Impact of Access to Finance Services on Business Development in Rwanda

By

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1. Introduction

The primary business of banks is to provide financial services by accepting deposits from public and extend loans to the business firms and individuals. It is well known that commercial banks are organizations that provide financial support to all economic activities through intermediation (Rose et al, 1993). Commercial banks are considered as dealers in money with an effective contribution on economic development. They are not only the store houses of the country's wealth but also the reservoirs of resources necessary for the economic growth of an economy. They are instruments for developing internal as well as external trade and guarantee sustainable development. Banks play an important role in business developing in upcountry areas by improving the standards of living of the population. In this vein, it is important to recognize that they mobilize savings and finance the economic activities such as agriculture, commerce, manufacturing and trade. Banks make loans for services, goods as well as real estate (mortgage) loans for both consumers and businesses. (Microsoft Encarta, 2009).

Access to credit refers to the availability of a supply of quality financial services at a reasonable cost. Business development comprises a number of tasks and processes generally aiming at developing and implementing growth opportunities within and between organizations. It is the creation of long-term value for an organization from customers, markets, and relationships. Improved access to credit helps businesses to grow and advance their financial performance (Claessens, 2006 and Bamford, 1997). Sometimes acquisition of credit is difficult due to credit terms that are perceived to be unfavorable. Kakuru (2008) documented that in Uganda collateral was up to a tune of 150% of the loan, the repayment period was as short as 24 months, and interest rates ranged from 23% to 30% per month. The consequence of this is that several businesses start-up, a good number of them fail to continue and die early. If there has been an increase of registered businesses by the Rwanda Development Board (RDB), it is not well known how many of them survive after a few years and more particularly how many of them have access to credit. Despite the important role firm's are expected to play in the economy of Rwanda, there are a number of constraints which act as barriers to the emergence and growth of a sustainable business development. Among the major constraints that hinder business development and thus entrepreneurship one might include, the size of firm's operations, poor production technology and innovation, limited access to markets, limited managerial skills, and limited access to banking facilities. The researchers therefore seek to investigate the effect of access to finance services to the development of businesses in Rwanda.

Rwanda is one of the poorest country in the world with about 39% of its population below the poverty line. Most of these people do not have access to formal finance. World bank survey (2011-2012) shows that only 46.9% of firms in Rwanda had line of credit or loan from financial institution while others did not. This implies that they do not have access to financial services offered by formal commercial institutions because of no collateral, no regular income that restrict them to access financial services like credits and savings and thus become barriers to the development of businesses. This paper seeks to identify whether or not access to finance has a significant effect on business development Rwanda. The main objective of the paper is thus to analyze the contribution of access to finance services on the business development in Rwanda. The Specific objectives are i) to investigate the determinants of firm's access to credit in Rwanda; ii) to examine the effect of access to credit on business development in Rwanda; and iii) to provide some policy recommendations based on the study findings.

2. LITERATURE REVIEW

Numerous studies have attempted to empirically investigate the factors affecting business development. Geroski (1995) stated that the growth and survival prospects of new firms depend on their ability to learn about their environment and to link changes in their strategy choices to the changing configuration of that environment. Penrose (1959) noted that resources with which a particular firm is accustomed to working shape the productive services its management is capable of rendering. This means that firms that have good management talent are able to keep them realizing superior productive opportunities and sustain superior returns. Penrose (1959) pointed out that internal resources that a business has facilitate its continuity and development. This means that there is a need of developing resources most utilized in the business which are the human capacities such as skills and knowledge in the management of business.

Gebreeyesus (2009) found strong evidence that innovating firms are more likely to grow than the non-innovating businesses. The argument was in line with the claim that innovations lead to expansion of businesses. Innovation was found very important for the survival of firms, emphasizing its role for the very existence of firms (Schumpeter, 1942). Gebreeyesus (2009) and Rogers (1995) identified the features of innovative entrepreneurs; socioeconomic status, personality, and communication behavior of which education, social status, age, attitude toward risk, and density of social network in which the individual participates, are among the long list of variables for innovative entrepreneurship. This suggests that the individuals with access to skills, knowledge development and information access would be more likely to develop or to be innovative and thus to be more productive. Innovation may take the form of product or processes in the product and service delivery. However, from the literature it can be inferred that refusing to innovate over time can render a business stagnant and non-existent in the future.

