CHAPTER 6

Microenterprise Financing Preference: Is there a Hierarchical Preference Ordering?

Abstract

The preceding chapter has sought to explain why some microentrepreneurs choose not to borrow or are voluntarily excluded from seeking external finance despite needing it. In this chapter, we take the issue further by investigating microentrepreneurs' external financing preference when they decide to borrow or if the access constraints are removed. Whilst distinguishing a broader range of financing sources beyond what is typically the case within the corporate finance literature, the study also tests whether there is evidence of hierarchical preference ordering as predicted by Pecking Order Hypothesis (POH). We find that new enterprises are more likely to prefer low cost and less risky or less formal financing such as internal or bootstrap finances. However, as the enterprise gets established or matures its capacity to seek formal financing increases thereby becoming more likely to prefer or being in a higher category of formal financing. While we affirmed the POH, we argue that this order is a consequence of severe persistent constraints other than sheer preference. Our findings further reveal that, microentrepreneur's and MSE's-specific level socio-economic characteristics such as owner's education or financial literacy status, households tangible assets, ownership structure, enterprise size as well as sensitivity to high interest rates in the credit market to be important determinants of either past (start-up), present or future financing preference.

6.1 Introduction

A large body of theoretical and empirical literature has emerged on firm's external financing preference in the last three or more decades, especially after the seminal work of Modigliani and Miller (1958). However, most of these studies have been developed within the corporate finance and capital structure frameworks of large and medium firms with very little attention being paid to the small and micro enterprises. The most popular among the theories are the Static Trade-off theory (hereafter referred to as STT) of capital structure pioneered by Kraus and Litzenberger (1973) and the Pecking Order Hypothesis (hereafter referred to as POH) of capital structure developed by Myers and Majluf (1984).

The former, STT, explains the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. This is done by considering a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. Although this Static theory has been vital and a sensitive research area for academics and practicing managers, Gebru (2009) points out that its application for micro and small enterprises (hereafter referred to as MSEs) in particular is limited. This is because the STT requires a microentrepreneur to have a financial sophistication and substantial reliable data in application of such techniques as value optimization and others, which is impracticable due to the peculiar nature of MSEs.

The POH, on the other hand, states that firms adhere to a hierarchy of financing preference, where internal finance is first preferred to any form of external finance. This is because internal finance incurs neither security issuing or flotation costs nor disclosure of financial information and, thus no transaction cost. According to the POH, if the external finance is needed, then debt, which is associated with less severe information asymmetry, is preferred over equity or bond issue. The simplicity of this hypothesis and the fact that SMEs are more faced with information

asymmetry problem seem to suggest that financing decisions of MSEs are better explained by the POH than by the STT.

Consequently, many recent studies (e.g., Gebru, 2009; Abor, 2008; Green et al. 2002) of MSEs in Africa by exploring MSEs' financing preference, have attempted to explain in the context of POH. The conclusions, however, have been mixed. Whereas some have found their preference to be consistent with POH, others have not. For example, Green *et al.* (2002) studying MSEs' debt-equity and gearing decisions reach a conclusion that MSEs in Kenya obtain debt from a wide variety of sources. Likewise, a recent study by Gebru (2009), which investigates the determinants of financing preference of MSE's owners in Tigray state of Ethiopia also within the context debt-equity decision of the firm, concludes that MSE's financing preference generally conforms to the POH. However, Murray and Goyal (2001) have shown among other things that POH fails where it should hold, especially for small firms where information asymmetry is most probably an important problem.

However, the majority of these studies have paid little or no attention to the heterogeneity of the socio-economic status of these MSEs and the diverse nature of their economic activities. Neither have they considered the varying financing sources, constraints nor the "bootstrap financing" that the majority of MSEs often resort to when they are financially constrained. They have rather concentrated more narrowly on the debt-equity financing preference, as if their preferences also fit squarely into the capital structure theories originally developed for corporate firms in developed countries. Selvavinayagam (1995), for example, argues that such diversity among MSEs would mean that their demand for external finance and financing pattern may not be determined by a unique financial structure or a uniform approach. He points out that much more focus has to be on the institutional mix, the product variety and the operational approaches

that is compatible with the characteristics of different socio-economic categories if their demands for financial services are to be met satisfactorily.

This view point appears to be supported by Hamilton and Fox (1998). They also argue that the diversity of small business and entrepreneurial firms suggests that managerial beliefs and desires will play an especially important role in determining capital structure and so "...models must include the role of management preferences, beliefs, and expectations if we are to better understand capital structure policy". In the same vein, Gebru (2009) concludes that there are elements that could determine MSE owners' financing preferences that require better understanding before a reliable prescriptive position on MSE's financing can be reached.

In light of the above, we argue that to better understand MSE's financing preference and for POH to better explain these preferences, it is important that research is done within the context of the rural financial system and the access constraints emanating from information asymmetry and the complex socio-economic circumstances of MSEs. Whereas in industrialised countries debt levels of MSEs have been shown, in some cases, to reflect a demand-side preference ordering and are not just the manifestation of severe supply-side deficiencies (Hamilton and Fox, 1998), the same cannot be said of MSEs in developing countries. It is well acknowledged that access to mainstream formal finance by MSEs in most developing countries is woefully limited, thereby making it difficult to tell whether a particular financing pattern is just an issue of preference or desperation borne-out from limited access or constraints to formal finance.

The foregoing further raises two main questions. Does the relatively limited use of mainstream formal finance (as proven in myriad of studies) a supply–side constraint or an issue of microentrepreneurial preference? What determines MSE financing pattern, does it conform to a hierarchical order as POH predicts? This study attempts to answer these questions by going

beyond the conventional capital structure theory of debt-equity decision of the firm to investigate the drivers of the entire gamut of financing options available to a microentrepreneur within the rural financial system of Ghana. The study also departs from the previous studies by utilising both qualitative and quantitative analytical approaches not only at the enterprise start-up and working capital financing levels, but also their ex antes or desired future financing needs. Our unique dataset also allows us to compare these preferences for any evidence of hierarchical preference ordering as predicted by POH.

The chapter proceeds as follows: section 6.2 briefly discusses the structure of the rural financial market in Ghana and discusses the theoretical and empirical literature, and formulates the study testable hypotheses. Section 6.3 presents data description and some qualitative analysis while section 6.4 presents econometric specification and discussion of the estimation results. Finally, section 6.5 concludes and highlights policy and further research implications of the findings.

6.2 The Rural Financial Market in Ghana

The rural financial market (RFM) in Ghana, as reviewed in Chapter two, is faced with a number of market imperfections with its attendant problems of high credit risk, high transaction costs and uncertainties (Nissanke and Aryeetey, 2006). However, the risk mitigation mechanisms use by lenders to counter these problems such as high interest rates and collateral, according to Stiglitz and Weis (1981), have the potential of affecting both the behaviour of borrowers and the distribution of borrowers among the lenders. The result is substantial market segmentations in the RFM, where the formal institutions co-exist alongside, semi-formal and informal traditional institutions with very little linkages. For the purpose of the empirical analysis, in the paragraphs that follow, we briefly discuss the structure of each segment and the constraints MSEs are likely to encounter in their choice of a financing source.

The first is the conventional formal banking sector. This sector has experienced some tremendous growth both in number and expansion of branch network resulting in competitions since the FINSAP. For example, the number of banks has increased from 9 at the time of the reforms to 26 (with about 750 branch networks) at the end of 2009. In addition to this are the Rural and Community banks (RCBs). The RCBs have the main objective of bringing the rural population into mainstream banking system under rules designed to suit their socio-economic circumstances and the peculiarities of their occupation in farming and micro-enterprise activities. Together with their branches, the RCBs constitute the largest banking network in rural Ghana, now numbering 129 units with more than 486 branches scattered across all the 10 regions of the country.

However, despite this phenomenal growth, MSEs' access to formal finance is still very restricted. A recent study by World Bank (2008) indicates that the formal banking sector in Ghana reaches just about 5 percent of the population and even much less for the smaller enterprises. Mensah (2004) attributes this low use of formal finance in the country to the relatively undeveloped financial sector with low levels of intermediation, lack of institutional and legal structures that facilitate the management of small enterprise lending risk, high cost of borrowing and rigidities in interest rates.

The next in the category is the Semi-Formal Finance. This mainly belongs to the non-bank financial institutions (NBFIs) that are registered under the NBFI Acts 2008. There are about nine categories of financial institutions under the NBFIs. Among them are the Savings and Loans Companies, Credit Unions and some specialised MFIs, which even though are restricted to a limited range of services, are most active in micro and small-scale enterprise financing. These lenders, unlike conventional banks, appear more willing to accept the greater screening and monitoring costs involved in overcoming information asymmetry. For example, it is known

that when formal banks lent to the rich, these micro-banking lent to the poor. When banks lent to men, they lent to women. When banks made large loans, they made small ones. When banks required collateral, their loans were collateral free. For these reasons, governments and development agencies have persistently supported either directly or indirectly the promotion of these MFIs to stimulate the flow of funds to MSEs. However, these efforts have largely failed to reach the majority of the intended beneficiaries. Among some of the underlying reasons are limited coverage, over-dependence on government and donor funds, pervasive political patronage and influence in as well as high default rates among the recipients (Mensah, 2004).

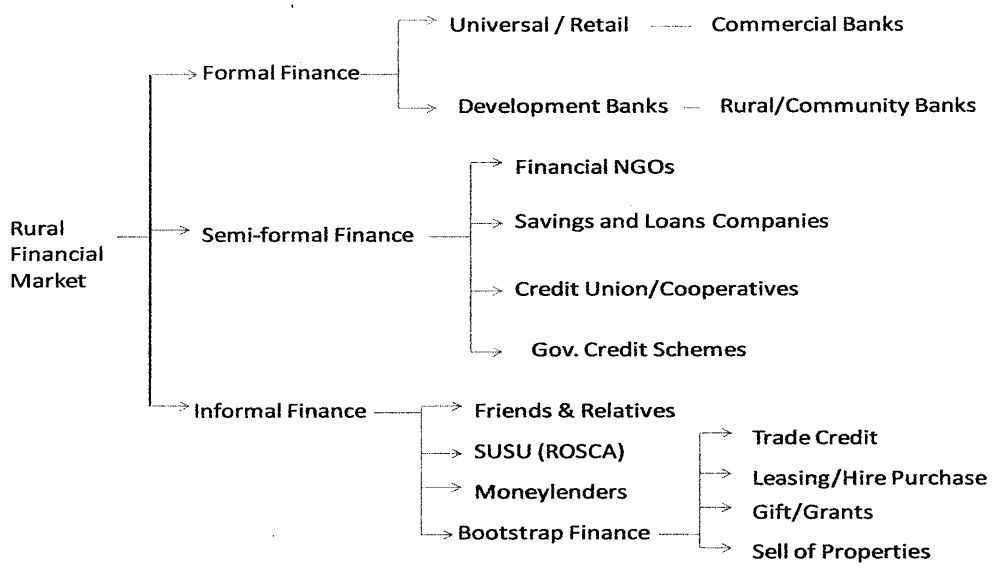
The third in the category is the informal financial institutions. By this, we refer to an array of financial institutions that are not regulated and fall outside all the banking laws of Ghana. These are the money lenders, pawnshops, SUSU etc. The commonest one, however, is the SUSU scheme. This is a long time traditional saving scheme currently undertaken by over 4000 operators in Ghana and each serving between 400 and 1500 customers daily (Barclays, 2005). The collectors offer very flexible financial services to their clients, which are patronised mainly by small traders at the market or roadside stalls. Beyond the provision of financial services, the informal finance is said to offer stronger social capital that MEs derive enormous social benefits which the formal financial institutions cannot offer (Alabi *et al*, 2007).

However, although it is the most patronised form of external financing, several studies (see Nissanke, 2001; Aryeetey and Udry, 1997) have found their services to be inimical to small enterprises with growth potential. According to these studies, because the informal financial institutions are underdeveloped, fragmented, disorganised and charges astronomically high interest rates. They also offer short repayment periods and limited loan size that do not meet the financing needs of MEs.

