

EFFECTS OF LENDING RELATIONSHIP ON THE INTEREST RATES OF COMMERCIAL BANKS IN CAMEROON



 Njimanted,
Godfrey Forgha¹
 Tameta Serge²
 Nkwetta Ajong
Aquilas³⁺

¹School of Logistics and Transport, University of Bamenda, Cameroon
Email: unicatub@yahoo.com Tel: +237677924471

²Ph.D. Candidate, Department of Economics and Management, University of Buea, Cameroon

Email: tametaserge@yahoo.com Tel: +237679931488

³Ph.D. Candidate, Department of Economics and Management, University of Buea, Cameroon

Email: ajong2000@yahoo.com Tel: +237672286263



(+ Corresponding author)

ABSTRACT

Article History

Received: 19 March 2018

Revised: 30 April 2018

Accepted: 2 May 2018

Published: 5 May 2018

Keywords

Duration of a relationship

Lending interest rate

Pre-existing relationship

Trust in a relationship

Incorporation form

Gender of bank borrowers

Age and size

JEL Classification:

E40

Borrowing is the main stream through which small and medium size enterprises obtain funds for investment in Cameroon, and interest rate is a key determinant of how much funds these firms can acquire. It is against this backdrop that this study investigates the effects of lending relationship on the interest rate of commercial banks. Specifically, this study examines the effects of lending relationship factors like duration, pre-existence and trust and firm characteristics such as age, size, incorporation form and the gender of bank borrowers on the lending interest rates of commercial banks. A total of 119 questionnaires were administered to 9 commercial banks and their borrowers in Fako Division, South West Region of Cameroon and the ordered logistic regression method was employed as the analytical technique. Findings showed that trust in a relationship, preexisting relationship, firm size and incorporation form and gender of bank borrower significantly affect lending interest rate while duration of the relationship and firm age had insignificant effects. It was recommended that commercial banks should consider using relational social control measures.

Contribution/ Originality: This study contributes in the existing literature in that though the concepts/topic may be well represented in conference proceedings and reports it has not moved to a formal publications like the journals, hence this research study represent a way in which the topic will be moved into a formal publication.

1. INTRODUCTION

1.1. Background of the Study

The importance of lending relationships in determining the lending interest rates of financial institutions has been widely discussed in finance literature, especially as financial markets and institutions are becoming increasingly competitive and globalized. Ogunleye (2008) cited in Forgha *et al.* (2016) argued that financial institutions and markets are at the centre of processes and mechanisms that enable households and firms to make payments. Banks facilitate resource allocation by mobilizing funds and then reallocating them from surplus units (savers) to deficit units (investors) within the economy thereby resolving the asymmetric information problem in financial markets. This is possible because commercial banks are able to minimize transaction costs, transform the risk characteristics of assets and enjoy scale economies. Choi (2014) posits that asymmetric information involved in

the lending decision of banks is critical, especially for smaller firms since they possess less information relative to larger firms. Because of the lack of quantitative data that certifies the creditworthiness of Small and Medium Size Enterprises (SMEs), they may therefore need to embrace unconventional lending technologies to acquire loans for new investment. These technologies include transaction lending based on “hard” quantitative data such as financial statements or relationship lending based on “soft” qualitative data such as records of previous interactions between a given bank and a firm. Relationship lending involves little or no hard data and is often employed by SMEs that have limited access to transaction lending. Udell (2008) holds that in relationship lending, the loan officer leverages soft information on the SME collected through past interactions with the firm’s suppliers, customers, competitors, and other businesses and business associations in the local market. Choi (2014) adds that proprietary soft information can range from a loan officer’s impression of the borrower, opinions in the industry, to assessments of the future prospects of the SME inferred from the gathered soft information.

Numerous empirical studies have explored the lending relationship and lending interest rates of banks in both developed and underdeveloped markets and came out with contrasting results. On the one hand are studies such as Henry (2010); Blackwell and Winters (1997) and Harhoff and Korting (1998) as cited in Jyrki and Mervi (2000) and Boot and Thakor (1994). They found out that a firm with close relationship to the bank should have a lower interest rate relative to firms without such relationship. The existence of a relationship lowers the price of credit, in another words lowers the interest rate and that attempts to widen the circle of relationships by borrowing from multiple lenders increases the price of credit.

Conversely, studies which argue that relationship lending have no value include the works of Greenbaum *et al.* (1989); Lehmann and Neuberger (1998); Petersen (1999); Weinstein and Yafeh (1998); Sharpe (1990) and Rajan (1992). They contended that the lender may not be obliged by market forces to pass on the benefits (lower interest rate) of lending relationship to the borrowers. They argued that if the relationship awards a monopoly power on the lender, interest rate of main bank clients is higher than that of their peers. Furthermore, when access to capital markets is limited, close bank-borrower relationships increase the availability of capital to borrowing firms and the benefits of close relationships accrue mostly to the main bank, which is able to capture most of the rents through high interest payments and through pressure on clients to use large quantities of bank financed capital inputs.

