RMSEA < .08 as acceptable goodness-of-fit indices.

### **Results and discussion**

We generated means and standard deviations to summarise the observed data. For simplicity we report the means of observed variables as fitted. We report the means because according to Field (2009), means represent a summary of the data while standard deviations show how well the means represent the data. The main purpose is to establish whether the statistical means were a good fit of the observed data (Field, 2009). Thus the means cross validate the results of confirmatory factor analysis. The means and standard deviations of all the items are summarised in Table 1. Table 1 reveals that all mean scores of the items range from 2.10 to 4.38 with the standard deviations from 0.587 to 1.173. Because of small standard deviations compared to mean values, it is clear that the data points are close to the means and hence calculated means highly represented the observed data (Garson, 2000; Field, 2009; Saunders et al., 2007). Graphs 1-6 also accord a visual understanding of the key indicators. The bar charts are a visual display of perceptions by gender and unit of enquiry (position in company –SME owners or managers) of commercial lending terms, financial literacy and formal credit accessibility. The bar graphs suggest business managers had higher perceived access to credit, commercial lending terms and financial literacy (on a scale of 1-5) than, business owners. Similarly the graphs suggest a small difference in perceived financial literacy, commercial lending terms and credit accessibility (on a scale of 1-5) than females.

**[Insert Table 1 and graphs 1-6 about here]**

According to results, commercial lending terms is defined by 3 observed variables: LT9, LT10 and LT11. This means that commercial lending terms causes the scores observed on LT9, LT10 and LT11. The resulting model of commercial lending terms fitted acceptably well in the population of interest (chi-square value of .033 was non-significant ( $p = .857$ ), RMSEA = .001, GFI = 1.000, AGFI = 1.000, NFI = 1.000). Similarly, financial literacy is defined by five observed variables: FL2, FL3, FL5, FL7 and FL10. This model fitted acceptably well: RMSEA = .001, GFI = .997, AGFI = .991 with an NFI of .976 indicating a strong convergent validity. Moreover, five observed variables define access to credit: AC1, AC2, AC5, AC7 and AC9. This model moderately fit: RMSEA = .099; GFI = .976; AGFI = .928 and an NFI of .996. These models are appended as Figures 2, 3 and 4.

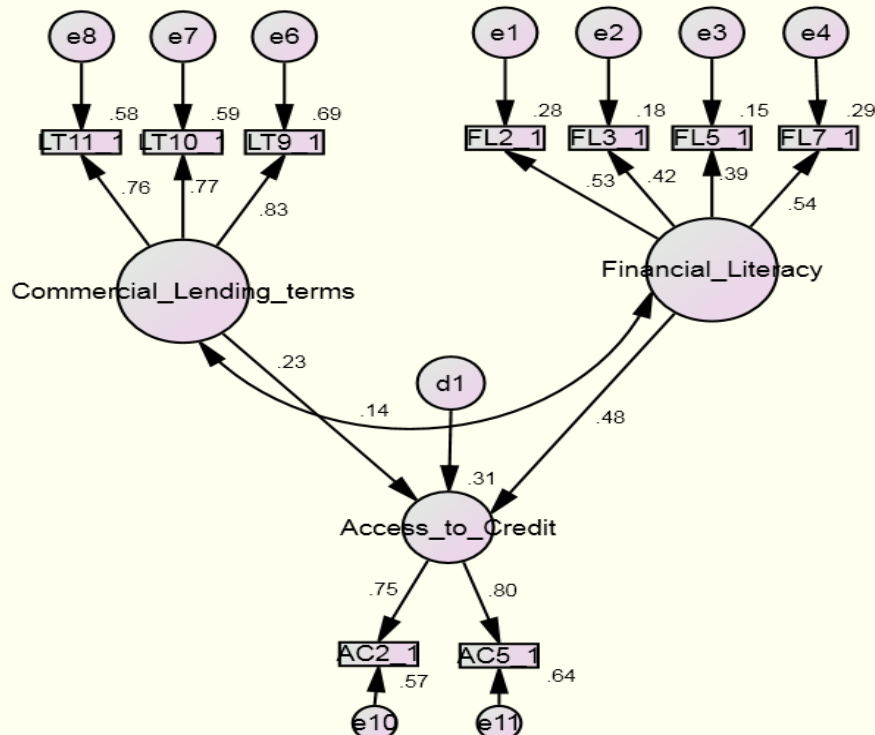
In investigating the relationship between commercial bank lending terms, financial literacy and access to formal credit by SMEs, we use the critical ratios to denote significance. Table 2 shows that all the critical ratios are above 1.96 and p-values are smaller than .001 which connotes significance. In other words, all the regression coefficients in the model are significantly different from zero beyond the .01 level. All the unconstrained parameter estimates are significant at  $p$  (two-tailed)  $< .0001$ . Results indicate that there is significant and positive correlation between commercial bank lending terms, financial literacy and access to formal credit ( $P < 0.001$ ). This shows that an improvement of commercial bank lending terms leads to increased access to formal credit. Based on our findings, it is attractive interest rates that matter most for access to credit. In this analysis, Table 2 reveals that there is a significant regression between commercial lending terms and access to formal credit. One unit improvement in the attractiveness of interest rates leads to .225 positive changes in access to formal credit. The influence of financial literacy on access to credit is also significant and positive. A one unit improvement in financial literacy leads to .480 positive changes in access to formal credit.

