

# Credit and employment growth among small enterprises in Kenya

Eliud Dismas Moyi

Macroeconomics Division, Kenya Institute for Public Policy Research and Analysis (KIPPRA), Nairobi, Kenya

## Email address:

[emoyi@kippra.or.ke](mailto:emoyi@kippra.or.ke), [edmoyi@yahoo.com](mailto:edmoyi@yahoo.com)

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**Abstract:** Policy makers in Kenya expect micro and small enterprises to provide the bulk of new jobs created in the economy yet these enterprises face significant credit constraints. This study applied regression analysis to establish the link between the credit constraint and employment growth of small enterprises in Kenya. The results failed to confirm any important role for the credit constraint in limiting small firm employment growth. However, the credit constraint variable posted significant results when interacted with other variables such as access to workspace, access to technology and formality status of the enterprise. This was interpreted to mean that the marginal effect of the credit constraint on firm growth mainly depended on access to workspace, access to technology and formality status. This leads to the conclusion that the current emphasis on credit alone and the minimalist paradigm need to be re-evaluated.

**Keywords:** Entrepreneurship, Credit, Economic Growth, Developing Economies

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## 1. Introduction

Results of the Kenya Integrated Household Budget Survey of 2007 indicate that about 4% of Kenyan households receive credit from commercial banks, 3.6% from micro-finance institutions and 4.3% from other financial institutions (GOK, 2007). This shows that it is only about 11.9% of the Kenyan households that have access to credit implying that financial deepening is very low. Similarly, results of the 1999 National Baseline Survey (CBS, ICEG and K-REP, 1999) indicate that credit was cited by about 17.7% of the small business entrepreneurs as one of the most important obstacles to their operations. Whereas the credit constraint applies to both firms and households, small business are relatively more credit constrained than larger enterprises yet they are expected to provide over 80% of the new jobs created annually in the economy (GOK, 2008). This perhaps explains why there has been a rapid expansion in both government and donor contributions towards credit for micro and small enterprises in Kenya (Mbugua, et al, 2004).

In Kenya, it is widely believed that the slow growth of firms is the result of a lack of access to financial resources (McCormick and Kinyanjui, 1997). The lack of finance has been cited as a major contributor to SME failure in Kenya. Between 1996 and 2003, for instance, donor contribution to

the MSE sector in Kenya was close to Kshs 7 billion, with 53% of the projects supplying credit and other financial services (Mbugua, et al, 2004). While some authors have argued that credit can make an important contribution to micro and small enterprise (MSE) development (Daniels et al, 1995), others<sup>1</sup> believe that micro-credit should not be expected to noticeably affect business development since poor entrepreneurs use loans for “consumption smoothing” rather than for investment<sup>2</sup>.

Some authors such as Roth (1997) argue that credit programmers are poorly targeted and they tend to treat the symptoms and not the causes of poverty while others like Navajas et al (2000) argue that the fervor for micro-credit<sup>3</sup> may even siphon funds from other projects that could help the poor more. In view of this debate in the area of micro-credit, it seems that the effect of micro-credit on growth remains unresolved. It also appears that there are concerns as to whether credit has the potential to spur the growth of

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<sup>1</sup> see Onyuma and Ouma (2005); Ditcher (2007)

<sup>2</sup> Belongia and Gilbert (1990) seem to confirm this argument. In a study of the effects of federal credit programs on farm output in US, they established that there was no important role for credit in facilitating agricultural production and, in doing so, suggested that the credit was fungible and diverted to higher-valued opportunities.

<sup>3</sup> This study uses the concepts credit and micro-credit. The definitions for these concepts are provided in section 2.1.

small enterprises, boost entrepreneurship and reduce poverty. This study contributes to these debates by seeking to establish whether credit has been instrumental in improving the employment growth among MSEs. The key question guiding the study is: What is the relationship between credit and employment growth among MSEs?

The remaining part of this paper is organized as follows. Section 2 provides some theoretical framework and identifies some gaps in the literature on Kenya. Section 3 outlines the methodology and data sources. Empirical analysis and interpretation of the findings is the subject matter of section 4. Section 5 concludes the study and draws policy implications.