Lending relationships have received tremendous attention in developed and developing countries. However, less is known on the effect that the increase in lending relationship characteristic (duration of relationship, pre-existing relationship and trust) has on banks’ interest rate levels. Also, little or no study has been done in this area in Cameroon and banks in the South West of Cameroon in particular. Again most of the empirical studies failed to capture the perception of the subjects on interest rate rather; they employed various nominal measure of interest rate. This paper aims to bridge these gaps in the literature by investigating the relevance of including duration of relationship, trust and pre-existing relationship on lending relationship and their effects on lending interest rate charged to SMEs in Cameroon using ordered logistic regression analysis which will give the preferred interest rate levels given different relationship constructs.

1.2. Statement of Problem

The Cameroonian banking sector has experienced significant changes during the recession in mid-1980s and in the subsequent years. The largest among these were the disappearance of most Commercial banks, and the appearance of new, mostly foreign, banks to compete with the remaining one on serving the deficit units which are flooded mostly with small and medium size enterprises (SMEs). The place and the role of SME in the economy still raise relevant concerns given the high interest rate (Kadouamai, 2013). Small and medium enterprises (SMEs) play a paramount role in African countries in general and Cameroon in particular. They are major source of employment (employs 93% of the workforce), incomes and tax revenue in Cameroon (Evou, 2013). Although their role is crucial, they are exposed to financial constraints (Ngoa and Niyonsaba, 2012) since they perceived lending interest rate to

be higher than expected, leading to their collapse in early stages. The data from the General Census of Enterprises (GEC) held in 2009 shows that 45% in 2009 and 69% in 2010 of enterprises in Cameroon were announced bankrupt. In Cameroon 68.02% of firms identify high interest rate as a major constraint to their development (Benthum, 2012). According to the General Census of Business conducted by the National Institute of Statistics of Cameroon "Reg" (2010), they noted that 18% of enterprises perceived interest rate to be higher than expected despite a dropped of interest rate from 22% in 2000 to 18% in 2005 and 15% in 2014. This has created inefficiency in the operations of the banks and less competitiveness on the part of SMEs in Cameroon leading to short life span of SMEs of three years (Evou, 2013).

Considering the role of SMEs in Cameroon, the government has set up financial measures and policies to support the promotion of SMEs. Among such measures was the creation of support organizations such as Assistance Fund and Guarantee for Small and Medium Enterprises (FOGAPE), Agriculture Loan Funds (Crédit Agricole), Cameroon Development Bank (BCD) and Cameroon Bank for Small and Medium Sized Enterprises (BCPME). All these to given out loan to its borrowers at lower interest rate. Despite these measures, the problem seems to persist since SMEs still perceived lending interest rate to be above expectations and banks on their part are flooded with excess liquidity and non-performing loan.

1.3. Objectives of the Study and Hypothesis

In the light of the above problem, there is need to investigate whether the high lending rates are due to the lending relationship exercised by commercial banks in Cameroon. From the above it can be seen that there is much significance to an effective lending relationship in achieving low lending interest rate by bank borrowers. The present study seeks to investigate the extent to which duration of relationship, pre-existing relationship, trust in a relationship and the specific characteristics of the firms affects the lending interest rate of commercial banks in Cameroon. To meet the above objective, this study hypothesizes that:

Ho₁: Duration of a relationship, pre-existing relationship and Trust in a relationship have no significant effect on lending interest rate of commercial banks.

Ho₂: Firms' specific characteristics have no significant effect on the lending interest rates of commercial banks

1.4. Organization of the Study

After presenting the introduction in the first section, the rest of the paper proceeds as follows; in section 2, a review of the relevant literature is presented; section 3 discusses the analytical methodology; section 4 presents and discusses the empirical results while recommendations and conclusions are made in section 5.

2. LITERATURE REVIEW

2.1. Empirical Literature

Henry (2010) investigated the relationship between relationship lending and interest rates in Uganda by employing OLS technique. Utilizing measures of lending relationship such as trust, pre-existing relationship, duration and multiple relationship, and using a sample of 225 medium and large sized borrowing enterprises and bank employees of credit departments, results revealed that relationship lending has a significant negative effect on lending interest rates. The study recommended that commercial banks should employ greater borrower-lender interactions which overtime will yield trust among the parties and eliminate opportunism and thus minimize transaction costs incurred.

Jyrki and Mervi (2000) examines empirically the effect of bank-borrower relationships on the availability and cost of funds in a sample of small and medium sized Finnish firms. Adopting a cross sectional research design to purposely sample 526 Finnish firms located in the Pirkanmaa region surrounding the city of Tampere from a four-

year period 1994– 1997. Applying the logit and OLS techniques, results revealed that the smaller firms with long-term relationships borrow with lower interest rates.