**[Insert Table II about here]**

Our results thus provide support for hypothesis 1( $H_1$ ) which states that ‘favourable commercial lending terms have a significant and positive effect on access to formal credit by SMEs’ and hypothesis 2 ( $H_2$ ) which states that ‘appropriate financial literacy positively and significantly affects access to formal credit’. Figure 1 shows that overall, a combination of favourable interest rates (commercial lending terms) and financial literacy of current and potential SME borrowers explains 31 per cent of the variance in access to formal credit. In other words, the error variance is 69 percent of access to formal credit itself.



**Figure 1: The SEM model showing the explanatory power of Commercial lending terms and financial literacy to access to credit.**



Chi\_square = 74.127, p = .000, df = 24,  
 RMSEA = .072, NFI = .914, GFI = .961, AGFI = .927,  
 TLI = .909, CFI = .940

LT11\_1 = Interest rates of commercial bank loans are very attractive ,  
 LT10\_1 = My firm finds interest rates charged by commercial banks  
 reasonable

LT9\_1 = Interest rates charged by commercial banks are usually  
 lower than those of other financial institutions

FL2\_1 = Am aware of financial products and services provided by  
 commercial banks

FL3\_1 = My firm participates less in the formal financial system

FL5\_1 = I know the different sources from which my firm can borrow from

FL7\_1 = I have a working knowledge of financial institutions

AC2\_1 = My firm received the full amounts of loan facility applied for

AC5\_1 = The loan amounts received satisfied my firm's credit needs

While it is beyond the scope of this paper to investigate the other causes of the error variance reported in Figure 1, serendipitously the analysis of variance (See Table III) for the sample characteristics provided some useful insights. Results show significant differences among type of businesses in regard to access to formal credit ( $F=2.301$ , Sig <0.05). This implies that access to formal credit varied with the type of business. It is further observed that there are significant differences with regard to access to formal credit from the point of view of annual

sales turnover of businesses ( $F=1.936$ ,  $\text{sig} < 0.05$ ) and this means that access to formal credit varies with the level of annual sales/turnover of businesses.

**[Insert Table III about here]**

The results of this study are consistent with other studies (e.g. Toci & Hashi, 2010; Stephanou & Rodriguez, 2008; Mambula, 2002; Okpara & Wynn, 2007) in finding that high interest rates are statistically significant to SMEs' financing obstacles. Because of measurement variance, the results of this study are inconsistent with previous studies (Gray et al., 1997; Kiggundu, 2002; Trulsson, 1997; vanDijk, 1995; Toci & Hashi, 2010; Stephanou & Rodriguez; 2008) which indicate that most SMEs cannot meet the requirements for commercial loans because they lack sufficient collateral. The finding that favourable interest rates explain significant variances in access to formal credit indicates that lending institutions in Uganda offer loans at unfavourable interest rates. The reasons for high interest rates have typically included risks associated with SMEs (Hossain, 1988) and, small and younger firms with shorter banking relationships (Berger and Udell, 2005). Moreover, confirmatory factor analysis indicates that a loan repayment period is not an observed variable for the latent variable, commercial lending terms, in Uganda.