In sum, however, as diverse as the formal, semi-formal and informal finances are, micro-borrowers in the country are preoccupied with the same issues as easiness, flexibility, affordability, availability and successful outcomes of loan demand. Thus, the majority are still constrained and often resort to unorthodox form of financing or what is now known as 'bootstrap financing'. Generally, bootstrap financing has been defined as a variety of alternative routes or ingenious methods that owners can take to meet businesses' financial needs without borrowing or without any traditional institutional commitments (Neeley, 2009). This is where business owners are encouraged to exploit personal resources such as selling of properties, or to request funding from relatives, to barter for services, to lease or hire equipment, or to obtain trade credit etc.

For example, although Clark (1994) finds three forms of credit utilised among market traders in Kumasi (Ghana), namely, advances of goods (i.e., trade credit or delayed payment), advances of capital (like angels funds) and cash loans, she points out that the most widespread is the advance of goods. This, according to her, is a form of advancement seen as less risky and less shameful since cash indebtedness is perceived to reflect a shaky financial condition. The Figure 6.1 below shows the structure of a wide range of financing preferences available to a microentrepreneur within the RFM in Ghana.

Figure 6.1 The Structure of Financing Sources within the Rural Financial Market in Ghana



Source: author's

6.2.1 Is there Hierarchical Preference Ordering?

In this respect, as mentioned in Lean and Tucker (2001), we postulate that the rural financial credit system exist on a continuum whereby their lending criteria can be measured anywhere from purely non-commercial through to purely commercial or purely formal to purely informal. At the commercial extreme, exists conventional or mainstream formal and semi formal banks whereas towards the informality or non-commercial extreme exist informal or bootstrap finance to self-finance. According to the POH, as also cited in Abor 2008, Hussain and Matlay 2000, the order of the preference is from the one that is least sensitive (and least risky) to the one that is most sensitive (and most risky) that arise because of asymmetric information between corporate insiders and less well informed market participants. Evidence abounds that microentrepreneurs tend to rely heavily on their past savings, followed by informal sources of

credit from family and friends, particularly at business start-up stage (Paul *et al.* 2007 and Aryeetey *et al.*, 1994).

From this discussion we hypothesised for the purposes of incremental preference ordering as follows:

*H*1: At the very start of micro-enterprise establishment without any reputation or collaterable assets, internal finance would be preferred to external finance as it is of zero cost and has no problem whatsoever with problems relating to information asymmetry. Or in a bid to avoid intrusion or external control internal finance will also be preferred even for established enterprises.

*H*2: If internal finance depletes or is nonexistent, as in some cases, and MSE decides to hold any debt or borrow externally, non-cash debt such as suppliers' credit or other forms of bootstrap finance will be preferred over the traditional informal sources of financing, not only because of the least cost or almost the non-existence of information problem, but also because it is a traditionally well patronised practice which is less perceived to be shameful.

*H*3: If there is the need to borrow money, informal type of financing would first be preferred over the semi-formals because of familiarity, flexibility, easiness and the social benefits it offers regardless of the cost as well as the system inherent mechanisms of overcoming information problem such as application of social sanctions.

*H*4: Over time as enterprise gets established, shows prospects of growth and gains some experience, but still not having enough collateral or the capacity to borrow from mainstream finance, then semi-formal financing becomes the best option. Since most of the MFIs relax, while accepting some part of screening and monitoring cost.

H5: As more time passes, enterprise matures, reputation is built and confidence is gained, the desire for long-term finance for growth and expansion becomes more irresistible. Working capital or long-term finance for investment would then be preferred or desired from mainstream formal finance, since the enterprise then becomes more acceptable to the banks.

6.3 Econometric Analysis

6.3.1 Model Specification

From the discussion, we can assume an ordinal or incremental financing preference based on the degree of formality or speed and ease of access as relates to information asymmetric problem. Accordingly, we investigate this hierarchical or incremental preference ordering in three important stages of firm's financing, namely start-up, working capital/on-going financing and ex-ante or desire future financing preference. Thus, our dependent variable for this analysis can be assumed as ordinal. When the dependent variable is ordinal, its categories can be ranked from low to high allowing us to apply Ordered Probit or Ordered Logit model (also known as Ordered Logistic regression or PLUM). Greene (2008) observes that Ordered Probit or Logit models have come into wide use as a framework for analysing responses that can be ranked or inherently ordered.

Providing a simple explanation to Ordered Logit model, Aaron (2005) shows that the ordered logit model depends upon the idea of the cumulative logit, which also in turn relies on the notion of the cumulative probability. We can then think of the cumulative probability C_{ij} as the probability that the ith individual is in the jth or higher category:

$$C_{ij} = \Pr(\mathbf{y}_i \leq j) = \sum_{k=1}^{j} \Pr(y_i = K) \quad [6.1]$$

This cumulative probability can then be converted into the cumulative logit:

$$Logit\,(C_{ij}) = log\left(\frac{C_{ij}}{1-C_{ij}}\right) \quad [6.2]$$

This Ordered Logit model can simply model the cumulative logit in a form of a linear function of explanatory variables as:

$$Logit\,(C_{ij}) = \propto_i + \beta x_i \quad [6.3]$$

The coefficient, β suggests that a one-unit increase in the explanatory variable leads to an increase in the log-odds of being higher than category j. We therefore apply an ordered logit model to explore the determinants of MEs financing preference and to examine whether there is incremental preference ordering among MSEs. We simply re-write Equation [6.3] as:

$$Y_{ij}^{*} = \beta x_{ij} + \varepsilon \quad [6.4]$$

Where Y* represents the latent variable denoting the unobserved propensity of microentrepreneur i for choosing external financing j. The variable **x** is a vector of explanatory variables representing specific enterprise level and micro entrepreneur's demographic characteristics which we have explained in the subsequent section. The coefficients β is the parameters to be estimated.

Although Y* is unobserved, we do observe an ordinal relationship as:

$$Y = \begin{cases} 0, & if\ Y^* \leq 0 & = \text{Internal finance} & [6.6] \\ 1, & if\ 0 < Y^* \leq \mu_1 & = \text{Bootstrap finance} & [6.7] \\ 2, & if\ \mu_1 < Y^* \leq \mu_2 & = \text{Informal finance} & [6.8] \\ 3, & if\ \mu_2 < Y^* \leq \mu_3 & = \text{Semi} - \text{finance} & [6.9] \\ 4, & if\ Y^* > \mu_3 & = \text{Formal finance} & [6.10] \end{cases}$$

The μ_i's are unknown parameters to be estimated with β a

Where, 0 = Internal Finance; 1 = Bootstrap finance; 2 = Informal Finance; 3 = Semi-Formal Finance; 4 = Formal Finance. A positive (negative) value indicates that a one unit change in any of the explanatory variable increases (decreases) the odds of being in a higher category. Equation [6.11], therefore, represents the final substantive equation to be estimated with Ordered Probit Model. Hereafter, we explain in detail the explanatory variables and their hypothesized signs.

$$\begin{aligned} Y_{ij} = {} & \beta_0 + \beta_1 \text{Age (New, Established, Mature)} + \beta_2 \text{Size} + \\ & \beta_3 \text{Financial Viability} + \beta_4 \text{Asset Structure} + \\ & \beta_5 \text{Ownership Structure} + \beta_6 \text{Interest Sensitivity} + \\ & \beta_7 \text{Heterodox factors} + \varepsilon \end{aligned} \quad [6.11]$$

6.3.2 Description of Explanatory Variables

Within the context of information asymmetry and rural financial market, credit evaluation literature suggests five traditional characteristics that can be related to microenterprise creditworthiness, which are five C's: Capacity, Capital, Collateral, Character, and Conditions (see Wu and Guan, 2008 for details). Accordingly, in what follows, we endeavour to explain

MSEs' financing preference within the context of capital structure literature and the peculiar institutional environment in the informal economy.

Age: Consistent with Hamilton and Fox (1998) classification of firms and in order to test the hypothesis that there is a hierarchical preference ordering in microenterprise financing, we model three age categories of microenterprises as "New" (i.e., aged 3 or less, $i \leq 3$), "Established" (i.e., aged between $4 \leq i \leq 10$ years) and "Mature" (i.e. aged more than 10, $i \geq 11$ years). Firm's age has long been seen as a standard measure of reputation within the capital structure literature (Diamond, 1989 and Abor, 2008). As a firm age, it establishes itself as a continuing business and it therefore increases its capacity to take on more debt or external finance (Green *et al.*, 2002). Thus established and matured enterprise's preferred working capital or ex-ante future financing preference are expected to correlate positively with the likelihood of accessing funds from formal banks, whereas the "New' enterprises are expected to be negative correlating more with informal finance .

Size: With regard to size of operation, the smaller the business the more likely owner/managers will utilize or prefer internal finance or a less formal financing source (see Abor, 2008). The number of paid employee is therefore considered as a proxy for enterprise size and it is expected to positively correlate with higher category of formality ($\beta_i > 0$).

Financial Viability: Enterprise's profit status or past sales growths is often a good proxy for financial viability and loan repayment capacity of the enterprise. Theoretically, whereas the POH predicts an inverse relation between profitability and external financing preference because it is less risk relying on retained earnings, the STT postulates a positive relationship. This is because STT model predicts that profitable firms will employ more debt since they are

more likely to have a high tax burden and low bankruptcy cost (Abor, 2008). In this regard, the relationship could be described as ambiguous (β_i ><0?).

Asset Structure: Enterprise with title to assets such as land, building etc is more likely to seek external finance, but using land ownership as a proxy for asset tangibility, Green et al. (2002) argue otherwise. According them, ownership of or ability to rent tangible assets is an indicator of wealth, which makes them more likely to use their own equity or internal finance, at least to start a business. Consequently, the expected relationship between the asset structure and financing preference is ambiguous (β_i ><0?).

Ownership Structure: It is often the case that many microentrepreneurs do not seek external finance because they fear intrusion or do not want to lose ownership control over their businesses. Gebru (2009) argues that MSE owners that are established as either sole proprietors prefer to exhaust internal sources of finance before going for debt or equity in conformity with POH. Using the proportion of profit that is kept by the owner as a proxy for ownership type, we expect a negative relation with a higher category of financing.

Interest Sensitivity: Besides the above factors, the order of preferences is also widely believed to reflect the relative costs and risk of various financing options (Myers and Majluf, 1984). Likewise, among the local traders in Ghana, Clark (1994) contends that the main determinants of each type of loan demand are interest rates, risk, terms of repayment, and moral connotation which relates to one's cultural or religious beliefs toward the use of credit. Thus, we use microentrepreneur's sensitivity to the prevailing market interest rates to measure risk aversion. Interest sensitivity is expected to have a negative relation ($\beta_i < 0$) with the higher category of preferences since interest rates in the country is generally believed to be much higher than the relative returns of MSEs .

Heterodox factors: The above factors are particularly important for ongoing finance (i.e., working capital) or future financing preference. However, for start-up capitals, since the owner may be unable to provide evidence of good financial performance, track record or reputation, owner's character or demographic characteristics, which are seen as heterodox in corporate finance models, then becomes an important measure of repayment ability (Hamilton and Fox; 1998; Green *et al.* 2002). Hamilton and Fox (1998) maintain that such characteristics include their diversity, and the stage of development of their location. Thus, we consider such variables as owner/manager's in educational attainment, gender, having bank deposit account (as a measure of relationship), keeps records of business activities (proxy for transparency), location (proxy for proximity or traveling cost) etc.

6.3.3 Data Source

The data for this study was based on a field survey conducted in the Ashanti region of Ghana, in August 2009. As described in detail the data sampling procedure in Chapter 5, the choice of Ashanti region was appropriate in that besides being the most populous region in Ghana, its capital, Kumasi has one of the highest informal economic activities second only to the capital, Accra (Aryeetey and Udry, 1997). Geographically, being on the middle belt of the country, the region's unique centrality makes it a traversing point for migrants and traders from all parts of the country. The region also displays additional character of modernity and tradition, the extreme poor and the wealthy, the highly educated and the illiterates as well as a very large representation of both informal and formal financial institutions.