Other studies explored the effect of access to finance on business performance. Pamela et.al. (2010) indicated that difficulty in accessing financing, limited markets, difficulty obtaining raw materials and other inputs at reasonable cost, limited resources to have own building space, lack of technical and management training for the owners, difficulty finding required equipment locally, lack of own transport facilities and limited access to electricity are important determinants of business performance.

Ayyagari, Meghana et, al (2006) found that "only obstacles related to finance, crime, and political instability directly affect the growth rate of firms. The robustness test revealed that finance result had the highest explanatory power. These results implied that maintaining political stability, keeping crime under control, and undertaking financial sector reforms to relax financing constraints are likely to be the most effective routes to promote firm's growth. The work brought to light some important factors of the environment which are political stability without which firm growth and development would be difficult or impossible.

Similar results reported by Gebreeyesus (2009) showed that credit constraint affect negatively firm growth. This since most of the formal finance services such as banks usually prefer to deal with the larger companies due to the lower risk and administrative costs hence excluding the small firms indirectly. The financial systems in most of African countries are described as being small, shallow and costly with limited outreach. This is not only reflected in aggregate financial development indicators but also in firm and household data gauging the use of formal financial services (Beck and Cull, 2014). The limited nature of the financial systems makes them less efficient in channeling funds to their most productive purposes.

Finance access to business is essential for the development and survival of SMEs. Several studies on business establishments have emphasized this as one of the main setbacks that businesses especially of a small size are faced with (ACCA, 2009). Osano and Languitone (2016) put forward that external finance for small and medium enterprises is essential for boosting start-up businesses. The study added that without external finance, small and medium enterprises will probably not be able to compete in an international market, to expand the businesses and strike linkages of business with the large firms. They further started that lack of access to finance is the most serious barrier to expansion of businesses and start-ups which have been mentioned by existing SMEs and potential operators. Access to financial services can also serve to make a business more efficient in its operation through access to efficient assets and technologies. According Demirgüç- Kunt, Love and Maksimovic (2006), firms can safely acquire a more efficient productive asset portfolio where the infrastructure of finance is in place, and they are also able to choose more efficient organizational forms.

The results from Ayyagari, Meghana et, al., (2006) indicate that financing is one of the most important obstacles that directly constrain firm growth. The papers documented that the major financing constraint observed in financing is the very high interest rates especially for SMEs.

This particularly applies to the small businesses which in Rwanda consist of about 90% of the total business establishments. Financial services become a more important issue with the existence of asymmetric information arises when parties are not privy to the same amount of information to allow making financially good judgments.

There is an extensive literature on the determinants of access to credit. The Rwanda Financial inclusion 2016 survey by Finscope supports that individuals that are educated hence having more information on financial services are more likely to use financial services than those that with no formal education. Osano and Languitone (2016) showed that most SMEs were not aware of funding programs and that most SMEs face difficulties in accessing funds to invest in their projects. This might be important and relatable to the Rwanda case since a large number of businesses are not large sized firms. IFC (2010) reports that SME with more information on financing result in better credit risk decisions.

The reviewed papers have shown that access to formal finance is an important factor in business development. However, the magnitude of a such effect was shown to vary across country while there are no recent papers to investigate the issue using the data from Rwanda. This suggest an new attempt of analyzing the effect of access to finance on business development is very supportive.

3. Data and Methodology

The study used secondary data collected between June 2011 and February 2012 in Rwanda by the World Bank. Through questionnaires and interviews of manufacturing and services sectors, the survey assessed the constraints to private sector growth. The objective of the survey was to obtain feedback from enterprises on the state of the private sector as well to track changes in the business environment over time, thus allowing, for example, impact assessments of reforms. The primary sampling unit of the study was the establishment. An establishment was a physical location where business is carried out and where industrial operations take place or services are provided. A firm may be composed of one or more establishments. For example, a brewery may have several bottling plants and several establishments for distribution. For the purposes of the survey an establishment must make its own financial decisions and have its own financial statements separate from those of the firm.