Earlier works by Mutesasira et al. (2001), Mugume (2003) and Kakuru, (2008) had indicated that short repayment periods provided by commercial banks did not meet SMEs long-term needs. More so, loan repayment period negatively influences the access to formal credit (Yehuala, 2008). The fact that this study does not show loan repayment period as an observed variable for commercial lending terms may suggest the possibility that interest rates may be the antecedent of loan repayment periods. The high means reported in this study for the latent variable, financial literacy, indicates that SMEs owners and managers in Kampala know how to manage their personal finances and are aware of financial products and services provided by lending institutions. Table 1 also shows that business managers and owners know the different lending firms (sources) and also make effective financial choices. Moreover, the table shows that business managers and owners know how financial institutions work and most of them have adequate financial management skills. This concludes that the owners and managers of SMEs are financially literate, a conclusion supported by the level of education percentage (54%) of respondents who hold bachelor's degrees. Previously, however, the works of Hatega (2007) indicated that many SMEs owners/managers had limited information on financing products, personal financial management and lacked financial knowledge, skills and abilities to carry out budgeting, and to keep proper book keeping and financial planning. It seems, with the passage of time, this handicap is gradually fading. Our results indicate that financial literacy positively affects access to formal credit consistent with the findings of (e.g. Cole et al., 2009; Akudugu, et al., 2009; Lusardi & Tufano, 2008; Stango & Zinman, 2006; Schagen & Lines, 1996). Indeed, Stiglitz and Weiss (1981) asserted that SMEs dither seeking credit when they do not understand why terms like interest rates, repayment period and other requirements like collateral are imposed on them.

### **Conclusion, implications and areas of further research**

The objective of this paper was to investigate the relationship between commercial bank lending terms, financial literacy and access to formal credit by SMEs. The results suggest a

positive and significant relationship between perceived commercial lending terms, financial literacy and access to formal credit. Moreover, the ANOVA results serendipitously show that access to formal credit varies with type of business and turnover. Contrary to expectations and previous thinking, however, collateral and loan repayment periods are not observed variables for the latent variable, commercial bank lending terms. The most important observed variable for commercial lending terms is interest rates. This, together with literacy levels, explains 31 percent of the variances in access to formal credit by SMEs in Uganda. The results are important because they provide evidence of the aggregate explanatory power of interest rates and financial literacy for the criterion variable, access to formal credit by SMEs. As with any study, there are a number of limitations with the present paper. Although the questionnaire was self-administered, we did not undertake follow up interviews which would have informed us the reasons why the respondents held certain views. Our study was limited to the SME firms registered and operating in Kampala, Uganda and it is possible that our results are only applicable to these firms in Uganda. Finally, the present study is cross-sectional; it is possible that the views held by individuals may change over the years. In spite of the limitations, policy makers dealing with financial literacy, commercial banks, academicians, SME owners and managers and even general readers interested in the field of economic development and financial management might find this study insightful. Future research may wish to examine the predictive power of turnover and nature of business to access to formal credit.

Despite the limitations, our findings have a number of implications. First, our findings have implications to commercial banks wishing to improve the turnover of their micro-lending schemes. Second, the findings also have implications for governments aiming at improving access to finance to overcome income inequality problems, and also improve their growth prospects. As suggested before, improvement in access to finance means that more money will become available for SMEs which they can invest to create jobs. The availability of jobs means that people will have money to spend which will stimulate economic growth. Moreover, the availability of jobs means that the income inequality will begin to reduce as more people get out of the poverty cycle. Finally, the findings also imply that efforts by the stakeholders to improve financial literacy of SMEs owners and managers must be matched with favourable interest rates if access to formal credit is to be enhanced.