Using a simple random sampling technique, we collected data based on the following three strata – sector of activity, geographical location and enterprise size. We first divided the enterprise population into 3 sub-strata – services, manufacturing (including construction), and

primary related activities. On geographical distribution, three socio-economically important locations were stratified namely the central business district, sub-urban and rural location. Using structured questionnaires, we collected quantitative usable data on some 176 microenterprises which employs 10 or less persons within the Kumasi metropolis and from 10 villages across the region. To achieve the study objectives, we obtained data on enterprise and owner's socio-economic characteristics, financial performance, choice of financing sources, perception of access to and use of credits, collateral etc.

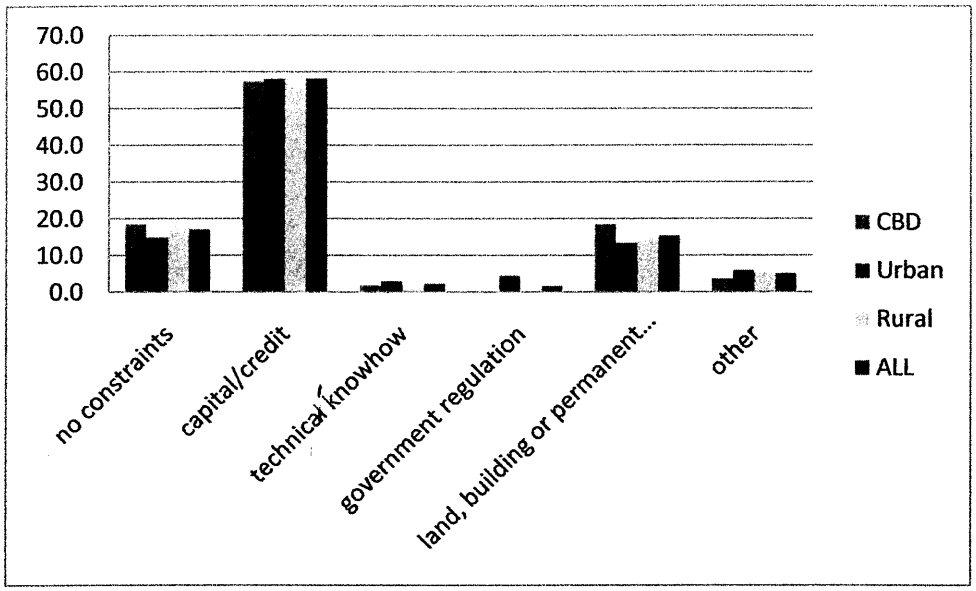
6.4 Primary Results and Descriptive Statistics

6.4.1 Enterprise Start-up: What is the most binding constraint?

Limited access to finance is often mentioned as the greatest constraint to start-up capital and growth of microenterprises. This was confirmed by our field survey as capital was cited by microentrepreneurs as the greatest constraint (58.2%) they faced in setting up their businesses. However, the Table 6.2 shows that MSEs in the rural areas (59.3%) are more likely to have problems raising capital than their counterparts in CBD and suburb. This is not surprising, in that, the generally low income of rural dwellers coupled with limited number of financial institutions and the high risk often associated with them mean that they are more likely to be financially constrained[30].

[30] Poverty in Ghana has remained a disproportionately rural phenomenon up until now. About 86% of the total population below the poverty line in Ghana lives in the rural area (GSS, 2008).

Figure 6.2 MEs' Start-up Constraints



Source: Field Survey, August 2009

6.4.2 Sources of Start-up Capital

Given the overriding evidence of MSEs' limited access to mainstream formal finance, due to the perceived high risk often associated with the sector and the inability of the microentrepreneurs to provide viable business plan or collateral, especially at the start-up, MSEs have to rely on personal or household savings and/or informal credit or bootstrap financing sources. The survey results show that the most important source of start-up capital is personal or household savings (67%), followed by financing from informal financial institutions (19.3%) such as friends and relatives, SUSU and money lenders (see Table 6.1). Among all MSEs only few sourced credit from the formal commercial banks (3.4%) and semi-formal financial institutions (1.1%). Start-up capital from bootstrap finance (9.1%) such as supplier's credit is also quite significant compared to the other sources.

Table 6.1 MSEs' Preferred Source of Finance

Finance Type	Start-up Capital	Working Capital	Future Preference
	%	%	%
Formal Finance	3.4	8.5	42.6
Semi-formal	1.1	5.7	19.3
Informal	19.3	1.7	11.9
Bootstrap Finance	9.1	18.2	17.0
Self-Finance	67.0	65.9	9.1

Source: Field Survey, August 2009

6.4.3 On-going Finance/Working Capital

With regard to working capital, only about 3 in 20 (15.9 percent) actually borrowed money to finance their working capital needs. The majority, 65.9%, utilised internal or self-raised finance, while a significant percentage (18.2%), used bootstrap finance such as trade credit, leasing etc. Among those who sought external finance , the majority (53.5%) came from the formal financial institutions with 35.8% and 10.7% sourced from the semi-formal and the informal financial institutions respectively (Table 6.1).

6.4.4 The Desired or Ex-ante Future Financing Preference

Looking forward, we asked microentrepreneurs what kind of finance (both in terms of price non-price term and conditions as well as institutional sources) they believed would help their businesses to grow, or they would choose if they were to make a choice in the future. Beginning with non-price terms and conditions, the greater number of the respondents (42.5%) mentioned long term loan with the least been an overdraft facilities (0.6%) (Table 6.2). This should be expected since overdraft facilities are rarely offered by any of the banks in Ghana. If it is even offered at all, it is usually given to the large companies (Abor, 2008).

Table 6.2: Non-Price Term and Conditions of Preferred Loan and Purpose

Type of loan Needed	%	Purpose for the Loan	%
long term loan	42.5	fixed capital for land, tools, stall	28.7
short term loan	12.5	Renovation	6.8
over draft facilities	0.6	working or operating capital	34.2
easy and faster access	15.6	emergency needs	5.5
suppliers credit, hire purchase	11.9	to support cost of living	15.1
indifferent	3.8	To pay past debt	4.1
NA	9.4		
other	3.8	Other	5.5
Total	100.0	Total	100
# of observation	160.0	# of observation	73

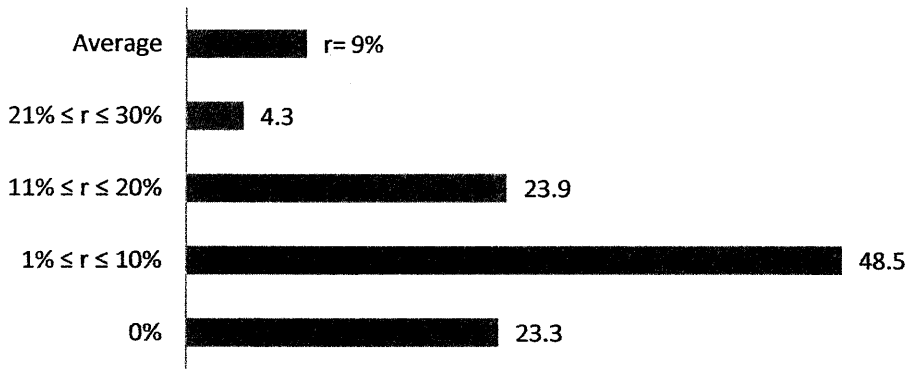
Source: Field Survey, August 2009

6.4.4.1 Price Term: Interest Sensitivity

Interest rate or cost of borrowing in Ghana is one of the highest in West Africa. At the time of the survey, lending rates within mainstream credit market was averaging 35%, and even much higher those charged by the informal financial institutions. The primary evidence reported here indicates that the current high level of lending rates in the country is a major concern or a disincentive for external financing preference. Almost all (82.6%) of the microentrepreneurs believed that the prevailing market interest rate for bank loans were too high for their business to afford. When they were asked to indicate the rate of interest their business can afford, an average lending rate of 9% were mentioned with almost 5 in 10 (48.5%) microentrepreneurs indicating between 1% and 10% (Figure 6.3). Surprisingly, however, over 23% of ME owners or managers would prefer loans with zero interest rate. Furthermore, a little over 6 in 10 (63.5%) of all cases generally disagreed with the statement that higher interest rate does not matter so long as one gets easy and flexible access to formal bank loans. The high lending rates

constraint is also shown by the fact that more than 7 in 10 (76.2%) of microentrepreneurs will not hesitate to apply for a bank loan if the prevailing interest rates were to be cut by half.

Figure 6.3 Lending Rates Microenterprises can Afford (%)



Source: Field Survey, August 2009

6.4.4.2 Which of the External Financing Sources will MSEs Prefer?

Regarding a desired future financing source, the highest preferred source was formal bank finance. While approximately 45% of the microentrepreneurs would choose formal bank finance, only 19.3% would prefer semi-formal finance with informal finance (11.9%) being the least preferred (Table 6.1 above). This outcome is quite surprising. However, if we juxtapose that on the fact the majority would prefer long term financing in the future as mentioned above, then neither semi-finance nor the informal finance was the solution for their financing need. It is the formal commercial banks, which are known to have the capability to offer long term debt financing (Jaramillo and Schiantarelli 2002); and the MSEs appear to know that too well.

Quite interestingly, the most common reason (31.75 %) for preferring a particular source was because he/she is a long-term customer of the institute or a group member (Table 6.3). This

particular reason featured most prominently (37.5%) among those who would choose formal banking source. This underscores the importance of relationship banking and also group membership which, as previously mentioned, helps to assuage agency problems. It is said to lead to low cost of information acquisition and peer monitoring. However, over 30% of the respondents who chose formal finance cited other as the reason for their choice. This may constitute those who choose either by default or were made to open an account before loan is granted. As expected, approximately half (50%) of MSEs who prefers informal finance, cited closeness and convenience as the dominant reason.

Table 6.3 Reasons for Choosing a Particular Financing Source

Reasons	Formal	semi-formal	Informal	Trade credit	Total
A long-time customer or a member of a group	37.5	33.3	25.0	100.0	31.7
Close and convenient	12.5	8.3	50.0	0.0	24.4
Did not require collateral	6.3	16.7	0.0	0.0	7.3
Interest rate low	0.0	8.3	0.0	0.0	2.4
Personal relationship	6.3	0.0	0.0	0.0	2.4
Offers easy and flexible service	6.3	33.3	25.0	0.0	17.1
0ther	31.3	0.0	0.0	0.0	14.6
Total	100.0	100.0	100.0	100.0	100

Source: Field Survey, August 2009

6.4.5 Is there Evidence of Hierarchical Order of Preference?

From the preliminary results discussed so far; does it point to a hierarchical preference ordering as predicted by POH? The Table 6.1 reveals an emerging pattern that appears, on the face value, to support this hypothesis. The evidence here affirms our earlier believed that at the pre-start and start-up, microentrepreneurs have a strong preference for using personal and informal sources of finance, and that the use of external debt finance particularly bank loan becomes more common and most preferred once the business is up and running (Wyer et al 2007). At the start-up, besides almost 70% of capital raised from personal or household saving, those who

decided to seek external finance, slightly more than three quarters (76%) obtained it from the existing informal institutions.

However, as the enterprise gets established, while formal bank debt consistently increased from 3.4% at start-up to 8.5% as working capital to a much higher 42.6% in the future, both the internal finance and informal finance decreased. Preference for Internal-finance decreased drastically from an average of 66.5% between Start-Up and Working Capital to just about 9.1% in the Future Preference. For the majority to reveal their future financing preference for formal sources is an indication that the huge percentage of MSEs that use internal finance, either as start-up or working capital, does so not because of preference, as is the case in most part of developed world. But, as a consequence of severe constraints they face either voluntarily or involuntarily in accessing external finance, particularly from the formal finance.