The standard Enterprise Survey topics include firm characteristics, gender participation, access to finance, annual sales, costs of inputs and labor, workforce composition, bribery, licensing, infrastructure, trade, crime, competition, capacity utilization, land and permits, taxation, informality, business-government relations, innovation and technology, and performance measures. Over 90 percent of the questions objectively ascertained characteristics of a country's business environment. The remaining questions assessed the survey respondents' opinions on what are the obstacles to firm growth and performance. The size of the sample was 241 establishments with 230 from Kigali and 11 from Butare. In the sample, 65.5 percent of the firms were from services sector while 34.4 percent were from manufacturing sector.

In this study, the main dependent variable is the business development while the independent variables include access to finance, credit form, interest rate, gender of the owner of the firm, age of the owner, educational level of the owner, age of the company, location and electrical connectivity. Since the performance of the model was measured in terms of the value of sales, ordinary least squares (OLS) regression method was used to compute the estimates.

Since one of the main independent variables is access to finance, there was a need to also model the determinants of access to finance. Thus, two models were estimated and the first one consisted of analyzing factors affecting access to finance. Since a firm can either have access to finance or not, the dichotomous attitude was represented as

$$Y_i = \begin{cases} 1 \text{ if the firm has access to finance} \\ 0 \text{ otherwise} \end{cases}$$

The empirical model can be written as

$$Y_i = \alpha_0 + \alpha_1 X_{1i} + \alpha_2 X_{2i} + \alpha_3 X_{3i} + \alpha_4 X_{4i} + \alpha_5 X_{5i} + \varepsilon_i$$

Where Y_i measures the access to finance i (the firm has access to finance or does not), β s are the model coefficients to be estimated and the subscript i for each variable stands for individual i since the unit of analysis in the survey is the firm. X_1i measures the age of the owner of the firms, X2i the gender, X_3i stands for age of the owner, X_4i is interest rate, X_5i is the location of the company while X_6i total sales of the firms. ε_i is the disturbance or the error term representing all values which can influence access to finance but not included in the model.

The second and the main model consists of estimating the effect of access to finance and other independent variable on business development. The estimated model was presented as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \varepsilon_i$$

Where Y_i measures the firm's performance of firm i, βs are the model coefficients to be estimated and the subscript i for each variable stands for firm i since the unit of analysis in the survey is the firm. X_{1i} is the level of access to finance for firm i, X_1i measures the age of the owner of the firms, X2i the gender, X_3i stands for age of the owner, X4i is interest rate, X5i is the location of the company while X_6i total sales of the firms. ε_i is the disturbance or the error term representing all values which can influence access to finance but not included in the model. Again ε_i stands for the error term.

For the two models the use of descriptive statistics helped to capture qualitative information from the data. Since we used a sample of 241 firms and draw generalized conclusions to all Rwanda firms, we used inferential statistics, represented here by regression analysis. The results of the study are relevant for policy formulation. STATA software package was used in all the computation process.

4. Results and discussion

In this section, empirical results of the determinants of access to finance and business development are presented. We first report the descriptive statistics related to the models. For the first model, the logit coefficients (odds ratios) and estimates from OLS regression model are presented.

4.1 Descriptive statistics

The sample used in this paper shows that among owners of all the 241 firms, only 11.2 percent of firms were owned by women while about 50.2 percent were owned by men. Gender disparity seems to remain a problem despite the efforts made by the government in terms of gender balance. There seems to be also a significant age disparity since the average age in years was 51 years. This means that majority of firm's owners are old people. There is then an need to implement a policy stimulating young people in business. At least 3.7 percent of the owners of firm respondents had a primary certificate, 17.4 had at least a high school certificate, 5.8 percent had vocational training, while 70.0 percent had undertaken the university studies. Only 1.6 percent of the owners of the firms had no education. Looking at the variable measuring the access to finance, it is clear that 46.9 percent of firms had line of credit or loan from financial institution while others did. 48.6 percent of the firms had loans while 47.7 percent had lines of credits. 59.2 percent of firms reported to have credits with interest rates higher than 16 percent, this is an indication that interest charges might be a problem to both access to finance and firms' performance.