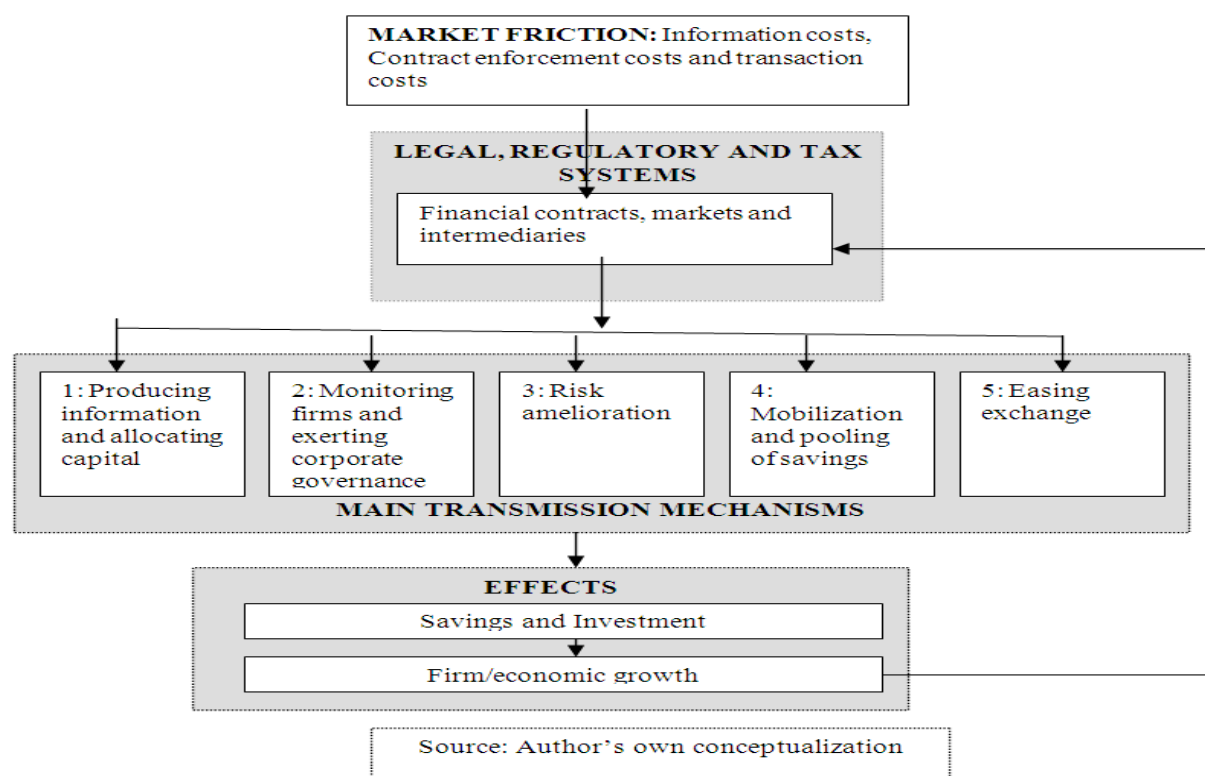
## 2. Existing Knowledge

### 2.1. Some Theory

Broadly, the concept of finance encompasses the provision of credit, accumulation of savings and other financial services including the supply of insurance

services (Ouma and Atieno, 2001). All these are channeled through the financial system, which translates savings into credit, insurance and other services. In the same vein, micro-credit is the provision of credit in amounts that are small in size to poor clients, who are conventionally believed to lack the capacity to save and the ability to pay the high interest rates charged by commercial banks (Onyuma and Ouma, 2005; Ditcher, 2007). Micro-credit is therefore seen as an effective mechanism for providing investment funds to small businesses, thus easing their credit squeeze, promoting their growth and lifting poor entrepreneurs out of poverty.

The neo-classical theory argues that financial systems emerge because they diminish costs that bring about market friction (see fig 1). Such costs include (1) costs of becoming informed, (2) costs of structuring, administering and enforcing financial contracts and (3) costs of transferring financial claims. Imperfect information, for instance, is associated with problems of screening, incentives, monitoring and enforcement (Joshi, 2005).



*Figure 1. Transmission channels – finance and growth*

Legal and contractual structures, competition law and regulation, and tax structures guide the evolution of financial systems. Financial development is realized when financial instruments, markets and intermediaries lower the effects of information, enforcement and transaction costs (Levine, 2004). When this happens, the economy gains through five main channels as identified by Aziz and Duenwald (2002), Hermes and Lensink (2001) and Levine (2004). These channels are;

- (1) Monitoring of investments and implementation of corporate governance: According to the standard agency theory, the corporate governance problem can be ameliorated through shareholders and creditors monitoring managers to ensure that the latter maximize firm value. For example, efficient stock markets that allow for public share trading provide information about firms, which helps the owners to peg managerial compensation to stock prices.