Lehmann and Neuberger (1998) investigated the lending relationships between banks and small and medium-sized enterprises (SMEs) in Germany. Using bank survey data, 1200 questionnaires were mailed to banks in towns with a location of a state-owned savings bank (Sparkasse). Employing Tobit, Probit and the OLS regression techniques, results confirmed that terms of loans are not only influenced by firm characteristics and credit risk variables, but also by social interactions between loan officer and bank manager. Also, the results provide evidence that loan rates do not depend on the duration of the lending relationship. Given that social dimensions of a lending relationship are more complex than captured by the current variables and that the study could not address the possible interdependencies between the regressions variables, the study recommend future research in this area.

Petersen (1999) investigated banks and the role of lending relationships with evidence from the U.S. Experience. The data used was based on a sample of less than 500 employees collected by the U.S. Small Business Administration and Board of Governors of the Federal Reserve System. Using OLS regression technique, the study revealed that larger firms and older firms tend to be more secure and have higher probabilities of survival and as such they pay lower rates when they borrow. Again, longer relationships had no effect on the firm's borrowing rate once the firm's age and other characteristics of the borrower and the loan were included.

Petersen and Rajan (1994) investigated the benefits of lending relationships with evidence from small business data. The data used was based on data collected by the U.S. Small Business Administration and Board of Governors of the Federal Reserve System. OLS regression was used to analyse and come out with the results. The findings revealed a small effect of lending relationship on price of credit and an increase in the availability of credit as a result of building a close ties with institutional creditor. They concluded that relationships are valuable and appear to operate more through quantities rather than price.

2.2. Theoretical Literature

This study is founded mainly on the theory of asymmetric information advocated by Akerlof (1970); Michael (1973) and Stiglitz and Rothschild (1976) they came up with the theory in the early 1970's to explain the information asymmetric problem. The theory states that financial intermediaries can reduce information and transaction costs that arise from an information asymmetry between borrowers and lenders.

It is empirically clear that people possess different information and the information they possess affects their behaviour in many situations. Consider buying products, for example, the buyer (borrower) bargain the price of an item based on his knowledge of the prices of similar products on the market and the condition of the products among other factors. The seller (bank) similarly has information about the prices of similar products in the market. But what he probably does not have is the same depth of information about the quality of the products as its buyer. There is clearly an information asymmetry between the two parties at issue. Information asymmetric in lending relationship could be defined as "a situation where the borrower has better information about firms' prospect (hence his ability to repay the loan) than the bank". The theory was stated after review the work of Auronen (2003).

Theoretical literature agrees that, through the relationship, information about the firm's quality is revealed, distinct theories generate conflicting predictions about the effect of relationship lending on interest rates (Garriga, 2006). On the one hand, improved knowledge of the borrower may lead to a reduction in screening and monitoring costs to the bank which are partly shared with the borrower. Thus, loan rates are expected to decline as the relationship matures (Boot and Thakor, 1994). Boot and Thakor further demonstrated that even without learning or risk aversion the bank borrower relationships are welfare enhancing. Another important result they found was that durable relationships made banks subsidize borrowers and, over time, collateral requirements were reduced in long-term contracting. On the other hand, other research found that the relationships between banks and borrowers have zero effects (loan rates do not change) or even negative influences on loan interest rates (higher loan rates).

Theoretically, Sharpe (1990) demonstrated that lenders subsidize borrowers in early periods and are reimbursed for this subsidy in later periods. Again, improved knowledge of the borrower gives to the bank an informational monopoly. This may lock the borrower into the relationship enabling the bank to charge higher than competitive interest rates (Greenbaum *et al.*, 1989; Rajan, 1992; Freixas, 2005).

One of the major strengths of the asymmetric information theory is the theory’s ability to explain previously unexplained economic phenomena. Asymmetric information theory tells us that it may be impossible to distinguish good and bad quality, and this phenomenon can be used to explain, for example, the existence of counteracting market institutions. The weaknesses theory itself might be faulty in its simplistic assumptions. For example, the theory assumes that the buyers always know the average value of the items on sale.

3. METHODOLOGY

3.1. Scope and Data Sources for the Study

The study was carried out in Fako Division, south west region Cameroon over the period of one year and it was based on the commercial banks and SMEs in Fako that have at least once borrowed from a commercial bank in Cameroon. A total of 91 SMEs respondents were purposively selected to provide responses to the structured questionnaires designed to solicit their views about lending relationship and how it might possibly affect interest rate. This kind of information could not be sourced from published documents (journals, books and the internet) alone since it is a fact-finding study.

The tool used in this study was logistic regression models. The aim of the regression analysis is to obtain and test for significance of the parameters of the regressors in the models. This aim was best achieved using ordinal logistic estimates. The ordered logistic regression was used since data used in this study met all its conditions. These conditions were; firstly, dependent variable should be measured at the ordinal level. Secondly, one or more independent variables should be continuous, ordinal or categorical (including dichotomous variables). Thirdly, there is no multicollinearity. Lastly, each independent variable should have an identical effect at each cumulative split of the ordinal dependent variable (proportional odds). Logistic regression applies maximum likelihood estimate after transforming the dependent variable into a logit variable (the natural log of the odds of the dependent occurring or not). In this way, logistic regression estimates the probability of a certain event occurring or not.