6.4.6 Regression Results

The Ordered logit or the PLUM-Ordinal regression results for determinants of start-up capital, working capital and future financing preference are presented in Table 6.5 and Table 6.6 below. We used the same set of explanatory variables in both working capital and future financing models, which are both presented in Table 6.5. However, for the start-up model, we dropped certain variables such as profitability, age, size etc that we believe are important only when the enterprise is on-going. Even though Green *et al.* (2002) tested some of these variables in an initial capital determinants equation, they were cautious about their interpretations since, according them; they all tend to have retrospective and ambiguous effects.

Table 6.4 Descriptive Statistics of the Explanatory Variables and Hypothesized Signs

Variables	Description	N	(Mean)	Standard Deviation	Hypothesized Sign
MSE Size	Average number of paid employees	111	2.8	.782	+
Age of the owner	Mean age of the owner	176	36.7	.310	+/-
Educational Attainment	Mean number of years spent in school	176	9.6	1.186	+
Gender	= 1, if female; 0 male	175	.313	.463	-/+
Bank Deposit A/C	=1; 0 otherwise	176	.333	.489	+
Awareness	= 1; if it is aware of alternative forms of financing; 0 otherwise	176	.455	.499	+
Negative Perception about debt	=1; 0 otherwise	176	.409	.491	-
Net Profit Margin s	Net Profit divided by Total Revenue Profit	176	0.54	.503	-
Interest sensitivity	= 1; if owner thinks lending rate matters more than easy access to credit; 0 otherwise	176	.633	.498	-
Registered	=1; 0 otherwise	176	.415	.499	+
Location	=1, if located in the CBD	176	.250	.475	+
	=2, located in Suburb		.386	.477	-
	=3, if located in Rural area		.364	.464	-
Household Assets	=1, if ME household owns land or building;	176	.614	.500	+
Assets Structure	Weighted index of assets of MSEs (Natural logs)	168	1.9	.698	+
Ownership Structure	Percentage of profits retained/shared by the owner (100% = sole proprietor)	176	.902	.191	-
Age of Enterprise:	New (≤ 3 years); =1	176	.268	.452	-
	Established ($4 \leq i \leq 10$ years); = 2		.472	.500	+
	Mature (≥ 11 years)=3		.259	.434	+
Skill Training	=1, if owner/manager has ever received skill training;	174	.561	.499	+

Source: Field Survey Data, August 2009

Table 6.5 Ordered Probit Regression Results of MSEs' Financing Preference

	Working Capital Estimates		Future Finance Estimates	
	Coefficient	Std. Error	Coefficient	Std. Error
Threshold				
Internal =0	-4.142**	1.993	-5.435***	1.481
Bootstrap =1	-3.135*	1.977	-3.661**	1.426
Informal =2	-2.934	1.975	-2.964**	1.411
Semi-Formal=3	-2.230	1.973	-1.599	1.384
Formal =4				
Variables				
Asset Structure	0.622	0.447	-0.182	0.331
Awareness	1.092*	0.560	0.381	0.426
Book keeping	0.631	0.570	0.645*	0.446
Deposit Account	1.300**	0.584	0.301	0.448
Educational Attainment	-0.328*	0.202	0.408**	0.162
Enterprise Size	0.797**	0.372	0.054	0.287
Established MSE	2.079**	0.924	2.189***	0.507
Gender	-0.373	0.579	-0.382	0.476
Interest Sensitivity	0.176	0.551	-0.974**	0.442
Matured MSE	3.747***	1.002	1.895***	0.598
Negative Perception	-0.255	0.557	-1.046**	0.438
Net Profit Margin	-0.135	0.848	-0.527	0.521
Ownership Structure	1.161	.933	-1.344*	0.773
Registration	1.202**	0.598	0.221	0.446
Rural Location	0.101	0.634	0.315	0.536
Sub-Urban Location	-1.057*	0.643	0.203	0.516
Cox and Snell R-Square		0.364		0.420
-2 Log Likelihood		164.323		251.553
No. of Observation		141		138

*** 1% Significant; ** 5% Significant and * 10% Significant Levels. NB: The Estimates for age categories use the "New variable" as a reference category while the estimates for Location variables use CBD as a reference category.

The threshold portion of the estimation results shows the constants/intercept terms. We emphasize here again that our interest is to determine the direction of the relationship between

each predictor and the ordinal nature of the categorical outcome. A positive sign for the estimated parameters means higher categories are more probable, whereas a negative sign means lower categories are more probable. However, where necessary, we will endeavour to explain some of the results in terms of Odds Ratio (OR), which is simply by taking the exponential of the estimates.

Table 6.6: Ordered Probit Regression for Determinants of Start-Up Capital

	Start-Up Capital Estimates	
Threshold	Estimates	Std. Error
Internal =0	1.883	2.159
Bootstrap =1	2.481	2.163
Informal =2	4.461**	2.194
Semi-Formal=3	4.731**	2.201
Formal =4		
Variables		
Age of the owner	0.352	0.571
Awareness	0.455	0.377
Bank Deposit Account	1.344***	0.425
Education Attainment	0.664***	0.228
Gender (Female=1)	1.007**	0.389
Household Assets	1.411***	0.383
Interest Sensitivity	0.027	0.390
Negative Perception	-0.582	0.415
Ownership Structure	-0.131	0.871
Registration	0.369	0.376
Rural Location	-0.917**	0.461
Skill Training	-0.484	0.368
Suburb Location	0.516	0.465
Cox and Snell R-square		0.261
-2 Log Likelihood		275.399
No. of Observation		157

*** 1% Significant; ** 5% Significant and * 10% Significant Levels.

Beginning with the age category variables, namely *New, Established and Mature*, the results are robustly significant and consistent with the study hypothesis. The positive signs reveal that for *Established and Mature* enterprises, compared to *New ones,* have a higher probability to be in a

higher category in both ongoing and future financing sources. This also suggests that new enterprises are more likely to prefer either internal or less risky financing such as bootstrap or informal financing such as supplier's credit or SUSU schemes. However, as the enterprise gets established or matures its capacity to seek formal financing increases and thus are more likely to prefer or being in a higher category of formal financing. This result is consistent with Abor (2008)'s finding that age is an important determinant of SMEs' capital structure as older SMEs tend to depend more on long-term debt. According to him, since SMEs do not have access to the public equity market, long years of business could signify long business relationships with external debt providers and that increases their chances of acquiring external long-term debt finance. The results therefore appear to support the POH that firms adhere to hierarchical preference ordering.

Comparing the results of the *education attainment variables* in all the three models appears to be mixed, but interesting. Whereas it shows up significantly positive in both the start-up and future financing models, it is negative in the working capital model. The positive signs suggest that one year increase in the number of years a microentrepreneur spent in school will result in an OR, exp (.664) = 1.942 and exp (0.409) = 1.505 increase in odds of being in a higher category of formal finance for a start-up capital and future financing respectively. For start-ups, as there is no history of enterprise's performance, human capital then becomes "a collateral substitute" or a measure of reputation and competence to guarantee loans from mainstream formal finance as this may signal loan repayment ability of the would-be entrepreneur (Cressy, 1996). On the contrary, the negative sign of *education* in the ongoing finance estimation results, suggests that a highly educated microentrepreneur is less likely to prefer formal finance. This is quite surprising, counter intuitive and inconsistent with most previous studies thus making it difficult to assign any plausible reason for this outcome.

However, *the awareness variable* that also proxy for financial literacy is positive and significant in the working capital model but not in the other two. Although weakly, it may suggest that microentrepreneurs who are aware of the availability of alternative forms of financing are more likely to be in the higher category. This seems consistent with the argument that the decision on the choice of credit source is partly determined by the information available to the potential borrower on the available sources and their specific requirements (Kimuyu and Omiti, 2000).

The results also reveal that *bank deposit variable* is statistically significant and positive in both start-up and working capital models, but not in the future financing model. This finding underscores the importance of relationship banking in mitigating information asymmetry problems as microentrepreneurs who have a bank deposit account are more likely to prefer or gain access to formal banking loans. Similarly, the MSE's *registration status* variable is significant with the expected positive sign in the working capital model. This seems to suggest that if the enterprise is up and running, its legal status as proxy by *registration* becomes important for accessing formal loans. If the MSE is registered, it might reflect a compliance and more serious and organized business venture for a bank to have the confidence to advance a loan.

The results of the study show significantly positive relationship between the *book keeping variable* and formal finance in the working capital model but insignificant in both start-up and future finance models. Although weak, the result suggests that book keeping, which proxy for financial management capacity of MSE as well as a reflection of transparency within the corporate finance literature (Greene *et al*, 2002), increases the odds of being in the higher category or preferring a more formal financing.

The results further show that the *interest sensitivity* and *negative perception* of the use of credit variables are significant with negative signs in the future financing preference, but not in either start-up or ongoing finance models. Consistent with a study by Clark (1994), these results suggest that MSEs with negative perception of indebtedness or credit are less likely to seek external finance. Likewise, MSEs who are sensitive to the high current interest rates in the credit market are less likely to demand credit from a more formal financing source or more likely to use a less risky or low cost financing such as internal or other bootstrap forms of financing. Notwithstanding the fact that the pre-existing financing sources are not significant, the ever increasing lending rates within mainstream formal financing system and even much higher within the informal markets, suggest that MSEs' future financing preference will be more sensitive to high lending rates. They are more likely to prefer using their own internal funds or at the very least bootstrap finance, if they are to seek external finance.

For *Gender*, females compared to males have a higher probability to be in a higher category as the coefficient is statistically significant and positive albeit in the start-up model only. This suggests that while at the business start-up, females are more likely to have access to formal banking credit than their male counterparts, as the business is up and running there is no major difference between the two as far as financing preference is concerned. This is not only surprising, but also an indication of the fact that many women are beginning to assert themselves in the credit market.

However, in terms of location, the results show that the rural *location* and *suburban* variables compared to *CBD* have negative and significant relationship with higher category of formal financing in the start-up and working capital models respectively. This suggests that MSEs located in the sparsely populated and low income communities compared to those in the CBD are more probable to be in the lower category or use more low cost financing at the start-up and

as ongoing finance. The outcome seems to be consistent with the POH and supports Carling and Lundberg (2005) argument that information asymmetry problem increases with distance.

Unlike Abor (2008) and Green *et al.* (2002), the results on assets do not appear to support the notion that asset structure of the firm is a significant determinant of debt or external financing preference as the results in both working capital and future financing models are not significant. However, when we used owner's household assets such as building or land in the start-up model, the result is robustly significant and positive. The plausible reason for these outcomes is that since most MSEs only work with simple tools and movable assets which are of low collateral value and thus not acceptable by banks, asset structure is unimportant factor in their financing preference. Nonetheless, if microentrepreneur can post a title to a landed property or a building, especially at the business start-up stage, it is more likely to get access to a formal finance. On the *enterprise size,* the result is consistent with most previous studies and the study hypothesis. The significant positive sign, albeit only in the working capital model, seems to suggest that relatively bigger MSEs are more likely to be in the higher category of debt financing.

In the case of *ownership structure variable,* however, the coefficient is negative and statistically significant in the future financing preference model. This means that for every one percentage point increase in profit that is not shared with anyone will result in OR of Exp (1.344) = 3.88 increase in odds of being in a lower category of the ordinal financing outcome. Consistent with the POH, the results suggests that as the level of interference/intrusion increases from sole proprietorship, partnership to company, where profits have to be shared among partners/equity holders, preference for formal finance increases. This finding supports Hamilton and Fox (1998), and Gebru (2008) studies who generally conclude that MSE owners operate without

targeting an optimal debt-equity ratio, but rather reveal a strong preference for those financing options that minimise intrusion into their business.

6.4.6.1 Robustness Checks

In order to check the robustness of our results, we run two other alternative regressions, using Logistic regression estimation model and Ordinary Least Square Method (OLS). The dependent variable for these estimations was the same as the one used in the ordered model, except that for the logistic model; we split the five financing preferences (i.e., formal, semi-formal, informal, bootstrap and self-finance) into two binary choice model as external versus internal finance (or like a debt-equity dichotomy). Thus, we assigned the value one, if the financing preference can be categorised as external and zero, if internal. The estimation results, as presented in the Table 6.7 and Table 6.8, largely support the findings discussed above and lend credence to the fact that MSEs' financing preference within the RFM conforms to the POH.