## References

- Akudugu, A., Egyir, M. and Mensah, B.A. (2009), "Women farmers' access to credit from rural banks in Ghana", *Agricultural Finance Review*, Vol.69 No. 3, pp. 84-299.
- Ang, J.S., Lin, J., and Tyler, F. (1995), "Evidence on the Lack of Separation Between Business and Personal Risks Among Small Businesses", *The Journal of Small Business Finance*, Vol. 4 No.2, pp. 197 - 210.
- ANZ report (2003). Survey of Adult Financial Literacy in Australia prepared for ANZ Banking Group. Melbourne, Australia Retrieved from: <http://www.thsmithfamily.com.au/webdata/resources/files/ANZreportMay03.pdf> on 7 July 2013
- Arbuckle, J.L. (2009), "Amos 18.0 User's Guide" Crawfordville: Amos Development Corporation. USA

- Aryeetey, E. (2008), "Informal finance to formal finance in sub-Saharan Africa: Lessons from Linkage Efforts", Institute of Statistical, Social and Economic Research University of Ghana, Accra, Ghana
- Aryeetey, E., Baah-Nuakoh, A., Duggleby, T., Hettige, H. and Steel. F. (1994), "*Supply and Demand for Finance of Small Scale Enterprises in Ghana*", World Bank Discussion Paper No.251, African Technical Department Series, World Bank, Washington D.C.
- Association of Chartered Certified Accountants, (2006), "Improving access to finance for small firms", *policy briefing paper*, ACCA's world-class research programme, London, UK.
- Atanasova, C.V. and Wilson, N. (2004), "Disequilibrium in the UK corporate loan market", *Journal of Banking and Finance*, Vol. 28 No.3, pp. 595-614.
- Atieno, R. (2001), "Formal and informal institutions' lending policies and access to credit by small-scale enterprises in Kenya", *AERC Research Paper 111 African Economic Research Consortium*, Nairobi.
- Avery, R.B., Bostic, R. and Samolyk, K. (1998), "The role of personal wealth in small business finance", *Journal of Banking and Finance*, Vol .22 No.6, pp. 1019-1061.
- Ayyagari, M., Beck, T. and Demirgüç, K.A. (2003), "Small and medium enterprises across the globe: a new database", *Policy Research Working Paper No. 3127*, The World Bank, Washington, DC.
- Beal, D.J. and Delpachitra, S.B. (2003), "Financial literacy among Australian university students", *Economic Papers*. Vol. 22 No. 1, pp. 65-78.
- Beck, T., Demirguc .K.A. and Peria, S.M. (2007), "Reaching out: Access to and use of banking services across countries", *Journal of Financial economics*, Vol .85, pp. 234-266.
- Bencivenga, V and Smith, B.D (1991), "Financial intermediation and endogenous growth", *The Review of Economic Studies*, Vol. 58, No. 2. 195-209
- Berger, A.N. and Udell, G.F. (2005), "A more complete conceptual framework for financing of small and medium enterprises", *Policy Research Working Paper No. 3795*, The World Bank, Washington, DC.
- Besanko, D. and Thakor, A. (1987), "Collateral and rationing: sorting equilibria in monopolistic and competitive credit markets", *financial analyst journal*, Vol. 28 No.3, pp.671-689.
- Besley, T. (1995), "Non-market Institutions for Credit and Risk Sharing in Low income Countries", *Journal of Economic Perspectives*", Vol. 9 No. 3, pp. 115-127.
- Besley, T., (1994). "How do Market Failures Justify Intervention in Rural Credit Market", *Research Observer*, Vol. 9, No. 1, pp. 27-47.
- Bester, H. (1987), "The role of collateral in credit markets with imperfect information", *European Economic Review*, Vol.31 No.4, pp. 887-899.
- Binks, M. and Ennew, T. (1997), "Small business and relationship banking: The impact of participative behaviour", *Entrepreneurship theory and practice*, Vol. 21 No.4, pp. 83- 92.
- Bitature, P (19th September, 2010) Financial literacy should be priority to Ugandans, Daily Monitor Publishers, Kampala, Uganda.
- Brush, C. G. and Vanderwerf, P. A. (1992), "A comparison of methods and sources for obtaining Estimates of New Venture Performance", *Journal of Business Venturing*, Vol. 7 pp. 157-170.
- Burns, N. and Grove, S.K. (2009). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. 6th edition. St. Louis (MO): Saunders Elsevier.