- (2) Production of ex ante information about possible investments: Financial intermediaries have a very important role in financial markets since they are well suited to engage in information-producing activities that facilitate productive investment in the economy (Mishkin, 1999). The financial system screens and monitors investment projects and therefore increases the marginal productivity of capital by collecting information to evaluate alternative investment projects. In fact, endogenous growth literature argues that financial repression may channel capital to unproductive industries lowering the marginal product of capital and may reduce saving.
- (3) Trading, diversification and management of risk: While savers are risk averse, high return projects tend to be riskier than low-return projects. Thus, financial markets that make it easier for people to diversify risk tend to induce a portfolio shift toward projects with higher expected returns. This is because financial intermediaries have both the ability and the economic incentive to address two basic problems of asymmetric information, namely adverse selection and moral hazard (Mishkin, 1999). Adverse selection occurs when potential bad credit risks are the ones who most actively seek out a loan. In this case, the agent has more information than the principal (Darrrough and Stoughton, 1986). Moral hazard occurs because a borrower has incentives to invest in projects with high risk in which the borrower does well if the project succeeds, but the lender bears most of the loss if the project fails. In this case, the action undertaken by the agent is unobservable and has a differential value to the agent as compared to the agent.
- (4) Mobilization and pooling of savings: This is the process of collecting capital from diverse savers for investment. It is associated with (a) overcoming the transaction costs of collecting savings from different individuals and (b) overcoming the informational asymmetries of making savers feel comfortable in relinquishing control of their savings. This has the effect of exploiting economies of scale, overcoming investment indivisibilities and increasing savings.
- (5) Exchange of goods and services. Financial arrangements that lower transaction costs can promote specialization, technological innovation and growth.
- (6) In Kenya, the absence of sophisticated legal and contractual structures, competition law and regulation, mean that MSEs operating in the financial markets suffer from high transaction costs, monopoly distortions (due to limited choices of financial services), information failure, mistrust, uncertainty and risk aversion. Most entrepreneurs have to finance their own venture with own savings and they bear the risk of their activities themselves (Sleuwaegen and Goedhuys, 1998). Commercial banks and other financial institutions fail to cater for the credit needs

of small business due to the lending terms and conditions. However, in recent years, there has been an increasing supply of credit to the sector through donor funded programmes, the Government and Non-Governmental Organizations.

## 2.2. Studies on Kenya

Whereas credit and growth are of concern in the MSE sector in Kenya, literature on these aspects is not only fairly recent but is also thin. Studies that have attempted to tackle this subject include Kimuyu and Omiti (2000), Atieno (2001), Ouma and Atieno (2001), Ouma (2002), Ouma and Rosner (2003), Onyuma and Ouma (2005), Nkurunziza (2005), Simeyo et al (2011), Memba et al (2012), Obwori et al (2012), Mairura et al (2012), Simwa and Sakwa (2013), Kiraka et al (2013) and Mwangi and Wanjau (2013). Out of these, two studies (Ouma and Atieno, 2001, Onyuma and Ouma, 2005) while mainly conceptual put forward the argument that micro-finance is associated with the myth that the major factor constraining success of businesses is lack of access to credit. The authors conclude that the poor need much more than micro-loans.

Ouma (2002) and Ouma and Rosner (2003) analyze savings and credit. Savings among SME proprietors is inhibited by: high opening and minimum savings balances requirement of formal financial institutions, low levels of income, low levels of education, and high monthly domestic expenditures. Choice of lending sectors is determined by size of loans, the demand for security, the number of days it takes to process a loan, restriction on loan use and age of entrepreneur. Determinants of choice of lending institutions include demand for collateral, demand for small loans, bureaucracy in loan processing and the age of urban SME proprietors.

Kimuyu and Omiti (2000) found that the factors that significantly affected the odds for applying for a loan include formality and age of proprietor. Demand for credit is determined by formality, age of entrepreneur and primary level of education while determinants of credit supply include formality, urban location and firm revenue.

Atieno (2001) found that 85% of small scale enterprises were credit constrained. She interpreted this to imply that lack of supply creates lack of demand, displayed in the low revealed demand. This generates credit rationing by both formal and informal credit markets and the creation of a credit gap in the market.