6.5 Conclusion

We have analyzed the determinants of MSE's financing preference in the context of the entire gamut of financing options available to a microentrepreneur within the rural financial market in Ghana. We therefore categorised this range of financing choices broader than what is usually the case in the capital structure literature into Formal, Semi-formal, Informal, Bootstrap and Internal Finances. Basing this categorization on the speed and ease of access, the degree of formality, cost and risk as pertain to information asymmetry problems; we tested whether there is an evidence of hierarchical ordering of financing preference as predicted by POH among MSEs.

The analyses of the preliminary results reveal that at start-up, microentrepreneurs have a strong preference for using personal, bootstrap and informal sources of finance, and that the use of external debt finance, particularly formal bank loan, becomes more common and most preferred as the business is up and running. This was somewhat confirmed by the results of Ordered regression estimation for our working capital and future financing preference models. We found that new enterprises were more likely to prefer either internal or less costly and less risky financing such as bootstrap or informal financing such as supplier's credit or SUSU schemes. However, as the enterprise gets established or matures its capacity to seek formal financing increases and thus were more likely to prefer or being in a higher category of formal financing.

While this finding seems consistent with the POH as MSEs' financing choice had revealed to follow a hierarchical preference ordering - rising from internal, bootstrap, informal, semi-formal to formal finance - , we argue that this order is a consequence of severe persistent constraints other than own preferences. This is because the study found other microentrepreneur's and MSE's specific level socio-economic characteristics such as owner's education or financial literacy status, households tangible assets, ownership structure, enterprise size as well sensitivity to high interest rates in the credit market to be important determinants of either past (start-up), present or future financing preference.

The conclusion drawn from this study is that financing preference at all stages of the MSE's life were severely constrained. Thus, policy choice should not only be at supporting further growth in established and mature enterprises, but also removing constraints that start-up and newly established firms face in accessing finance particularly from mainstream formal finance. The access to finance problem that is more binding on the latter firms should be improved by creating an integrated rural financial system that is more responsive to the varying financing needs of MSEs at all stages. This will mean that future studies should focus on the relationship

between the various financing preferences, as well as strategies for creating linkage either directly or otherwise, between the continuums of financing choices ranging from formal to the bootstrap finances.

Table 6.7 Determinants of Financing Preference: OLS and Logistic Regressions Results

	Logistic Regression				OLS Regression			
	Future Preference		Working Capital		Future Preference		Working Capital	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Asset Structure	-.355	.460	-.547	417	-0.054	0.196	0.104	0.208
Awareness	0.245	0.668	0.912	0.615	0.159	0.247	0.324	0.262
Bank Deposit Acc	0.002	0.734	1.372**	0.583	0.202	0.255	0.666**	0.271
Book keeping	0.340	0.733	0.078	0.600	0.232	0.254	0.471*	0.270
Education Attainment	0.149	0.226	-0.114	0.194	0.174**	0.087	-0.041	0.093
Established MSE	1.158	0.832	-1.272**	0.662				
Gender	0.048	0.771	-0.332	0.616	-0.006	0.268	-0.086	0.284
Interest Sensitivity	-1.050	0.725	-0.169	0.588	-0.503**	0.256	0.034	0.272
MSE Size	-0.355	0.451	-0.370	0.386	-0.002	0.160	-0.197	0.170
Mature					-0.275	0.291	1.153***	0.308
Negative Perception	-1.508**	0.681	0.130	0.589	-0.693**	0.251	-0.131	0.266
Net Profit Margin	-0.197	0.838	-0.463	0.875	-0.204	0.293	0.180	0.311
New MSE	-2.398***	0.841	-3.334***	1.022	-1.346***	0.273	-0.417	0.289
Ownership Structure	-3.990	2.576	2.784	1.759	-0.853	0.618	0.520	0.655
Registration	0.435	0.693	0.827	0.611	.147	256	.532**	.266
Rural Location	-0.132	0.791	0.689	0.685	-0.123	0.288	0.419	0.305
Suburb Location	0.464	0.738	-0.823	0.665	-0.217	0.293	0.353	0.311
Constant	6.239**	2.684	-2.884	1.921	4.213***	0.706	-0.753	0.748
DurbinWatson						2.2		2.1
R-Square		.204		.305		.446		.369
-2Log likelihood		72.267		93.606				
Percentage Correct		87		79.6				
Observation		108		108		111		111

*** 1% Significant; ** 5% Significant and * 10% Significant Levels.

It also implies that the practitioners of formal financial institutions should forge closer links with the informal financial institutions in providing microloans to the lower end of the market. This holds promise not only for removing the financing constraints confronting MSEs, but also by bringing about a more sustainable, integrated as well as operational transformation of the rural financial market.

Table 6.8 Determinants of Start-Up Financing Preference: OLS and Logistic Regression Results

Start-Up Capital				
	OLS Regression		Logistic Regression	
Variables	**B**	**S.E**	**B**	**S. E**
Age of the owner	-.013	.263	.180	.613
Awareness	.225	.165	.501	.414
Bank Deposit Account	-.522***	.180	-1.639**	.471
Education Attainment	.163**	.070	.382**	.196
Gender (Female=1)	.485**	.176	1.263***	0.425
Household Assets	.556***	.166	1.096**	.405
Interest Sensitivity	-.073	.171	-.181	.431
Negative Perception	-.247	.183	-.434	.444
Ownership Structure	-.488	.419	.978	1.049
Registration	.147	.166	.351	.409
Rural Location	.231	.205	.974**	.504
Skill Training	-.221	.165	-.333	.404
Suburb Location	.070	.200	.762	.499
Constant	.628	1.074	-3.916	2.677
Cox and Snell (R-square)		0.232		0.204
-2 Log Likelihood				164.895
Percentage Correct				80
Durbin Watson		1.91		
No. of Observation		157		157

*** 1% Significant; ** 5% Significant and * 10% Significant Levels.

CHAPTER 7

A Comparative Study of Performance of the Formal versus Informal Rural Financial Institutions

(Supply Side Evidence)

Abstract

A growing number of formal commercial banks are increasingly showing interest in financing the vast underserved and untapped market of microenterprises in Ghana. However, the greater majority are still on the fence and are hesitant to venture into microlending. Using survey data from a wide range of rural financial institutions, we analysed the performance (both in terms of non-performing loans and managers' perception of growth performance) of formal banks, compared to the traditional MFIs, in microlending emphasizing the incentives and disincentives as well as risk mitigation strategies. The study finds that while the main incentives driving banks into microlending were profitability and changing market conditions, disincentives ranged from high cost of transaction to perceived high risk of microentrepreneurs. We further find that while asset-based collateral was found not to affect the performance of FIs, we found evidence to support the hypothesis that collateral leads to a reduction of non-performing loans. However, informal FIs were found to perform better in reducing default rates than the formal FIs. On depth of outreach, whereas FIs with clients dominated by women were more likely to perform better, those located in rural areas were more subject to higher default rates. Finally, while higher scope of outreach was found to be significant for performance, high lending rates charged by FIs led to higher levels of default rates.

7.1 Introduction

Recent developments in Ghana's banking industry are changing the face of microenterprise financing in Ghana. Even though recent studies (Helm 2006; Isern and Porteous, 2005) have shown that financing microenterprises can be financially sustainable as well as socially beneficial, mainstream commercial banks particularly in Ghana have until recently been absent from microfinancing. Prior to the inception of the country's financial sector reforms in 1988/89 and even some years thereafter, serving the poor and microenterprises was largely perceived to be too risky, costly and a preserve of specialised micro and informal finance institutions[31]. They were noted to serve the upper end of the market whereas the traditional microfinance institutions (MFIs) exclusively served the lower end creating substantial market segmentations. The underlying reason for this exclusion is amply captured by Rhyne and Otero (1994) as:

> "Mainstream financial institutions cannot easily serve microenterprises. Banks must process loans at a cost that can be covered by interest charges and they must have confidence in the borrower's intent and ability to repay. The practices that most banks use to gain confidence in the quality of loans are expensive. They involve credit checks to gain information about the client's character, project appraisal to assess the client's business prospects, and formal collateral. These techniques cannot be used in microenterprise lending. Project appraisal is too expensive, and microenterprises do not keep records. Microenterprises have no established credit rating. They lack marketable collateral. These factors keep commercial banks out of microenterprise lending".

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[31]. There is also evidence from the demand side to suggest that in many developing countries like Ghana, social, religious, cultural, and language barriers do not allow for an easy relationship with a modern or formal banking institution (Osei-Assibey, 2010, Baydas *et al.,* 1997).

However, in recent times anecdotal evidence in the country suggests that the interests of the formal commercial banks in financing the vast underserved (or is it unserved?) and untapped market of microenterprises have been growing by leaps and bounds. The reasons for this turn of event are not far-fetched and can best be attributed to both 'push' and 'pull' factors. The push factors involve forces which are driving a mainstream bank away from serving only the wealthy households and large firms while the pull factors are those drawing these banks to go downstream by way of providing microfinancing to microenterprises.

A push factor can emanate from the fact that competition is growing intensely over the last decade as new banks (both foreign and domestic private banks) have entered the market under new banking laws that allow more freedom of entry and liberalised regulatory environment. Consequently, the number of banks has more than doubled since the beginning of the reforms to the current 26. Previous studies (Isern and Porteous 2005; Baydas et al. 1998) have, however, shown that the above situation does not only increase competition in banks' traditional retail markets, but also leads to margin squeeze. Thus, margin can be increased only by finding newer avenues for deployment of their reserved funds.

This is thereby forcing forward-looking banks to explore new potential markets, especially microenterprise financing – thanks also to the new universal and retail banking laws passed recently by the Bank of Ghana (BOG). This is so because as part of the ongoing financial sector reforms, the BOG introduced the universal banking concept in the first quarter of 2003 in order to allow banks the flexibility to serve all kinds of customers while allowing them to undertake commercial development, investment or merchant banking without the need for separate licences. The implication for this licence was to bring about increased competition within the banking industry which will, as a matter of survival, require banks to introduce innovate products and improve upon services to attract new customers.

Another push factor may be due to some major regulatory developments in recent times. Notable among them are the abolishing of the secondary reserve requirements in the early 2006 and about 3 to 8 times (depending on weather the bank is local or foreign) increase in minimum capital requirements of banks. (Before then, banks were mandated to keep 15 percent of deposits with the BOG). This coupled with the persistent decrease in government Treasury Bill rates, which have long been considered as a 'safe-haven' for their investments, means that banks are making much greater excess reserve and more capital in their books for on-lending to the mainstream private sector which is already getting saturated with these banks' products.

In regard to pull factors, this new-found interest may be due to the increasing awareness of the profitability of micro and small enterprise (MSEs) loans (Jenkins, 2000). In particular, the more widespread diffusion of innovation models being demonstrated by some specialised MFIs (like the Nobel Prize Winner, the Grameen Bank) and the huge success stories of banks in microfinance such as Bank Rakayat Indonesia and BancoSol in Bolivia, all go to partly explain the downscaling-drive to join the fray. Additionally, to the extent that some MFIs and Loans and Savings Companies are continually being graduated to full-fledged banks across the globe (Helms, 2006), is an indication that microlending is not only profitable, but also sustainable with real growth potentials.

Moreover, the informal economy, which mainly comprises MSEs and employing over 80 percent of the total labour force, according to the 2000 population and housing census in Ghana, presents enormous business opportunities that mainstream banks can no longer afford to ignore. Besides, it is also believed that banks have an edge over specialised MFIs, in that, they have wide branch networks, funds, technical and human resources to reach-out to the vast unserved MSEs on a larger scale and scope – at even more cost-effectively, profitably and sustainably (Baydas *et al.*, 1998).

The foregoing notwithstanding, the greater majority of these formal banks are still on the fence and are hesitant to venture into microlending. Besides, while some of the existing providers report of growth in performance, in contrast, the Bank of Ghana continually complains of high default rates/non-performing loans among some of these institutions (BOG, 2007).