- Butkiewicz, J.L and Yanikkaya, H. (2005), “The Effects of IMF and World Bank Lending on Long-Run Economic Growth: An Empirical Analysis”, *World Development* Vol. 33, No. 3, pp. 371–391.
- Calvert, L., Campbell, J. and Sodini, P. (2005), “Down or Out: Assessing the Welfare Costs of Household Investment Mistakes”, Mimeo Harvard University.
- Chan, Y. and Kanatas, G. (1985), “Asymmetric valuation and the role of collateral in loan agreements”, *Journal of Money, Credit and Banking*, Vol.17 No.1, pp. 84-95.
- Chen, H. and Volpe, R.P. (1998), “An analysis of personal financial literacy among college students”, *Financial Services Review*, Vol.7 No.2, pp.107–128
- Claessens, S. (2006), “Access to Financial Services: A Review of the Issues and Public Policy Objectives”, *The World Bank Research Observer*, Vol.21 No.2, pp. 207–240.
- Cole, S., Simpson, T. and Zia, B. (2009), *Prices of Knowledge. What drives the Demand for Financial Services in Emerging Markets?* Harvard Business School, Working Papers 09-117, USA.
- Cowling, M. and Westhead, P. (1996), "Bank lending decisions and small firms: does size matter?", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 2 No. 2, pp.52 – 68.
- Demirgüç-Kunt, A. and Levine, R. (2008), “*Finance and Economic Opportunity*, the World Bank Development Research Group, Public Policy Research Working Paper 4468, Washington, USA.
- Diagne, A. and Zeller, M. (2001), *Access to Credit and Its Impact on Welfare in Malawi*, International Food Policy Research Institute, Washington, D.C, Research report 116
- Field, A. (2009), “*Discovering Statistics using SPSS*”. 3<sup>rd</sup> Ed. Sage, London.
- Gray, K.R., Cooley, W. and Lutabingwa, J. (1997), “Small-scale manufacturing in Kenya”, *Journal of Small Business Management*, Vol.35 No. 1, pp. 66-72.
- Greenwood, J. and Jovanovic, B. (1990), ‘Financial development, growth, and the distribution of income,’ *Journal of Political Economy*, Vol. 98, No. 5, pp. 1076-1 108.
- Hatega, G. (2007), “*SME Development in Uganda*” Retrieved from: [www.uiri.org/sites/uiri.org/myzms/content/e773/e813/SME\\_Development.pdf](http://www.uiri.org/sites/uiri.org/myzms/content/e773/e813/SME_Development.pdf) on 7 July 2013
- Hernández, C.G. and Martínez-Solano, P. (2006), “Banking relationships: effects on debt terms for small Spanish firms”, *Journal of Small Business Management*, Vol. 44 No.3, pp. 315-333.
- Hilgert, M. A., Hogarth, J. M. and Beverly, S. G. (2003), “Household financial management: the connection between knowledge and behaviour”, *Federal Reserve Bulletin*, Vol.89, pp. 309–322.
- Hossain, M. (1988), “Credit for the alleviation of rural poverty: The Grameen Bank in Bangladesh”. Research Report No. 65, International Food Policy Research Institute in collaboration with the Bangladesh Institute of Development Studies. Retrieved from: <http://www.ifpri.org/sites/default/files/pubs/pubs/abstract/65/rr65.pdf> on 7 July 2013
- Hu, L. and Bentler, P.M. (1999), “Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives”, *Structural Equation Modeling*, Vol. 6. No. 1, pp. 1-55.
- Johnson, S. (2004), “The impact of microfinance institutions in local financial markets: a case study from Kenya”, *Journal of International Development*, Vol.16 No.3, pp. 501-517.