Studies that have analyzed the relationship between credit and growth of enterprises include Nkurunziza (2005) Simeyo et al (2011), Memba et al (2012), Obwori et al (2012), Mairura et al (2012), Simwa and Sakwa (2013), Kiraka et al (2013) and Mwangi and Wanjau (2013). Nkurunziza (2005) finds that, conditional on survival, firms that use credit grow faster than those not using it. However, the results of this study apply only to the manufacturing industry. No attempts were made to provide results for manufacturing MSEs. Similarly, data limitations could not

allow for the analysis of other sectors. Mairura et al (2013) find that financial intermediaries support (by offering banking services, credit, training and advisory services) to manufacturing SMEs in Nairobi promoted their growth prospects. A study of 1,200 small scale soapstone operators in Gucha South District shows that 86% of the respondents had experienced growth of their enterprises as a result of loans obtained (Obwori et al, 2012). This results is corroborated by Simwa and Sakwa (2013), Simeyo et al (2011), Memba et al (2012), Obwori et al (2012), Mairura et al (2012), Simwa and Sakwa (2013), and Mwangi and Wanjau (2013).

Kiraka et al (2013) using multivariate logistic analysis found mixed results. In the “employee growth” equation, the authors found the loan amount did not significantly affect the odds that the business will grow while the age of the loan significantly increased the odds that the business will grow. However, in the “total business worth” equation, age of the loan is positive and significant but loan amount is positive but insignificant. In the “turnover growth” model, the loan amount is negative and significant while the age of the loan is positive and significant. In the “growth in gross profit” equation, loan amount is negative and significant but loan amount is positive and significant. Notably, the variable “loan amount” does not give very consistent results when the authors analyze different measures of firm growth.

Apart from Kiraka et al (2013), most of the studies reviewed here use data collected from small samples (less than 200 firms) and others collected data from only one sector. This limits the extent to which such results could be generalized. The current study uses a national database of 2,000 micro and small enterprises.

### 3. Methodology

This study analyses the relationship between enterprise growth and credit using a functional form proposed by Evans (1987).

$$S_{t^*} = [G(A_t, S_t)]^d (S_t) \quad (1)$$

Where  $t$  denotes time with  $t^* > t$ ,  $d = t^* - t$ .  $A_t$  is age at period  $t$ ,  $S_t$  is the size of the firm in period  $t$  and  $S_{t^*}$  is the size of the firm in period  $t^*$  and  $G$  is a growth function. Taking the logarithm of both sides gives.

$$\frac{\log(S_{t^*}) - \log(S_t)}{d} = \log G(A_t, S_t) \quad (2)$$

A second order logarithmic expansion of  $\log G(A_t, S_t)$  in equation (2) gives;

$$\frac{\log(S_{t^*}) - \log(S_t)}{d} = a_0 + a_1 \log S_t + a_2 \log A_t + a_3 (\log S_t)(\log A_t) + a_4 (\log S_t)^2 + a_5 (\log A_t)^2 \quad (3)$$

By denoting  $\frac{\log(S_{t^*}) - \log(S_t)}{d} = \text{Growth}$  and then

augmenting equation (3) by a linear combination of variables  $X_i$  (where  $i = 1, n$ ) to account for other factors that affect firm growth, the function can be specified as;

$$\text{Growth} = b_0 + b_1 \log S_t + b_2 \log A_t + b_3 (\log S_t)(\log A_t) + b_4 (\log S_t)^2 + b_5 (\log A_t)^2 + \sum_{i=1}^n b_i X_i \quad (4)$$

The variable  $X_i$  captures other explanatory variables that include *sector (SC)*, *formality (FM)*, *education (ED)*, *credit constraints (CR)*, *access to technology (TC)*, type of *worksite (WS)* and *access to markets (MT)*. A stochastic variable ( $\epsilon$ ) is also included to control for any errors. It is assumed that  $\epsilon \sim N(0, \delta^2)$ , implying normality. After taking into account these other variables, equation (4) can be expressed as a stochastic augmented growth equation and specified as follows<sup>4</sup>;

$$\text{Growth} = \alpha + \beta_1 \ln S_t + \beta_2 \ln A_t + \beta_3 (\ln A_t)(\ln S_t) + \beta_4 (\ln S_t)^2 + \beta_5 (\ln A_t)^2 + \beta_6 SC + \beta_7 ED + \beta_8 FN + \beta_9 FM + \beta_{10} TC + \beta_{11} WS + \beta_{12} MT + \epsilon \quad (5)$$

Equation (5) is the estimating equation. The variables in the equation are described below.