However, studies focussing on the performance of FIs in microlending, particularly the commercial banks engagements or otherwise, are scant - or have not been well-explored empirically within the context of African's rural financial market. The issues therefore are as follows: What are the incentives and disincentives for formal banks to engage in microenterprise financing in Ghana? Are the performance (both in terms of Non-performing loans and management own assessment of growth performance) of formal commercial banks in microfinancing different from the traditional MFIs? We believe that understanding the factors underlying the performance of FIs in microfinancing will not only serve as a policy guide for the 'new actors' in microlending, but also an important contribution to the microfinance literature and enhancement of microcredit delivery environment, especially in developing country like Ghana.

The purpose of this study therefore is in twofold. First, we explore the performance of formal banks, compared to the traditional MFIs, under a wide range of issues important for microenterprise financing within the context of rural financial market in Ghana. Second, we investigate the determinants of Non-performing loans and growth performance of microlending largely from the perspectives of local branch managers. The rest of the study is organised as follows: section 7.2 presents an account of the evolution of microfinance in Ghana. Section 7.3 briefly explains the conceptual framework of analysis and presents specification of empirical models, and hypothesis development. Section 7.4 describes the data collection procedure and

qualitative analysis of the preliminary results. Section 7.5 reports and discusses the regression estimation results. The last section 7.6 concludes with some policy recommendations.

7.2 Evolution of Microfinance in Ghana

"The concept of microfinance is not new. Savings and credit groups that have operated for centuries include the "susu" of Ghana, "chit funds" in India, "tandas" in Mexico, "arisan" in Indonesia....."(CGAP, 2006). Indeed, much like many places of the world, the concept of microfinance in Ghana is not new. In addition to the pre-existing traditional SUSU scheme, which is one of Africa's most ancient forms of informal banking, the Credit Unions are also believed to have existed in the pre-colonial independence era. Available evidence suggests that the first credit union in Africa was established in Northern Ghana in 1955 by Canadian Catholic missionaries (Steel and Andah, 2003; Asiama and Osei, 2007). However, not until the early 1990s when development agenda shifted from one of growth-led to poverty reduction and the importance of microfinance were highlighted, these institutions were largely recognized more as social welfare, cooperative groups other than financial institutions.

In the case of mainstream finance in the country however, in the 1950s, one could say that microfinance was completely absent. The only two foreign banks at the time, namely Standard Chartered Bank and Barclays Bank were seen to favour well-established foreign firms to the neglect of indigenous farmers and small entrepreneurs in granting loans. Thus, after the country's independence in 1957, the then Government tried to reverse the trend by redirecting the allocation of financial resources towards domestic investment through direct credit controls and specialised development banks. Subsequently, state-owned development banks such as the National Investment Bank (1963), the Agricultural Development Bank (1965), and the Bank for Housing and Construction (1973), were established to address the financing needs of specific sectors. The rural/community banks were also set up in 1976 as a response to the limited bank

penetration into rural areas and to advance credit to farmers and small enterprises in their catchment areas.

However, apart from the fact that most of these credits did not reach the poor, often ending up in the hands of wealthy farmers and the rural elites, the policies of direct credit allocation and subsidised lending rates also plunged many of the banks into financial distress with very high non-performing loan ratios. This in part necessitated the introduction of financial sector reforms in the 1988 where the sectoral credit controls and subsidised interest rates were phased-out. Yet, as Aryeetey (1996) points out, these reforms did very little in improving credit to small enterprises. This is because by 1990 only one percent of all private sector loans were allocated to indigenous manufacturing sole proprietorships. According to him, the reluctance of the banks to lend to small businesses and the agricultural sector was often explained by bankers as the 'high transaction costs of lending to these sectors' which made small loans relatively expensive.

In the meantime, as the World in the 1990s witnessed growing enthusiasm for promoting microfinance as a strategy for poverty alleviation (CGAP, 2006), Ghana also responded as part of comprehensive financial reforms by passing the non-bank financial institutions (NBFI) law in 1993. The NBFI law allows the establishment of different categories of NBFI, including savings and loans companies (S&L), and credit unions (CU)[32]. Steer and Andah (2003) have

[32] There are nine other categories of NBFIs which are non-deposit taking such as Finance Houses, Leasing companies, venture capital etc which are all categorise under different tiers with different regulation frameworks (See Box 2.1 in Chapter 2). However, it is the Savings and Loans Companies (S&Ls) and CUs, which even though are restricted to a limited range of services, are most active in micro and small-scale financial services (Steel and Andah, 2003).

argued that the S&L category was passed as a flexible means of recognising, modernising and regularizing three types of pre-existing MFIs, namely 1)transformation of NGOs into licensed financial intermediaries; 2)formalization of actual or potential informal money-lending operations; and 3) establishment of small private banking operations serving a market niche. For example, the first license as an S&L went to Women's World Banking Ghana (WWBG) in 1994, representing the first transformation of an NGO into a licensed financial institution.

As these new MFIs began adopting innovative lending methodologies from both abroad and the local informal SUSUs schemes, they did not only defy the conventional wisdom of banking the poor, but also demonstrated that MFIs can reach large numbers of the poor and microentrepreneurs while achieving profitability and long-term sustainability. By the end of the decade, a lot more NGOs such as Sinapi Aba Trust were more than ready to transform themselves into viable S&L.

Today, as also noted in Chapter 2 of this thesis, there are about 18 S&Ls including such big players as ProCredit, Opportunity International, UT financial Services, Ezi, City and Savings and host of others. There are also a number of FNGOs and CUs scattered across the length and breadth of the country offering a wide range of financial services to MSEs. Not surprising, the total assets of NBFIs grew more than threefold in five years (i.e., from GH¢145m ($167m) in 2003 to GH¢608.3 ($431.4m) in 2008 representing 5.7% of total assets of the formal banks). Even much greater increase was the total assets of the S&L, which increased more than thirty-fold from GH¢7.8m ($10.8m) in 2001 to more than GH¢247 ($167m) in 2008 representing about 0.54% and 2% of total assets of all formal banks respectively. Meanwhile, during the 1990s, as Steel and Andah (2003) observed, some of the rural banks also adopted a more commercial approach and introduced innovative programs – often in collaboration with NGOs that offered proven microfinance methodologies, such as Freedom from Hunger's Credit.

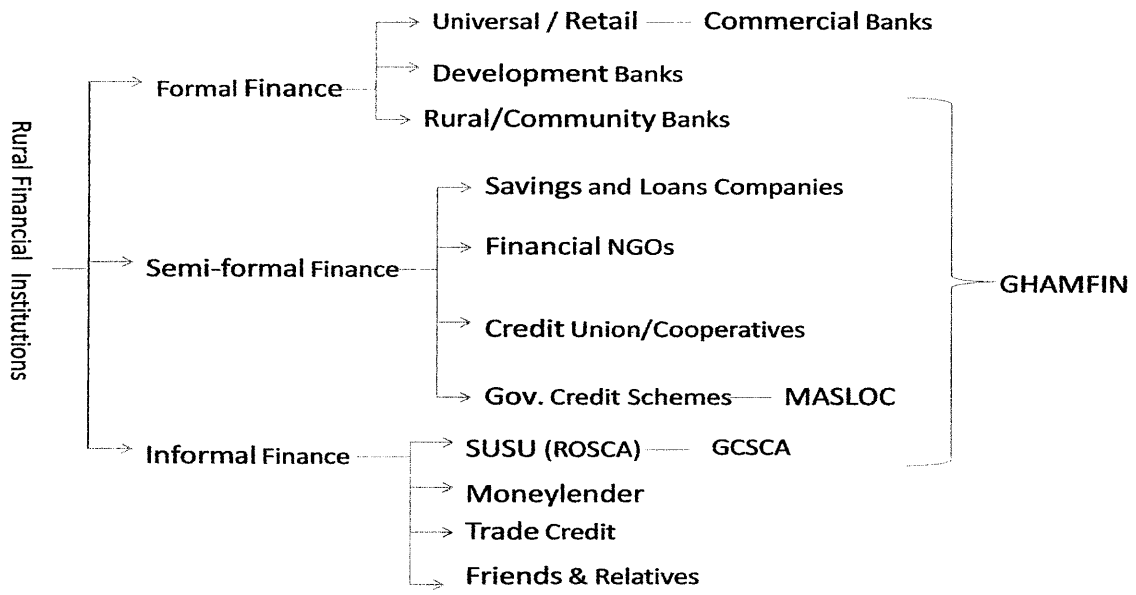
The microfinance industry from there on could be said to be blooming. It rapidly evolved and expanded from the relatively narrowed field of microcredit to the more comprehensive concept of microfinance – which includes a range of financial services for poor people and microentrepreneurs, such as savings, money transfers, and insurance – to the enormous challenge of building inclusive financial system (Helms, 2006). This therefore necessitated the formation of an umbrella organisation, Ghana Microfinance Institutions Network (GHAMFIN) in the late 1990s to self-regulate and educate its members of best practices. The ensuing better performances of the MFIs have ensured that today the borders between traditional microfinance and mainstream formal financial system are beginning to blur across most parts of the globe.

In Ghana, for example, the commercial banking sector then began to notice the thriving industry as the competition in mainstream banking became keener. The cutthroat competition was happening due in large part to the huge entrants of new banks and the passage of the universal and retail license law in the mid-2000s. The first bank to openly respond to the challenge of moving downstream to serving the microenterprises was Barclays Bank Ghana Ltd. In 2005, the bank launched the Barclays Micro-banking Project also called 'Dwetiri' (or investment capital) account in collaboration with Ghana Co-operative SUSU Collectors Association (GCSCA). By engaging initial 200 of the over 4000 informal SUSU operators, the bank believed that 'truly financially inclusive society can only be achieved by supporting existing, indigenous FIs that already provide services such as loans and savings facilities to the least affluent'. Subsequently, many other banks have also responded by either directly setting up a microfinance unit in their banking hall or creating small specialised auxiliary branch such as the Ecobank's EB-Accion and HFC Bank's 'Boafo'(Helper) Microfinance Services.

In the meanwhile, the government realizing the importance of microfinance in its overall Poverty Reduction Strategy set up the Microfinance and Small Loans Center (MASLOC) in

2006. Among some of the objectives were to provide soft loans to petty traders and small business operators and to coordinate and enhance all microcredit schemes by government agencies. However, the default rates among beneficiaries are so high to the extent that the Chief Executive Officer of MASLOC, recently indicated that only a little over 6 per-cent of about GH¢5 million ($3.5m) that was disbursed to individuals between 2007 and 2008 had been retrieved, leaving a whopping 93.7 percent in the hands of defaulters[33]. This and other teething problems within the microcredit industry, in large part, underscore the relevance of the present study. The Figure 7.1 below shows the structure of the rural financial system providing microcredit to microenterprises in Ghana. As shown, the industry currently exists in three tiers – formal, semi-formal and informal - reflecting different legal and banking regulations that guide their operations.

Figure 7.1 Structure of Rural Financial System in Ghana



Source: Author

[33] see Daily Guide, Saturday, 20 March 2010

7.3 The Conceptual Framework of Analysis and Empirical Specification

7.3.1 The Conceptual Framework

The literature assessing the performance of FIs in microlending is scarce. Nonetheless, Shreiner's (2002) framework of outreach indicators for discussion of the social benefit of microfinance provides a useful theoretical basis for our analysis. Shreiner's (2002) proposes a framework for outreach in terms of six aspects: worth, cost, depth, breadth, length, and scope. In explaining these indicators, he argues that more socially oriented MFIs, assume in our case to be the semi-formals, can compensate narrow breadth, short length and limited scope with greater depth, while less socially oriented MFIs, like the formal commercial banks, can compensate shallow depth with wide breadth, long length and ample scope.