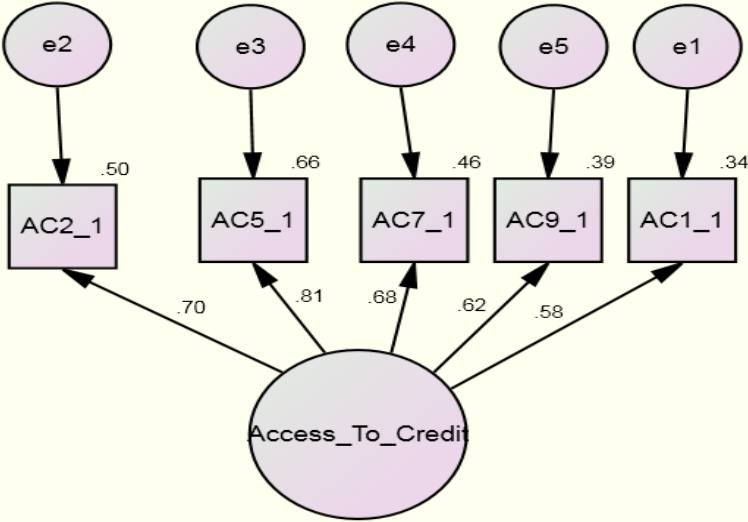
- Kakuru, J. (2008), “The supply- demand factors interface and credit flow to small and micro enterprises (SMEs) in Uganda”, University of Stirling, Stirling, Scotland.
- Kashuliza, A.K. and Kydd, J.G. (1996), “Determinants of bank credit access for small holder farmers in Tanzania: A discriminant analysis application”, *Saving and Development*, Vol.3, pp.285-297.
- Kidwell, B. and Turrisi, R. (2004), “An examination of college student money management tendencies” , *Journal of Economic Psychology* , Vol. 25 No.5,pp. 601–616.
- Kiggundu, M.N. (2002), “Entrepreneurs and entrepreneurship in Africa: what is known and what needs to be done”, *Journal of Developmental Entrepreneurship*, Vol. 7 No. 3, pp. 56-67.
- Kim, K. (2007), *Structural equation Modeling*, Hannarae, Seoul, South Korea.
- Kimuyu, P. and Omiti, J.(2000). Institutional impediments to access to credit by Micro and small scale enterprises in Kenya, *Discussion Paper* No. 026/2000 Institute of Policy Analysis and Research, Nairobi, Kenya.
- Kline, R.B. (2011), “*Principles and Practice of Structural Equation Modeling*”, 3<sup>rd</sup> ed., Guilford Press, New York, NY.
- Lechner, L., Bolman, C. and Van Dijke, M. (2006), “Factors related to misperception of physical activity in The Netherlands and implications for health promotion programmes”, *Health Promotion International*, Vol. 21 No. 2, pp. 104-112.
- Lehmann, E.E. and Neuberger, D. (2001), “Do lending relationships matter? Evidence from bank survey data in Germany”, *Journal of Economic Behavior and Organization*, Vol. 45 No.4, pp. 339-359.
- Little, A.J.R. (1988), “A test of Missing Completely at Random for Multivariate Data With Missing Values”, *Journal of the American Statistical Association*, Vol. 83, No. 404, pp. 1198-1202.
- Lusardi, A., and Tufano, P. (2008), “Debt Literacy, Financial Experience and Over-indebtedness”, *Working Paper*. Dartmouth College and Harvard Business School.
- Lyons, A.C., Palmer, L., Jayaratne, K.S.U. and Scherpf, E. (2006), “Are we making the grade? A national overview of financial education and programe evaluation”, *Journal of Consumer Affairs*, Vol 40 No 2, pp. 208-35.
- Mambula, C. (2002), “Perceptions of SME growth constraints in Nigeria”, *Journal of Small Business Management*, Vol. 40 No. 1, pp. 58-65.
- Mann, R. J. (1997), “Explaining the pattern of secured debt”, *Harvard Law Review* Vol. 110 No.3, pp. 625-683.
- Mason, C. and Stark, M. (2004), “What do Investors look for in a Business Plan?, A Comparison of the Investment Criteria of Bankers, Venture Capitalists and Business Angels”, *International Small Business Journal* ,Vol. 22, No.3, pp.227 – 248.
- McEvily. B.M. A. (2005), “Embedded ties and the acquisition of competitive capabilities”, *Strategic Management Journal*, Vol. 26 No. 11, pp. 1033-1055.
- Miller, M., Godfrey, N., Lévesque, B. and Stark, E. (2009), “*The case for Financial Literacy in Developing countries: Promoting Access to Finance by empowering Consumers*. World Bank,DFID,OECD and CGAP joint note, Washington ,DC: World Bank ( Retrieved February 2012)
- Mugume, A. (2003), “Credit constraints in Uganda’s firms: micro economic evidence of African Economies”, *East African Journal of Economics*, Vol. 19, No. 1.