3.2. Model Specification

The study adopted and modified the Sreedhar *et al.* (2007) and Garriga (2006) models. The generalized form of the model is simplified thus:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_{txt} + e \dots\dots\dots (1)$$

Where Y is the dependent variable, $x_1, x_2 \dots x_t$ are the independent variables, $\beta_1, \beta_2 \dots \beta_t$ are the coefficients and e is the error term that takes care of all other factors not accounted for by the model. Since we used different proxies for lending relationships and firm characteristics to determine the effect of lending relationship on lending interest rate, we therefore developed a simple functional relationship to guide our analysis as follows;

$$LIR = f[e^{-(pre-existing relationship,duration,trust,firm age,firm size,incorporated form and sex)}] \dots\dots\dots (2)$$

The relationship shown on equation 3.2 above can be expressed in an econometric model, written in logistic form as depicted on equation 3.3;

$$[Pr(Y = 1/j)] = \frac{1}{e^{\beta_0 + \beta_1PREX + \beta_2DURATION + \beta_3TRUST + \beta_4FAGE + \beta_5FSIZE + \beta_6INCORPO + \beta_7SEX} \dots\dots\dots (3)}$$

A priori Expectation

$$\beta_0 \neq 0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 < 0$$

Where;

Pr = ordered log odds or likelihood,

Y = the ordered response variable (dependent Variable),

J = levels of the response variable.

PREX = Pre-existing Relationship,

DURATION = Duration of the relationship (length and strength of relationship),

TRUST = trust in a relationship,

FAGE = Firm age,

FSIZE = Firm size,

INCORPO = Incorporated form (sole proprietor or partnership or limited liability)

SEX = Sex (male or female)

β_0 = constant term and $\beta_1, \beta_2, \beta_3 \dots \beta_7$ are parameters to be estimated

From the above equation and a priori expectation, it is expected that pre-existing relationship (PREX), duration of relationship (DURATION), and trust in a relationship (TRUST) have negative coefficients. This is in line with the study of [Boot and Thakor \(1994\)](#); [Suwanaporn \(1996\)](#); [Berger and Udell \(1995\)](#) and [Bellouma et al. \(2005\)](#). This therefore means that $\beta_1, \beta_2, \beta_3 < 0$. Incorporated form (INCORPO =1 represent sole proprietor, INCORPO=2 represent Partnership and Limited liability is the base group), sex of respondents (SEX=1 represent male and female is the base group) are expected to have a negative coefficients, which means that $\beta_6, \beta_7 < 0$. This is supported by the works of [Elsas and Krahnert \(1998\)](#) and [Alberto et al. \(2009\)](#) respectively. It is also expected that firm age (FAGE) and firm size (FSIZE) have a negative coefficient such that $\beta_4, \beta_5 < 0$. This is in line with the study of [Harhoff and Korting \(1998\)](#) and [Lehmann and Neuberger \(1998\)](#) respectively. The variables selected for our model therefore have empirical and theoretical justification. The variables of this study are defined as follows;

Dependent variable: The dependent variable is lending interest rate and it is measured by the lending interest rate (ranging from 1=0-4%, 2=5-9%, 3=10-14%, 4=15-19% and 5=above 20%) that is charge on most SMEs loans.

Independent variables: Lending relationship variables are main independent variables. They contain three variables: Duration of a relationship, pre-existing relationship and trust in a relationship.

Pre-existing relationship: This variable is measured by previous relationship results and it takes a 5 point Likert scale measurement as level of responses.

Duration of a relationship: This variable measures the length of a relationship with the banks. It also takes a 5 point Likert scale measurement as level of responses.

Trust in a relationship: This variable relates to factors such as changes in the past, morals and reputation. It also takes a 5 point Likert scale measurement as level of responses.

Besides banking relationship variables, there are firm characteristics variables, including:

Firm size: This variable is measured by the annual pre-tax turnover. If the firm has a pre-tax turnover of less than 15 million frs, it gets the value of 1, 15-100 million frs, gets the value of 2 and the value 3 if 101 million – 1billion frs.

Firm Age: This variable is measured by the number of years the firm have been existing (ranging from, less than 5 years = 1, 6 - 10 years = 2, 11 - 15 years = 3, 16 – 20 years = 4 and more than 20 years old = 5).

Incorporation form: Looks at whether the firm is legally registered as sole proprietor or partnership or limited liability. It gets the value of 1 if the respondent is a sole proprietor, 2 if the respondent is a partnership and 3 if the respondent belongs to a limited liability company. **Gender:** This variable is a dummy variable and looks at the gender of bank borrowers. It takes the value of 1 if the respondent is a male. Otherwise, it gets the value 0.

Ordered logistic regression and descriptive statistics were used to present, visualised the results and test research hypotheses. Ordinal logistic regression was adopted for studying the relationship between one dependent variable and the independent variables. It is applied to determine how well a set of variables are able to predict a particular outcome. The Statistical Package for Social Sciences (SPSS version 21.0) was used to facilitate data analysis.