According to this framework, the social or poverty approach targets very poor clients who are very costly to serve. For example, like relief efforts, it measures success by how well it fulfils the needs of the poorest in the short term. In contrast, the self-sustainability or profitability approach targets less-poor clients on the fringes of the formal financial system. In this case, as also observes by Von Pischke (1991), it is like development efforts, it measures success by how well it expands the frontier of the mainstream economy in the long term.

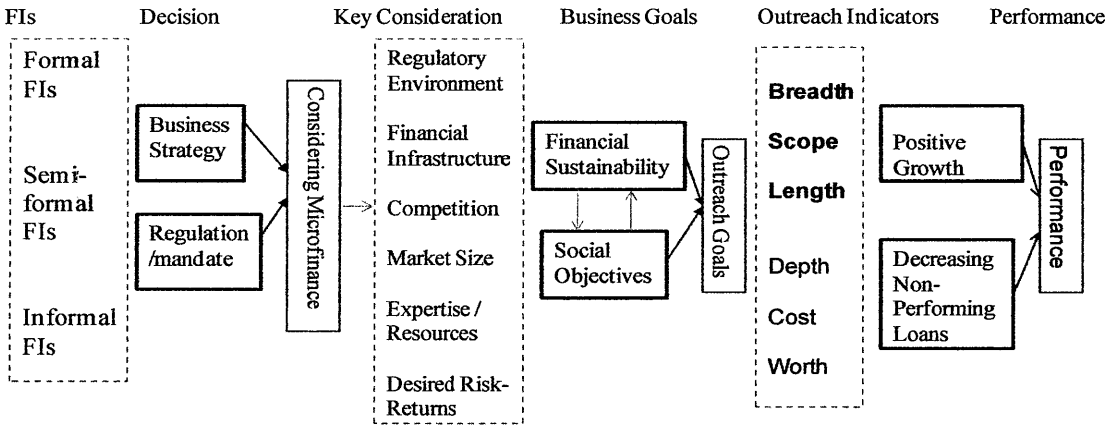
Some studies (Mersland and Strøm 2007; Jenkins, 2000) supporting this framework have highlighted the underlying trade-off between the social objectives and financial sustainability objectives as the basis for assessing the performance of FIs in microlending. For example, Mersland and Strøm (2007) exploring a study, "Microbanks: Ownership, performance and social Tradeoffs", although find no significant trade-off among Shreiner's outreach indicators in explaining differences in financial NGOs and shareholder specialised MFIs, conclude that the indicators nonetheless have the potential of predicting their performances in microlending.

Similarly, Aryeetey (2005) argues that the assessments of the achievements of any microcredit programs are centered on the extent of outreach, which is measured on the basis of the types of clientele served and the variety of financial services offered. This also includes the value and number of loans extended, value and number of savings accounts, type of financial services offered, number of branches and village sub branches, percentage of the total rural population served, real and participation of women as clients. The findings of these studies therefore suggest that the outreach indicators are not peculiar to any type of FIs.

However, while the argument over the last decade among the specialised MFIs has been the need to seek a win-win outcome by minimising this trade-off (i.e., maintaining social objectives while also ensuring financial sustainability), the formal FIs have until recently not made this an issue. However, to a commercial bank with a profit motive for entering microfinance, financial sustainability/profitability would be the best business case for downscaling. But this could also affect it performance in the industry as it would prevent it to meet the needs of the core poor, who may need microfinance the most (Isern and Porteous (2005).

In the Figure 7.2 below, we show a framework of decision tree of how the business objective of an institution may affect its overall performance in the microfinance industry. As shown, different FIs would have different goals – social or profitability – but the key consideration would largely be determined by the varying business competitive and regulatory environments. Isern and Porteous (2005) argue that choosing the approach that fits both the bank and the circumstances at the outset is an important factor in future success. Every approach, as they reflect in the outreach indicators – breadth, cost, depth, and etc -, has its particular underlying principle, risk profile, costs, but which may eventually affect the overall performance or success factors in the industry.

Figure 7.2 Conceptual Framework of Performance in Microfinancing



Source: Author

Nonetheless, how these outreach indicators and the business image or characteristics of FI influence the performance in microlending have not been explored in the literature and thus require an empirical validation. In the section that follows, we specify a determinant of performance equations in terms of both Non-performing loans and management's own assessment of business performance and explain how the various outreach indicators and the ownership type of FI affects these variables.

7.3.2 Empirical Analysis

To investigate the determinants of performance of FIs in the microlending industry, we specify two separate equations. First, as a FI adopts a particular approach, we measure its exposure to risk or otherwise by estimating the factors that determine their Non-performing loans rates (NPL) or default rates. Second, we also investigate a FI's outlook or stance in the business by

assessing management own perception about the current performance of the institute as compared to the preceding years in the microcredit industry. As well as these two specifications as presented below, in the subsequent section, we have explained the explanatory variables or their respective determinants within our conceptual framework of performance.

7.3.2.1 Determinants of NPL

Following the studies by Jenkins (2001) and Lancaster (2006), we specify a simple multiple regression analysis using OLS for the determinants of NPL: This is specified simply as:

$$NPL = \beta_0 + FIs + \beta_1 Ownership + \beta_2 Collateral + \beta_3 Depth + \beta_4 Breadth + \beta_5 Scope + \beta_6 Length + \varepsilon \quad [7.1]$$

Where, the dependent variable, NPL, is the percentage of microloans in arrears (i.e., ratio of microloan losses to the total microloan). The justifications for the explanatory variables are as given below.

7.3.2.2 Determinants of Growth Performance

With respect to gauging FIs' performance in microcredit, it is important to stress again that measurement is based on the local branch managers' perception of growth performance in the industry over the years. To capture this quantitatively we represent as one if the respondent indicated there has been a significant increase in performance, and zero if he/she thinks performance has stagnated or declined compared to the previous year. This allows us to apply a simple binary response model as logistic regression analysis (or multivariate logit regression), which relates to the odds ratio or the probability of event occurring (Greene 2008) and specify simply as follows:

$$Y_{ij}^{*} = x_{ij}\beta + \varepsilon \quad [7.2]$$

Where, Y is defined below in Equation [7.3] and **x** represents a vector of explanatory variables similar to those considered in the NPL model which are explained in the next subsection.

$$Y = \begin{cases} 1, & if\ Y_{ij}^{*} > 0 \text{ (Increase in growth performance)} \\ 0, & \text{Otherwise (stagnant or a decrease in performance)} \end{cases} \quad [7.3]$$

As well as Equation [7.1], the final equation to be estimated is specified below as:

$$Growth\ (Y) = \beta_0 + FIs + \beta_1 Ownership + \beta_2 Collateral + \beta_3 Depth + \beta_4 Breadth + \beta_5 Scope + \beta_6 Length + \varepsilon \quad [7.4]$$

7.3.2.3 Explanatory Variables and Hypothesis Development

Beginning with outreach indicators outlined in the framework, the following paragraphs explain how the indicators are measured and their expected relationship with NPL rates and managers perception of growth performance. **Cost:** this is defined as the sum of price costs and transaction costs for the borrower. We proxy this by the level of interest rate charged by the FIs. A higher market interest rate a bank charges may affect riskiness of pool of loans within a market characterised by imperfect information that results in two agency related problems – adverse selection and moral hazards (Stiglitz and Weiss, 1981). However, if the rate is subsidised by government, as cited in Jenkins (2000), it may encourage loan default or corruption which, in turn, may result in higher NPL ratios. These two counter arguments therefore leave the expected sign on the cost variable ambiguous.

Depth: Depth of outreach relates to the extent to which microcredit reaches the poor. According to Shreiner (2002), if society has a preference for the poor, then poverty is a good proxy for

depth. For example, society likely prefers that a street child or a widow get a given net gain than that a richer person get the same net gain. In his view, simple, indirect proxies for depth are gender (women are preferred), location (rural is preferred), education (less is preferred), ethnicity (minorities are preferred), etc. Thus, we proxy Depth by three main variables, namely proportion of women clients serve, rural location and smaller loan size per client. Since reaching poorer clients is relatively more costly as the cost of operating a small loan is often quite similar to that of operating bigger loans (Mersland and Strøm 2007), and since social goal and the sustainability goal are normally in conflict, we expect higher depth to have adverse effect on both performance and NPL.

Breadth: Breadth of outreach is represented by the number of clients. With higher cost of providing microloans, large volume transactions/clients will lead to lower per unit cost which in turn leads to lower interest rate charges, thus higher growth performance. On the contrary, large volumes of microloan leads to higher monitoring cost and higher tendency to compromise on loan quality (like subprime lending), thus higher default rates. **Scope:** Scope of outreach is the number or types of financial services provided. It is believed that the number of financial products offered to a micro-borrower does not only reflect the degree to which the FI in question is committed to the sector, but also its ability to build client loyalty and relationship banking. This will also lead to reducing information asymmetry and agency problems and hence lower default rates. This value takes the value one, if FI offer micro-saving services in addition to lending and zero, otherwise.

Length: Length of outreach is the time frame of the supply of microfinance. This is difficult to measure because it relates to the future sustainability and profitability of the MFIs. We therefore employ number of years a FI has been engaged in microfinance as a retrospective variable. We expect long serving MFIs, all things be equal, to have positive relationship with growth

performance and negatively related to NPL since they are more likely to understand the market better than the new comers[34]. Further, other determining factors considered are as follows: **FIs**: the type of FIs - formal, semi-formal or informal -, could affect the performance or even the ability of a FI to mitigate risk. The regulated formal FIs usually with sound governance structures, internal controls and wide network of infrastructure as well as high eligibility criteria are more likely to be associated with positive growth and negatively related with NPL ratio than their counterparts in microlending.

Ownership: we also control for ownership or main source of funds of the FIs. This takes on the value one, if FIs is public/state-owned or donor funded and zero, if private. It is a common knowledge that state-owned or donor funded FIs are more socially or development oriented thereby has less incentive to be profitable or pursue defaulters because of patronage. Moreover, Jenkins (2000) argues that the image of a FI is particularly important as lenders who mix social and financial objectives are viewed as a charitable organisation. This makes it difficult for them to establish on-time payment behaviour for the borrowers. In contrast, private-owned FIs are profit oriented and thus would ensure cost-effectiveness and a stricter methodology of controlling loan losses. Public ownership is therefore expected to be less inclined with growth performance and also a positive relationship with higher NPL ratios.

Collateral: Even though higher collateral requirement is a sure means of securing loans against default, it may also mean that FIs can only finance smaller projects or wealthier firms thereby

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[34] The last but not least outreach indicator is **Worth**, which is defined as clients' willingness to pay. However, this is omitted in the analysis as it is difficult to measure. As Shreiner (2002) observes, it is because it depends on the subjective gain that a client gets from a financial contract which hinges on the tastes, constraints, and opportunities of clients.

affecting it performance in microcredit industry. Thus collateral (which takes the value one, if a fixed or immovable asset is required and zero, if no collateral or collateral substitutes such as third party, upfront payment or group lending) will have adverse effect on performance but may lead to lower NPL. The Table 7.11 shows a detail description and how all the explanatory variables are numerated as well as their hypothesized signs.

7.4. Data Source and Analysis of the Preliminary Results

7.4.1 Data Sampling Methodology and Procedure

The data for this study was a primary data collected from a field survey on a broad spectrum of financial institutions in the Ashanti region of Ghana between August and September 2009. The study was part of a comprehensive research on microenterprise financing from the perspective of both lenders and microentrepreneurs – emphasizing supply and demand constraints and how to build inclusive financial system. The selection of the sample branches of FIs was done within a stratified framework, based on the type of FI (i.e., Formal, Semi-formal and Informal)[35] and its location. Even though these groupings are important for comparison in our study, it is important to note that within each subgroup the FIs differ in many institutional and economic respects such as structure, mandate and culture.

Furthermore, the location was stratified into three socio-economically important geographical locations, namely Central Business District (CBD), Suburb and Rural localities. The CBD is the downtown of the capital city of the region called Kumasi. This is the second largest city in

[35] The formal includes all banks made up of commercial, development and rural banks. The semi-formals include financial NGOs, Credit Unions, Saving and Credit companies, and Co-operatives. The informal institutions, which function outside the scope of Ghana's banking laws, include Moneylenders, *SUSU* operators.