- Mutesasira L.K., Osinde, S. and Nthenya R. M. (2001), “Potential for Leasing Products: Asset Financing for Micro and Small Businesses in Tanzania and Uganda”. MicroSave-Africa, Nairobi.
- Noctor, M., Stoney, S. and Stradling, R. (1992), “Financial Literacy”, *a report prepared for the National Westminster Bank*, London.
- Nunnally, J. C. (1978), “*Psychometric Theory*”. New York: McGraw-Hill Book Company.
- Okpara, J.O. and Wynn, P. (2007), “Determinants of small business growth constraints in a sub-Saharan African economy”, *SAM Advanced Management Journal*, Vol. 72 No. 2, pp. 24-35.
- Orton, L. (2007), “Financial Literacy”, *Lessons from International Experience Canadian Policy Research Network Research Report Inc 214 – 151 Slater Street, Ottawa, Ontario K1P 5H3*
- Pande, R., Cole, S., Sivasankaran, A., Bastian, G., and Durlacher, K. (2012) “Does poor people’s access to formal banking services raise their incomes? -- A Systematic Review”, DFID Systematic Review EPPI-Centre, Social Science Research Unit, Institute of Education, University of London, UK.
- Safavian, M., Fleisig, H. and Steinbuks, J. (2006), “Unlocking Dead Capital: How Reforming Collateral Laws Improves Access to Finance”, World Bank, Washington, D.C .
- Saunders, M., Lewis, P. and Thornhill, A. (2007), *Research methods for business Students*, 4<sup>th</sup> Ed. London: Prentice Hall.
- Schagen, S., and Lines, A. (1996), “Financial literacy in adult life: a report to the Natwest Group Charitable Trust”, *National Foundation for Educational Research*, Slough, Berkshire.
- Schmidt, R.H. and Kropp, E. 1987, “Rural finance guiding principles”. GTZ, Eschborn.
- Sebstad, M.J. and Cohen K. S. (2006), “Assessing the outcomes of financial Education”, Working Paper, Washington, D.C.
- Seibel, H.D. (2003), “History Matters in Microfinance”, *Small Enterprise Development* , Vol 14 No 2, pp.10-12.
- Shen, C. (2002), “Credit rationing for bad companies in bad years: evidence from bank loan transaction data”, *International Journal of Finance and Economics*, Vol .7, pp. 261-278.
- Smith, J.K. and Smith, R., L. (2000), “Entrepreneurial finance”, 2<sup>nd</sup> edition, John Wiley & Sons Inc.
- Stango, V. and Zinman, J. (2009), “Exponential Growth Bias and Household Finance”, *Journal of Finance*, Vol. 64, No. 5, pp. 2807-2849.
- Stephanou, C. and Rodriguez, C. (2008), Bank Financing to Small and Medium- Sized Enterprises (SMEs) in Colombia, World Bank Policy Research Working Paper 4481, The World Bank, Washington.
- Stevenson, L., and St-Onge, A. (2005). Applying the AfDB/ILO Integrated Framework to Assess the Enabling-Environment for Women in Growth Enterprises: *The Case of Uganda* Geneva, International Labour Office
- Stiglitz, J., and Weiss, A. (1981), “Credit rationing in markets with imperfect information”, *American Economic Review*, Vol.71 No.3, pp. 393-410.
- Hashi, I., Toci, V.Z. (2010), “Financing Constraints, Credit, Rationing, and Financing Obstacles: Evidence from Firm Level Data in South Eastern Europe”, In Matousek, R. Money,