**EMPLOYMENT GROWTH (Growth):** This is the depended variable. Employment growth, defined as the average annual employment growth rate, is measured as:

$$\text{Growth} = \frac{\log(S_{t^*}) - \log(S_t)}{d}$$

Where  $S_t$  is the number of regular employees at the time of establishment of the firm and  $S_{t^*}$  is the number of employees in 1999.  $d$  is the period over which employment growth is measured.

**SIZE ( $S_t$ ):** Firm size at start-up is included in the model to test Gibrat's Law, which argues that firm growth rates are distributed independently of firm size (Evans 1987). Size is measured as the number of regular employees.

**AGE ( $A_t$ ):** The age of the firm in 1999. The inclusion of firm age is rationalized by Javonic's learning models of enterprise growth which support an inverse relationship between age and growth (Evans, 1987; Sleuwaegen and Goedhuys, 1998; Liedholm, 2002). Newer firms should grow faster than their old counterparts since the former learn about their real efficiency and costs over time (Krasniqi, 2007).

**SECTOR (SC):** The performance of different sectors can

<sup>4</sup> The interactive terms capture the marginal effects present between the different explanatory variables. Given  $Y = a + bX + cZ + dXZ + u$ , then  $dY/dX = b + dZ$ , which implies that the marginal effect of  $X$  on  $Y$  depends on  $Z$ , where  $d$  captures the sign of this effect. If  $d$  and  $b$  are positive, it means that  $Y$  is increasing in  $X$  at a rate that is increasing in  $Z$ . If  $d$  is negative and  $b$  is positive, it means that  $Y$  is increasing in  $X$  at a rate that is decreasing in  $Z$ . If  $b$  is negative and  $d$  is positive, it means that  $Y$  is decreasing in  $X$  at a rate that is increasing in  $Z$ .

be responsible for some firms to grow faster than others (Sleuwaegen and Goedhuys, 1998, Nkurunziza, 2005). Firms located in sectors that grow faster are more likely to grow faster than their counterparts in stagnant or receding sectors. Two binary variables are employed for firms in the MANUFACTURING (SCm) and TRADE (SCT) sub-sectors. The reference group constitutes firms in the SERVICES sector.

EDUCATION (ED): This is measured by the education of the entrepreneur. Firms possessing more human capital should be more efficient, thereby growing much faster (Sleuwaegen and Goedhuys, 1998). The highest level of education is captured by three binary variables PRIMARY (EDp), SECONDARY (EDs) and HIGHER (EDh), the reference group being entrepreneurs without any formal education.

CREDIT (CR)<sup>5</sup>: The more credit constrained a firm is, the higher the barrier poses to its growth (McCormick and Kinyanjui, 1997). To measure the effects of liquidity constraints on the growth opportunities of the firm, a binary variable is included. The entrepreneurs were asked to indicate the most important constraint to their operation, the second most important obstacle and the third most important obstacle. All the responses are converted into dummy variables taking the value of 1 where the credit barrier to firm's growth is receded as either the first, second and third most important obstacle, and taking the value of 0 where recorded otherwise. The credit constraint expected to have a negative relationship with growth.

FORMALITY (FM): The benefits of formality include working in safer areas, more access to credit, more access to public and private services, more access to technology and markets. Following Sleuwaegen and Goedhuys (1998), formality is measured as a dummy variable where the responses take the value of 1 if the business is registered, and taking the value of 0 where otherwise. Formality is expected to have a positive relationship with growth of MSEs.

TECHNOLOGY (TC): Technology enhances the capability of MSEs to produce efficiently, meet deadlines, upgrade product quality and evolve new product designs (Moyi and Njiraini, 2005a). Access to technology is captured as a dummy taking the value of 1 if the firm has received technology advice from any source, and taking the value of 0 if otherwise. Technology advice is expected to have a positive relationship with growth of the firm.

WORKSITE (WS): A dysfunctional infrastructure acts as a disincentive to investments, and lowers the productivity and competitiveness of firms by imposing both direct and indirect costs to business (Moyi and Njiraini, 2005b). This

variable is captured as a dummy variable which takes the value of 1 if the respondent indicated that their worksite is permanent, and taking the value of 0 if otherwise. Access to a permanent worksite is expected to have a positive relationship with growth of the firm.