Table 1: Descriptive Statistics

Variable	**Number of observations**	**Mean**	**Standard deviation**
Legal status	241	3.19917	1.262339
Gender (=1)	241	1.112033	3.219715
Age	241	1966.378	257.3526

Years of experience	241	12.84647	9.455448
Education (=1)	241	4.813278	2.086262
Location	74	2.202703	2.006699
Electrical connection	241	1.958506	0.1998443
Annual sales	241	1.30e+09	6.03e+09
Innovation	148	1.277027	0.4490496
Credit1 (1)	241	21.13278	29.90344
Working capital borrowed	241	0.8879668	9.803055
Credit form	113	1.132743	2.011149
Credit good	241	1.074689	2.157019
Interest	13	16.0177	10.25913

Source: Researchers' own construction

4.2 Empirical findings

4.2.1 Determinants of Access to credits

The Wald chi2 tests related to the Table 2, measuring the goodness of fit indicate that the estimated models give an adequate description of the data because it is highly significant implying that all models parameters are jointly different from zero. The results show that age of the firm is a significant determinant of access to credit. Its coefficient is positive and significant at the 10 percent level. This means that while holding all other factors constant, as age of the firm increases by 1 year the log odds of having access to credit increases by 0.9. The coefficient on interest is another factor influencing the access to credit. The coefficient is significant at the 10 percent level suggesting that everything remaining the same, a decrease in interest rate would increase the use of financial services.

The coefficient on education was also an important factor affecting the access to finance. It is positive and significant suggesting that the educational attainments constitute a tool to improve access to finance. The coefficient indicates a positive association between access to finance and schooling.

Table 2: Logistic Estimates for Access to finance: Dependent variable is probability of obtaining a credit

Variable	Estimates	Z-statistics
Age of the owner	-.0511225	-0.94
Gender (=1)	.0591194	0.52
Age of the firm	.0908769	1.51*
Interest	.8615345	1.86*
Education (=1)	.8766206	1.50*
Location	-.7421402	1.87*
Obstacles from competitors	1.531731	-1.83*
Constant	-.7421402	0.73

Note: * = significant at 10% level

Source: Researchers'construction

4.2.2 Effect of Access to Finance on Firm's performance

The coefficient of determination measuring the goodness of fit indicate that the estimated models give an adequate description of the data because it is highly significant implying that all models parameters are jointly different from zero. The OLS results are reported in the table below and show that among others age of the firm is an important factor in explaining the business development in Rwanda. The results specify that as age increases by 1 more year, other factors remaining the same, firm's performance increases by 0.004. If the magnitude was shown to be small, the coefficient was statistically significant. This means that while holding all other factors constant, increasing the age of the firm improves the experience and the market knowledge and thus affect the firm's performance

Access to credit variable is positive and significant at the 1 percent level. The results suggest having access to finance increases the profitability of the firms. This is supported by the access to capital and to modern equipments. This finding is similar to Pamela et.al. (2010) who reported that easiness in accessing financing, and other inputs at reasonable cost affects the development of a business. Similarly, Gebreeyesus (2009) found that credit constraint affect negatively firm growth. This since most of the formal finance services such as banks usually prefer to deal with the larger companies due to the lower risk and administrative costs hence excluding the small firms indirectly. The coefficient on education attainment is positive and statistically significant. The coefficient indicates a positive association between access to finance and schooling.

Table 3: OLS Estimates: Dependent variable is Business Development (Annual sales)

Variable	**Estimates**	**T-statistics**
Age of the owner	0.004	0.26
Gender (=1)	-0. 18	-0.15
Age of the firm	0.57	1.31*
Access to finance	0.019	1.52*
Interest	.0.69	-0.17
Education (=1)	0.29	1.40*
Obstacles from competitors	0.048	0.34
Constant	-0.002	-0.68

Note: * = significant at 10% level

Source: Researchers' construction

5 Conclusion and recommendations

The overall objective of this study was to examine the relationship between access to finance and business development in Rwanda. The study was motivated by the need of understanding the factors affecting entrepreneurship in the country. A clear understanding of this is necessary to guide the formulation of appropriate policy measures. We estimated 2 equations; the access to finance equation and the business development equation. The factors that affect access to finance include among others age of the firm, interest and education. The relationship between access to finance and business development was clearly established by the results.

However, since we have used cross-sectional data collected only in Kigali and Butare, there is a need for further research using a more representative data covering the whole country. This to be possible, there should be a national representative data collection. In addition, as this study looked only the entrepreneurship at firm's level, there is need to analyze the same situation but at household level and collecting data as well.

In addition, since access to finance is an important factor in explaining business performance, there is need to develop more policies that increase access to finance for firms and households.

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