- Banking and Financial Markets in central and Eastern Europe: 20 years of transition.  
Hampshire: Macmillan Publishers, pp. 62-97.
- Trulsson, P. (1997), "Strategies of Entrepreneurship: Understanding Industrial Entrepreneurship and Structural Change in Northern Tanzania", Linköping University, Linköping.
- Tucker, J. and Lean, J. (2000), "Micro-Finance and the Small Firm", *ACCA Research Report No. 66, Certified Accountants Educational Trust for The Association of Chartered Certified Accountants*, London.
- Uganda Bureau of Statistics, (2007). A Report on the Uganda Business Register 2006/07, Uganda Government Printers, Entebbe, Uganda.
- Van Dijk, M.P. (1995). Regulatory restrictions and competition in formal and informal urban manufacturing in Burkina Faso, Intermediate Technology, London.
- Wachira, I. M. and Kihui, N. E. (2012), "Impact of Financial Literacy on Access to Financial Services in Kenya", *International Journal of Business and Social Science*, Vol. 3 No. 19 pp. 42-50.
- Yang, B. (2006), *Multivariate Behavioral Research for Social Sciences & Marketing*, Communication Books, Seoul
- Yehuala, S. (2008). Determinants of smallholder farmers access to formal credit, The case of metema woreda, North Gondar, Haramaya University, Ethiopia.
- Zeller, M. (1994), "Determinants of credit rationing: A study of informal lenders and formal credit groups in Madagascar", *World development*, Vol.22 No.12, pp. 1895-1907.

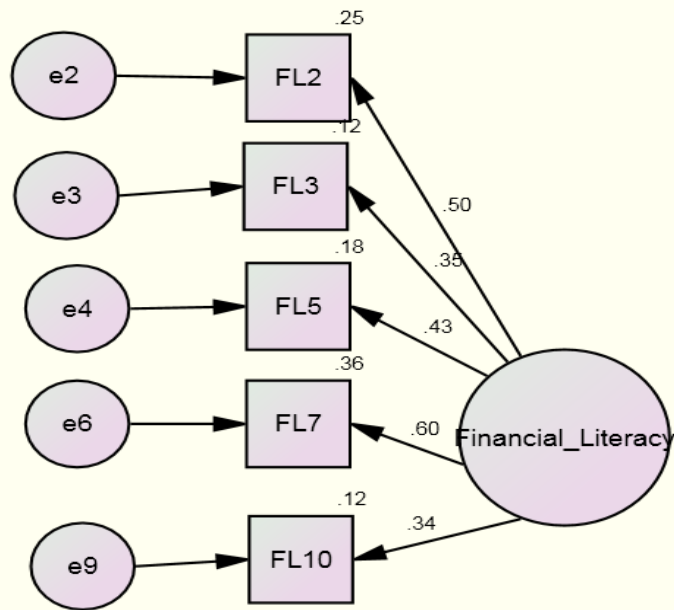


Figure 2: Access to formal credit



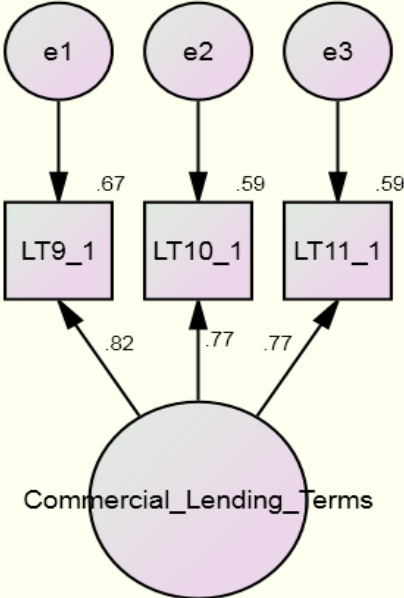
Chi\_square = 24.609, p = .000, df = 5,  
RMSEA = .099, NFI = .960, GFI = .976, AGFI = .928

**Figure 3: Financial Literacy**



Chi\_square = 2.946, p = .708, df = 5,  
RMSEA = .000, NFI = .976,

Figure 4: Commercial lending terms



Chi\_square = .033, p = .857, df = 1,  
RMESA = .000, NFI = 1.000, GFI = 1.000, AGFI = 1.000