MARKETS (MT): The evolutionary systems change theory argues that the ability of a firm to survive and succeed depends upon its ability to seek and respond to the needs of market niches (Dirks, 1998). This variable is measured as a dummy variable taking the variable 1 if the respondent indicated that the firm had at least one main source of market information, and taking the value of 0 if otherwise. Firms with access to market information grow faster than those without.

DATA SOURCES: The study uses data obtained through the 1999 National Baseline Survey (CBS, ICEG and K-REP, 1999). Using National Sample Survey and Evaluation Programme (NASSEP) III sampling frame, a total of 1,500 households were sampled. The respondents were the adult members of the households that fell in the sample. Structured questionnaires were used to capture information on non-agricultural enterprises that were owned by the interviewees. This approach generated data for a sample of 2,000 MSEs. It is this data that was applied to the empirical model.

## 4. Empirical Analysis and Interpretation of Findings

The results in Table 1 are based on ordinary least squares regressions of equation 5. From the table, it is clear the statistical determinants of MSE growth include age, size, sector, formality status, human capital, business development services and credit\*BDS<sup>6</sup> cross product or multiplicative variables. On its own, the credit constraint variable did not influence the employment growth among MSEs. When the "credit constraint" variable was entered on its own, it turned out to be negative but insignificant. The results failed to confirm any important role for the credit constraint in limiting small firm growth. This finding was consistent with Belongia and Gilbert (1990) for US farms. The statistical insignificance of the "credit constraint" variable could be explained in several ways. First, it may be a confirmation of the argument by micro-credit practitioners that micro-credit is applied to finance consumption rather than investment. This consumption-smoothing argument posits that business owners use credit to bridge their consumption gaps rather than for investment. Clearly, this reflects the fungibility of credit and its MSEs in Kenya.

<sup>5</sup> There were several questions in the questionnaire that were designed to obtain data on credit. However, the questions requiring the respondents to provide data on "amount of credit applied for", "amount of credit received" and "cost of credit" suffered very low response rates yet they were the most appropriate for us to use. As a second option, we chose to construct a proxy variable for credit by using the "business constraints" ranking data provided by the respondents.

<sup>6</sup> Business Development Services (BDS) in our study is used to refer to access to technology, access to worksite and markets.

Table 1. Linear Regressions of employment growth determinants (OLS)

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	0.208*** (7.20)	0.313*** (4.77)	0.247*** (3.44)	0.312*** (4.64)	0.25*** (3.49)
logS	0.952*** (10.94)	0.822*** (9.90)	0.797*** (11.07)	0.817*** (11.82)	0.789*** (11.05)
(logS) <sup>2</sup>	-0.17*** (-4.20)	-0.13*** (-3.53)	-0.14*** (-3.47)	-0.12*** (-3.12)	-0.12*** (-2.99)
logA	0.101*** (2.50)	0.064* (1.66)	0.0719* (1.79)	0.073* (1.88)	0.068* (1.72)
(logA) <sup>2</sup>	-0.027** (-2.130)	-0.018 (-1.5)	-0.021* (1.63)	-0.02 (1.61)	-0.019 (-1.54)
logS*LogA	0.042 (1.22)	-0.010 (-0.03)			
Manufacturing (SC <sub>m</sub> )		-0.087* (-1.70)	-0.086 (-1.62)	-0.088* (-1.71)	-0.087* (-1.65)
Trade (SC <sub>t</sub> )		-0.24*** (-6.33)	-0.22*** (-5.41)	-0.25*** (-6.36)	-0.22*** (-5.49)
Primary (ED <sub>p</sub> )		0.039 (0.75)	0.045 (0.79)	0.053 (0.97)	0.047 (0.83)
Secondary (ED <sub>s</sub> )		0.122** (2.27)	0.122** (2.09)	0.131** (2.33)	0.124** (2.15)
Higher (ED <sub>h</sub> )		0.284*** (2.92)	0.203** (1.97)	0.278*** (2.76)	0.192* (1.87)
Formality Status (FM)		0.336*** (8.43)	0.327*** (7.53)	0.287*** (6.23)	0.26*** (5.24)
Access to Workspace (WS)			0.093*** (2.75)		0.074** (2.09)
Access to technology information (TC)			0.114** (1.98)		0.149** (2.26)
Access to markets (MT)			0.059** (2.01)		0.078** (2.39)
Credit constraint (CR)			-0.041 (-1.11)		0.172 (1.53)
Credit* Workspace (CR*WS)				-0.05*** (-2.60)	-0.088** (-2.02)
Credit*Technology (CR*TC)				-0.047 (-0.40)	-0.221* (-1.63)
Credit*Markets (CR*MT)				0.04 (-0.65)	-0.092 (-1.23)
Credit*Formality (CR*FM)				0.313*** (3.45)	0.298*** (3.10)
Adjusted R <sup>2</sup>	0.247	0.314	0.321	0.333	0.333
No. of observations	1520	1485	1342	1413	1340
F-Test Statistics	100.4***	62.7***	46.2***	51.3***	38.17***