The parameters $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6,$ and β_7 were validated on the basis of a priori expectations with special regard to the signs of the estimates (coefficients). The statistical criteria like pseudo R^2 , Wald and p-value, were used to test how best and accurate estimated coefficients were.

4. PRESENTATION AND DISCUSSION OF RESULTS

4.1. Presentation of Results

4.1.1. Test for Multicollinearity

The Variance Inflation Factor (VIF) was adopted to test for the existence of multicollinearity amongst the independent variables. A value more than or equal to 4 indicates the presence of multicollinearity between a set of independent variables of the model being estimated.

Table-1. Multicollinearity Check

Variables	Collinearity Statistics	
	Tolerance	VIF
INCORPO	0.665	1.505
DURATION	0.838	1.193
PREX	0.759	1.318
GENDER	0.701	1.427
FAGE	0.844	1.185
FSIZE	0.623	1.605
TRUST	0.72	1.388

Source: Computed by Authors using SPSS 21.0

As indicated by the table 1, multicollinearity is absent from the modeled variables and so the variables are all fit to simultaneously appear within the same regression model without giving faulty results and increasing the sensitivity of the dependent variable to small changes in any of the variables.

4.1.2. Ordered Logistic Regression Results

From table 2, the threshold represents the response variable in the ordered logistic regression. The threshold estimate for $[LIR = 1]$ to $[LIR = 4]$ is the cut-off value used to differentiate low interest rate from middle and high interest rate when values of the predictor variables are evaluated at zero.

Table-2. Parameter Estimates of Logistic Regression Results

		Estimate	Std. Error	Wald	Sig.	95% Confidence Interval		
						Odds Ratios	Lower	Upper
Threshold	[LIR = 1]	-8.133	1.740	21.856	.000***	0.000	-11.542	-4.723
	[LIR = 2]	-4.863	1.565	9.659	.002***	0.008	-7.930	-1.796
	[LIR = 3]	-3.287	1.506	4.767	.029**	0.037	-6.238	-.336
	[LIR = 4]	-1.549	1.535	1.019	0.313	0.212	-4.558	1.459
Location	DURATION	-.054	0.183	0.086	0.769	0.948	-.413	0.305
	PREX	-.361	0.205	3.098	0.078*	0.697	-.762	0.041
	TRUST	0.397	0.187	4.510	0.034**	1.488	0.031	0.764
	FAGE	0.195	.231	0.713	0.398	1.215	-.257	0.647
	FSIZE	-1.362	.349	15.251	0.000***	0.256	-2.045	-.678
	[Sole Proprietor=1]	-1.330	.723	3.386	0.066*	0.265	-2.746	0.087
	[Partnership=2]	-1.947	1.091	3.184	0.074*	0.143	-4.087	0.192
	[Male]	-1.511	.823	3.376	0.066*	0.221	-3.124	0.101
Pseudo R^2 (Nagelkerke)				0.27				
-2(Log Likelihood (β_0))				179.834				
F-Stat				0.005				

(Significant at *** = 1%, ** = 5% and * = 10%)

Source: Computed by Authors using SPSS 21.0

For example, respondents that had a value of -8.133 or less on the underlying latent variable (latent variable could take any of the independent variable) that gave rise to our interest rate variable would be classified as paying very low (0-4%) given the respondents were female and/or working in a limited liability company, holding other variable constant. This means that if the respondents were to be evaluated one after each, respondents with scores less than -8.133 would pay an interest rate of 0-4%.

The location represents the explanatory variables in the ordered logistic regression. They are ordered log-odds (logit) regression coefficients. The coefficients of duration of relationship (DURATION), pre-existing relationship (PREX), firm size (FSIZE), form of incorporation (INCORPO) and male are all negative, meaning that the likelihood of moving from a higher interest rate category to a lower interest rate category increases. Specifically, the coefficients of DURATION, PREX and FSIZE are respectively -0.054, -0.361 and -1.362 meaning a unit increase in duration of the relationship, pre-existing relationship and firm size will increase the log odds of moving from a high to a low interest rate by 5.4%, 3.6% and 1.4% every other thing being equal. The p-value of PREX is 0.078 which is less than 0.1, meaning that PREX is significant at 10% level. We therefore reject the null hypothesis and conclude that the pre-existing relationship between the bank and borrower has a significant effect on the lending interest rate of commercial banks in Cameroon. Also, the p-value of FSIZE is 0.000 which is far less than 0.001, indicating that FSIZE is significant at 1% level. Duration of relationship however has an insignificant effect on the lending interest of commercial banks considering a p-value of 0.769. The results also show that the coefficients of INCORPO=1 (sole proprietor) and INCORPO=2 (partnership) are respectively -1.33 and -1.947. This indicates that a unit increase in INCORPO=1 (sole proprietor) and INCORPO=2 (partnership) would increase the log odds of moving from a high to a low interest rate by 1.3% and 1.9% respectively relative to the form of corporation being a limited liability company. In other words, the likelihood of the interest rate being low is high for sole proprietors and partnerships compared to limited liabilities. The p-values of INCORPO=1 (sole proprietor) and INCORPO=2 (partnership) are respectively 0.066 and 0.074, indicating 10% significance level. Therefore, corporation form has a significant effect on the lending interest rates of commercial banks, holding everything else constant.