Notes (1) The dependent variable is the annual logarithmic growth between the period of firm establishment and 1999.

(2) \* Statistical significance at 10%, \*\* Statistical significance at 5%; \*\*\*Statistical significance at 1%. t-statistics are in parenthesis.

When the “credit constraint” variable was entered on its own, it turned out to be negative but insignificant. The results failed to confirm any important role for the credit constraint in limiting small firm growth. This finding was consistent with Belongia and Gilbert (1990) for US farms. The statistical insignificance of the “credit constraint” variable could be explained in several ways. First, it may be a confirmation of the argument by micro-credit practitioners that micro-credit is applied to finance consumption rather than investment. This consumption-smoothing argument posits that business owners use credit to bridge their consumption gaps rather than for investment. Clearly, this reflects the fungibility of credit and its

diversion to other opportunities. This argument was supported by the results of the Kenya Integrated Household Budget Survey – KIHBS (GOK, 2007). According to the KIHBS, about 37.4% of the households borrowed to meet subsistence needs, 16% to meet medical costs and 17% to pay school fees. Only 5.6% of the households borrowed to purchase agricultural inputs, 8.4% to purchase other business inputs and only 4.2% to purchase or construct residential houses. So, there should be no expectation of any beneficial impact for credit on growth of enterprises.

The finding that the “credit constraint” had no effect on growth of MSEs in Kenya can be explained by the fact that despite there being many micro-credit programmes, their

outreach remained too shallow to cause any impact. Only 6% of MSEs had ever applied for credit (CBS, ICEG, K-REP, 1999) and in most cases, the loans were too small to fund any meaningful investments within the MSE sector.

When the “credit constraint” variable was entered by interacting it with BDS variables and formality status, the results were not very conclusive. The interactive variable between credit and operating from a permanent worksite (CR\*WS) was negative and significant in all the regressions. The negative variable on the product of CR and WS implied that growth decreased with the credit constraint less rapidly for firms with access to permanent work sites and that growth increased with access to worksite less rapidly for firms with the credit constraint. This implied that firms that operated from permanent work sites but experienced credit constraints were less likely to grow. Thus, the positive effect of the worksite variable was overwhelmed by the negative credit constraint to yield a negative overall interactive effect.

When the credit constraint (CR) variable was interacted with the access to market information (MT), at best, was insignificant in all cases. But when the credit constraint (CR) variable was interacted with access to technology information (TC), it yielded a negative but significant effect at 10%. This implied that growth was increasing in TC at a rate that was decreasing in CR. Since the credit constraint (CR) variable only posted significant results when interacted with other variables (i.e. WS, TC, FM), this implied that the marginal effect of the credit constraint (CR) on firm growth mainly depended on WS, TC and FM. It can be concluded that the integrated model held more promise for the delivery of micro-credit services.

## 5. Conclusion

The purpose of this study was to establish the link between credit and growth of small enterprises in Kenya. Evidence indicates that whereas the credit constraint affected firm performance negatively, this result failed to confirm any important role for the credit constraint in limiting MSE growth. In terms of policy, the overemphasis by policy makers on credit alone for MSEs would need to be re-examined. Equally, the models through which credit is delivered should be revisited since they seem to leave a lot of room for the borrowers to divert their loans. Public agencies and donors who seem to rally a lot of their efforts towards exclusive supply of credit should shift their focus towards a more integrated approach that emphasizes credit including issues such as markets, business competition, workspaces, business registration and access to technology. Empirical findings give credence to the “integrated model”, implying that the “minimalists approach” may not hold much promise in Kenya. Thus, MSE programmes in Kenya should follow an integrated approach, which allows for synergy across the various business services.

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