Moreover, the coefficient of male is -1.511. This means that the log odds of moving from a high to a low interest rate or log odds of paying a low interest rate is 15.1% more for males than for females. So the likelihood for males paying a low interest rate is 15.1% or 1.51 more than for females. The p-value of male is 0.066 which is significant at 10% level. We therefore reject the null hypothesis and conclude that gender has a significant effect on the interest rate of commercial banks in Cameroon.

Results also show that the coefficients of TRUST and FAGE are respectively 0.397 and 0.195 meaning that the log odds of moving from a low interest rate to a high interest rate are 39.7% and 19.5%, all things being equal. A unit increase in trust in the relationship and firm age will increase the likelihood of the interest rate being high by 39% and 19.5% respectively. The p-value of trust is 0.034 which is significant at 5% level. The null hypothesis is rejected and we conclude that trust in a relationship has a significant effect on the interest rate of commercial banks. The p-value of firm age is 0.398 indicating that firm age an insignificant effect on the interest rate of commercial banks in Cameroon, all things being equal.

The pseudo R^2 values (Nagelkerke = 27%) indicates that variables included in the model (explanatory variables) explains a relatively small proportion of the variation between interest rate levels. The $-2\ln$ Likelihood (β_0) of 179.834 indicated that in the absence of the explanatory variable, the likelihood of a level of the response variable is 179.834 and the significant level (probability value of F-ratio = 0.005) indicates that the final model gives a significant improvement over the baseline intercept-only model. This implies that the model gives better predictions than if we just guessed.

4.2. Discussion of Results

Given that duration ($p = 0.769$) had an insignificant effect of lending interest rate at even 10% level, we therefore fail to reject the null hypothesis that duration has no statistical significant effect on lending interest rate. Angelini *et al.* (1998); Harhoff and Korting (1998) also found that duration of a relationship has an insignificant effect on interest rate. With regard to pre-existing relationship, the finding revealed that pre-existing ($p = 0.078$) had a negative but significant effect on lending interest rate. This is in agreement with the economic a priori expectation and the findings of Lehmann and Neuberger (1998) and Henry (2010) which stated that the more favourable is the pre-existing relationship experience, the lower is the interest rate charged. This means that borrowers that have acquired loan facilities in the past and complied more easily with the loan terms have a higher likelihood of paying lower interest rate.

With regard to trust, the results showed that trust positively and significantly ($p = 0.034$) affects lending interest rate at 5% level. This result is contrary to the economic a priori expectation and the work of Bellouma *et al.* (2005) where an increase in trust level negatively affects lending interest rate. This contrary view may be as a result of the fact that firms in Cameroon are not much into multiply bank relationship, and as a result, banks gained information monopoly faster due to repeated lending and then used it to charge high interest rate (Mommel *et al.*, 2007). Given that the level of trust in a relationship is statistical significant (0.034) at 5% level, therefore, we failed to accept the null hypothesis of no statistical significant. This means that trust in a relationship is very critical in lending and can be used in lending decision making.

It was disclosed that firm size negatively and significantly (at 1% significant level) affected lending interest rate. This means that medium size enterprise pays lower interest rate in Cameroon as compared to small and very small size enterprise. This result is in line with the findings of Harhoff and Korting (1998) and Lehmann and Neuberger (1998). As concerning incorporation, we had a negative and significant effect on lending interest rate. This means that sole proprietors and partnership pays a lower interest rate than limited liability. This holds true for a simply fact that the legal form affects the managers' amount of private information and their incentives and ability to shift risk to the bank as a fixed claim holder. Limited liability restricts the bank's access to private assets of the owners in the event of distress. Hence, the credit risk tends to be higher in corporations than in unincorporated firms (Elsas and Krahenen, 1998). Partnerships and proprietorships with unlimited liability of their owners should be less prone to moral hazard (Lehmann and Neuberger, 1998). Again, the variable gender has an odd ratio of 0.22, implying that the likelihood of male respondents paying a low interest rate than female respondents was 22%. This further meant that women have the likelihood of paying a higher interest rate on loan than men and probably because women are seen by credit officer as weak, do not return to work after having a child, and often go for maternity leave (Hertz, 2011). This result is in line with the a priori expectation and the findings of Alberto *et al.* (2009) where using a unique and large data set on over-draft contracts between banks and micro firms and self-employed individuals, found evidence that women in Italy pay more interest rate than men. Given that p-value for firm size and form are below $\alpha = 0.1$, we failed to accept the null hypothesis that stated that firm's specific characteristics as measured by sex, firm's size and form are of no statistical significance.

Firm's age had a positive (coefficient = 0.195) and insignificant (p -value = 0.398) effect on lending interest rate. This finding is contrary to the a priori expectations and contrary to the findings of Harhoff and Korting (1998) where they found that firm's age negatively affected interest rate and as the firm grew older, there is an increase in the availability of credit followed by low interest rate. This contrary view might be because most of the firms are in their early age of bank-borrower relationship and as indicated by Petersen and Rajan (1995) finding that young firms are less likely to take advantage of early payment discounts on trade credit, and that loan interest rates decline with firm's age. Hence we accept the null hypothesis that states that firm's characteristics as measured by firms age does not statistically affect lending interest rate.

5. CONCLUSION AND RECOMMENDATIONS

The current study established the effect of lending relationship on the lending interest rates of commercial banks in Cameroon. A survey was conducted with 119 questionnaires administered to 91 officials of SMEs and 28 to credit administrators of commercial banks in Fako division, South West Region. The ordered logistic regression was used to analyse the data. Based on the results obtained, duration of a relationship has a negative and insignificant effect on lending interest rate while firms' age positively and insignificantly affects lending interest. Results also showed that pre-existing relationship; trust in a relationship, firm size, and firms incorporated as sole proprietorship and partnership significantly affect lending interest rate. It was evident that firms with strong and long term relationship with the bank paid low interest rate on their loan facilities and also complied with their loan terms and obligation. Again, banks do not monitor borrowers closely to ensuring that they don't do something detrimental to them.

Lending relationship is more of social interactions, and it is advantageous to both lenders and borrowers. Nevertheless, the present study remains as well incomplete in that the social dimensions of a lending relationship are more complex than captured by the current variables. Given that little research has been done in Cameroon's financial system in respect to this current study, the effect of lending relationships should motivate still more detailed investigations.

Small and medium size enterprises largely rely on external finance for their investment opportunities and at the same time, lending to them is highly liable to economic shocks (Hoshi *et al.*, 1990). Lending relationship on its part is highly opened to economic changes surrounding the financial environment. Therefore, a policy that aimed at stabilising the economic environment would result to trust among lenders and borrowers. This is because a stable economic environment would in due course lead to increase trust and lending to SMEs and other risky borrowers through establishing greater relationship techniques. To better achieved, the role of the government in protecting lending activities to SMEs cannot be neglected. Since there is already an existing legal mechanism to regulate and supervise credit limit in credit institutions, another text addressing the expansion of relationship lending to SMEs can be enacted to influence bank's credit management decision.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

REFERENCES

- Akerlof, G.A., 1970. The market for "lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3): 488-500. [View at Google Scholar](#) | [View at Publisher](#)
- Alberto, A., L. Francesca and P.E. Mistrulli, 2009. Do women pay more for credit: Evidence from Italy? *Journal of the European Economic Association*, 11(1): 45-60.
- Angelini, P., R. Di Salvo and G. Ferri, 1998. Availability and cost of credit for small businesses: Customer relationships and credit cooperatives. *Journal of Banking and Finance*, 22(6-8): 925-954. [View at Google Scholar](#) | [View at Publisher](#)
- Auronen, L., 2003. Asymmetric information: Theory and applications. Tu-91.167 Seminar in Strategy and International Business, University of Technology Department of Industrial Engineering and Management.
- Bellouma, M., S.B. Naceur and A. Omri, 2005. Lending relationship, risk premium and credit availability. Retrieved from <https://ssrn.com/abstract=856387>.
- Benthum, L., 2012. Financial sector – cameroon. Fair & Sustainable Advisory Services. Retrieved from iiste.org/Journals/index.php/JEDS/article/viewFile/34163/35132.
- Berger, A. and G. Udell, 1995. Relationship lending and lines of credit in small form finance. *Journal of Business*, 68(3): 351-382. [View at Google Scholar](#) | [View at Publisher](#)

- Blackwell, D. and D. Winters, 1997. Banking relationships and the effect of monitoring on loan pricing. *Journal of Financial Research*, 20(2): 275–289. [View at Google Scholar](#) | [View at Publisher](#)
- Boot, A. and A. Thakor, 1994. Moral hazard and secured lending in an infinitely repeated credit market game. *International Economic Review*, 35(4): 899-920. [View at Google Scholar](#) | [View at Publisher](#)
- Choi, S., 2014. Understanding small and medium size enterprise finance: Determinants of relationship lending. Durham, North Carolina: Duke University.
- Elsas, R. and J.P. Krahen, 1998. Is relationship lending special? Evidence from credit- file data in Germany. *Journal of Banking and Finance*, 22(10-11): 1283-1316. [View at Google Scholar](#) | [View at Publisher](#)
- Evou, J.P., 2013. Disappearance and lifespan of SMEs in Africa: Evidence on Cameroonian data. Africa Economic Research Consortium (AERC) and University of Yaoundé-II.
- Forgha, N.G., C.S. Molem and A.A. Nkwetta, 2016. An econometric investigation in to financial intermediation, domestic investment and economic growth in Cameroon. *Journal of Finance and Economics*, 4(1): 1-19. [View at Google Scholar](#)
- Freixas, X., 2005. Deconstructing relationship banking. *Investigaciones Económicas*, 29(1): 3-31. [View at Google Scholar](#)
- Garriga, J.M., 2006. Relationship lending and small business finance: Empirical analysis of cost of capital, credit rationing, and firm performance. Economics and Business Department Universitat Pompeu Fabra Barcelona. Retrieved from www.tdx.cat/bitstream/handle/10803/7344/tjmg.pdf.
- Greenbaum, S.I., K. George and V. Itzhak, 1989. Equilibrium loan pricing under the bank-client relationship. *Journal of Banking & Finance*, 13(2): 221-235. [View at Google Scholar](#) | [View at Publisher](#)
- Harhoff, D. and T. Korting, 1998. Lending relationships in Germany: Empirical results from survey data. *Journal of Banking and Finance*, 22(10-11): 1317-1353. [View at Google Scholar](#) | [View at Publisher](#)
- Henry, S.B., 2010. Relationship lending, transaction costs and the lending interest rates of commercial banks in Uganda. Masters Theses, Makerere University.
- Hertz, N., 2011. Women and banks: Are female customers facing discrimination? United Kingdom: Institute for Public Policy Research. pp: 1-29.
- Hoshi, T., A. Kashyap and D. Scharfstein, 1990. Bank monitoring and investment: Evident from the changing structure of Japanese corporate banking relationships. University of Chicago Press. pp: 105-126.
- Jyrki, N. and N. Mervi, 2000. Does relationship banking have value for small firms. University of Tampere, LTA2/00, 245 – 262.
- Kadouamai, S., 2013. Opacity of governance and lack of access SME bank financing in Sub-Saharan Africa: Determinants of positions. *International Journal of Current Research and Academic Review*, 1(3): 58-70. [View at Google Scholar](#)
- Lehmann, E. and D. Neuberger, 1998. SME loan pricing and lending relationships in Germany: A new look. Working Paper No. 18, Universität Rostock.
- Memmel, C., C. Schneider and I. Stein, 2007. Relationship lending–empirical evidence for Germany. Discussion Paper Series 2: Banking and Financial Studies No. 14/2007.
- Michael, S., 1973. Job market signaling. *Quarterly Journal of Economics*, 87(3): 355-374.
- Ngoa, T.H. and S.E. Niyonsaba, 2012. Access to bank credit and survival of Cameroonian SMEs: The role of social capital. *African Journal of Economics and Management*, 19(1-2): 111-136.
- Ogunleye, E., 2008. Financial globalization and macroeconomic performance in Sub-Saharan Africa: Evidence from Nigeria. *African Journal of Economic Policy*, 15(1): 25-46.
- Petersen, M. and R. Rajan, 1994. The benefits of lending relationships: Evidence from small business data. *Journal of Finance*, 49(1): 3-37. [View at Google Scholar](#) | [View at Publisher](#)
- Petersen, M. and R. Rajan, 1995. The effects of credit market competition on lending relationships. *Quarterly Journal of Economics*, 110(2): 407-443. [View at Google Scholar](#) | [View at Publisher](#)
- Petersen, M.A., 1999. Banks and the role of lending relationships: Evidence from the U.S. Experience. *Journal of Finance*, 63(1): 37-61. [View at Google Scholar](#)

- Rajan, R., 1992. Insiders and outsiders: The choice between informed and arm's length debt. *Journal of Finance*, 47(4): 1367-1400. [View at Google Scholar](#) | [View at Publisher](#)
- Sharpe, S.A., 1990. Asymmetric information, bank lending, and implicit contracts: A stylized model of customer relationships. *Journal of Finance*, 45(4): 69-87. [View at Google Scholar](#) | [View at Publisher](#)
- Sreedhar, B., D. Sandeep, S. Anthony and S. Anand, 2007. The bank's view of lending relationships. *Journal of Financial Economics*, 85(2): 368-419. [View at Google Scholar](#)
- Stiglitz, J.E. and M. Rothschild, 1976. Equilibrium in competitive insurance markets: An essay on the economics of imperfect information, Columbia university academic commons. *Quarterly Journal of Economics*, 90(4): 629-649. [View at Publisher](#)
- Suwanaporn, C., 1996. Determinants of bank lending in Thailand: An empirical examination for the years 1992 to 1996. Thesis, Frankfurt am Main [u.a.]: Lang, 200.
- Udell, G.F., 2008. What's in a relationship? The case of commercial lending. *Business Horizons*, 51(2): 93-103. [View at Google Scholar](#) | [View at Publisher](#)
- Weinstein, D.E. and Y. Yafeh, 1998. On the costs of a bank-centered financial system: Evidence from the changing main bank relations in Japan. *Journal of Finance*, 53(2): 635-672. [View at Google Scholar](#) | [View at Publisher](#)

Views and opinions expressed in this article are the views and opinions of the author(s), Asian Journal of Economic Modelling shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.