Ghana, which plays host to a market, believed to be the biggest in West Africa with its attendance brisk business and varying banking activities. The surrounding peri-urban and urban areas were demarcated as suburb because of relatively low economic activities, while ten villages across the length and breadth of the region were selected to reflect income variations. The data collection involved self-administered questionnaires sent to about 100 identifiable financial institutions in our study areas and direct interviews with some branch managers or their representatives.

At the end of the exercise, about 80 set of the questionnaires were returned, although not all were filled up or responded to in its entirety. Some of the responses were dropped because the institutions involved were reluctant to share or disclose certain information even after several follow-ups. This turned up to be a much greater hurdle than was initially anticipated, especially our experience with the formal FIs. However, after cleaning, screening and cross-checking the consistencies of the responses with some reporting institutions, we came up with 67 usable responses. The distribution is as follows: 27 are formals (10 out of this are rural banks), 25 are semi-formals and the remaining 15 are informal FIs. A wide range of data was collected that include organisation's characteristics, perception of risk, mitigation techniques and contract enforcement as well as outstanding loans among other things.

7.4.1.1 Limitation

However, as a limitation, we want to stress that since the survey outcome was based on self-reporting and local managers' perspectives, one has to be cautious about interpreting and generalising the findings. In that there is a possibility of self-serving bias where respondents may over emphasise the positive characteristics of their organisation or under estimate their own act of failures or weaknesses. Nonetheless, these biases could not be pervasive since many of the respondents got the understanding that the data was solely meant for academic research

and nothing more. Quite a number of them even expressed the desire to see the findings of our study. Moreover, except for the single unit organisations, most of the branches interviewed are parts of larger organisations whose branches span across the country, thereby invariably are more likely to adopt the same lending policies from their respective HQs. Thus, the responses can be said to be a reflection of emerging pattern that provide useful insights into what is the case on the grounds as well as preliminary information for a larger future study.

7.4.2 Analysis of the Preliminary Results

7.4.2.1 Characteristics of financial institutions

The Table 7.1 shows organisational characteristics of the representative sample of FIs captured in the survey. The results show that almost all the formal and semi-formal FIs are regulated but under different banking regulations. While the formal FIs are regulated under Banking Act 2004, the semi-formals are registered under a variety of legal acts because of the differences in their philosophy or business objective, size and capacity. The majority of the informal FIs (60 percent), however, are neither registered nor regulated under any laws of the land.

The results further reveal that the rural financial system exhibits different ownership, institutional structures and mandate. In terms of ownership structures, whereas the majority (51.8 percent) of the formal FIs are either Public or Public Private Partnership (PPP), a little less than half (48.1 percent) are private (Corporate) institutions. However, for the semi-formal FIs, ownership is fairly distributed among Financial Non-governmental organisations (36 percent), Private corporate (32 percent) and cooperative such as Credit Union (16 percent) with public and sole proprietorship constituting the least of 4 percent apiece. However, half (50 percent) of the informal financial institutions are sole proprietorship with the majority being either cooperatives (28.6 percent) or private corporate (21.4 percent).

Table 7.1 Characteristics of Financial Institutions in the Rural Credit Market

Characteristics	Formal	Semi-Formal	Informal	All
Sampled Financial Institutions	27.0	25.0	15.0	67
% Regulated (Formally Registered)	100.0	96.0	40.0	85.1
Year of Establishment (Mean)	27.2	9.54	7.7	16.2
Years in its current location (Mean)	10.9	7.7	6.6	
Branch Network (%)	84.6	64.0	13.3	60.6
Number of Branches (mean)	27.6	42.4	3.4	33.2
Ownership Structure %		%	%	%
Public	33.3	4.0	0	15.2
Private (Corporate)	48.1	32.0	21.4	36.4
Private (FNGO)	0.0	36.0	0	13.6
Public Private Partnership	18.5	8.0	0	10.6
Cooperative /SHG	0.0	16.0	28.6	12.1
Sole Proprietorship	0.0	4.0	50.0	12.1
Total	100.0	100.0	100.0	100.0
Maj. Area of Activity				
Universal/retail banking	74.1	4.2	0.0	31.8
Specialised Investment/development banking	11.1	4.2	0.0	6.0
Credit and Savings only	7.4	62.5	53.3	37.9
Credit only	0.0	20.8	20	12.1
Savings Only	0.0	0	26.7	6.1
Other	7.4	8.3	0.0	6.1
Total	100.0	100.0	100.0	100.0

Source: Field Survey Data, August 2009

On the issue of major area of banking activities, the vast majority (74.1 percent) of the formal FIs indicated "universal and retail banking". Even though none of the semi-formals are universal, the overwhelming majority (83.3 percent) are engaged in both savings and loan with 20.8 percent engaged only in credit. Likewise, approximately 27 percent of the informal FIs are engaged in savings only with the greater majority (53.3 percent) offering both saving and credit. Originally, the informal FIs particularly the SUSU operators offered only savings products and rarely or occasionally advanced loan to their clients (Steel and Andah, 2003). However, the empirical evidence as provided above suggests that lending has now become an integral part of

their daily activities indicating a gradual increase in scope of operations. However, according to Steel and Andah (2003), their ability to do this is constrained by the fact that they generally lack capital apart from the savings they mobilize from members.

7.4.2.2 Incentives and Disincentives

As previously mentioned, the formal FIs have long restricted access to microenterprises due in large part to either these enterprises are too small to be profitable or too risky to be served sustainably. However, as the competition in the banking industry gets keener and banks beginning to look downstream or downscaling to serve the informal sector, it is interesting to know to what extent they still hold this view and what are the incentives driving this new-found interest as well as the disincentives that are still holding back the majority.

Incentives

The results of the field survey reveal that among the formal FIs, the main motivation or incentive factor explaining the rapid increase in extension of their services to MSEs is profitability of the sector (39.1 percent), while significant proportion (17.4 percent) attributed it to the changing market conditions and competition (see the Table 7.2 below). This result gives credence to our earlier assertion that serving the informal sector can be potentially profitable. Without a doubt, the biggest portion of the country's economic output is largely accounted for by these market women, small kiosks along the streets, hawkers; small-scale farmers and many other microenterprises in the informal economy whose operations and real potentials are usually overlooked.

However, a considerable proportion, 34.7 percent, is serving the sector because of social objectives either for their development and poverty reduction agenda or in response to BOG directives/regulations. Nevertheless, almost all the formal FIs that mentioned the last two

motives are rural banks and therefore not surprising. The rural banks, as noted previously, had originally been set-up to provide financial services to the rural farmers and microenterprises within their catchment areas – although this mandate has persistently been overshadowed by their desire to be more commercially oriented and sustainable (Steel and Andah, 2003). In the case of the Semi-formal FIs, the objective varies considerably.

Although a greater proportion (41.7 percent) of the MFIs is making loan to MSEs because of their development and poverty reduction agenda, a fairly small number of them, 3 out of 10 (30 percent), is making loans due either to the profitability of the sector or changing market conditions and competition. The remaining is being driven by group interest, risk and market diversification or as a response to central bank regulations. Unlike the formal and the semi-formal FIs, approximately 33 Percent of the informal FIs are making loans to serve the interest of their members. Surprisingly however, the majority (50 percent) claimed they are motivated to serve the sector due to their development and poverty reduction agenda with just about 16 percent doing so for profit.

Table 7.2 Incentives for Providing Microloans to MSEs among the Rural FIs (%)

	Formal	**Semi-Formal**	**Informal**	**All**
Profitability of the Sector	39.1	16.7	16.7	26.4
Changing Market Conditions and Competition	17.4	12.5	0.0	13.2
Responds to Central Bank or Government Regulation	13.0	4.2	0.0	7.5
Development and Poverty Reduction Agenda	21.7	41.7	50.0	34.0
Corporate Social Responsibility	0.0	8.3	0.0	3.8
Group Interest or Welfare of Members	0.0	8.3	33.3	7.5
Risk and Market Diversification	4.3	4.2	0.0	3.8
Other	4.3	4.2	0.0	3.8
Total	100.0	100	100.0	100.0

Source: Field Survey Data, August 2009

Disincentives

The results, as reported in Table 7.3, indicate that among the formal FIs, the major obstacles or disincentives for not meeting demands of loan by the microenterprises are almost equiproportionally distributed among four main factors. The branch managers indicated that high transaction cost (26.1 percent), difficulty in monitoring because of the sector's wider diversity (26.1 percent), and high risk or lack of collateral (26 percent) as well as the current macroeconomic uncertainties (21.7 percent) are the main reasons they are not making loans to the MSEs. These hindering blocks are almost similar to those cited by semi-formals and the informal FIs, except that transaction cost did not seem to be a problem for the semi-formals as it is to the formals.

However, dwindling or limited donor or government funds were cited as a major disincentive for the semi-formal FIs. This latter result confirms the finding of Coleman and Adjasi (2006)'s that apart from two FNGOs in their study of sustainability of MFIs in Ghana, all other MFIs had plans of entirely exiting their dependence on donor subsidies since it has become increasingly difficult to source funds. However, more than 18.2% the informal FIs cited other reason for not engaging in microlending. Possible elements of this reason are quite difficult to come by. But it might be that because of the fact that the majority of the informal financial institutions are SUSU operators who only are engaged in mobilising savings from their members on short term basis, they are unable to engage in microlending.

Table 7.3 Disincentives for Engaging in Microlending (%)

	Formal	Semi-Formal	Informal	All
High Transaction Cost	26.1	0.0	0.0	10.3
Lack of Network or Skill Personnel	0.0	4.2	9.1	3.4
Diverse and Difficult to Monitor	26.1	25.0	18.2	24.1
Highly Risky or Lacking Collateral	26.0	29.2	27.3	27.6
Limited donor or Government Funds	0.0	16.7	18.2	10.3
Macroeconomic Uncertainties/Systemic Risk	21.7	20.8	9.1	19.0
Other	0.0	4.2	18.2	5.2
Total	100.0	100.0	100.0	100.0

Source: Field Survey Data, August 2009

7.4.2.3 Conduct and Performance

7.4.2.3.1 Definition of Microcredit

The literature on what loan size constitutes a microcredit is not straightforward, but largely depends on a country's level of development and the type of FI delivering it. Essentially, microcredit, also known as microlending, is a subset of microfinance. This has been defined as an extremely small loan given to people to grow tiny businesses or poor households to smooth their consumption[36]. However, how 'small is small' appears to be relative among different FIs.

When we asked FIs to indicate what threshold of loan size below which they consider as microlending, the outcome suggests varying definitions depending on which FI is responding (Table 7.4). Among the formal FIs, although significant proportion (26.9 percent) defines their microlending to fall between GH¢501-1000, the vast majority (61.4 percent) mentioned GH¢1,001-10,000. However, it is important to note that most of the formal FIs that stated the former are the rural banks. In what is to be expected, whereas the overwhelming majority (72

[36] Microfinance generally refers to a range of financial services that include microcredit, savings, insurance and remittances that are typically targeted at the poor and microenterprises.

percent) of the semi-formals microloan size falls within the range GH¢100-1000, three quarters (75 percent) of all informal loan falls below GH ¢500.

Table 7.4 Classification of Microloans (%)

Range	Formal	Semi-formal	Informal	All
1. Below GH¢100	0	8	25	6.8
2. GH¢100-500	7.7	36	50	28.8
3. GH¢501-1000	26.9	36	12.5	27.1
4. GH¢1001-3000	23.1	4	12.5	13.6
5. GH¢3001-5000	23.1	12	0	13.6
6. GH¢5001-10000	15.4	4	0	8.5
7. GH¢10001- 20000	3.8	0	0	1.7
Total	100.0	100.0	100.0	100.0

Note: Exchange rate to a dollar: $1.00 = GH¢1.42 Source: Field Survey, August 2009.

With regard to average maturity or tenure of microloans, it again appears the Formal FIs grant the longest loan term, although the results show over 50 percent of microloans granted by all the FIs fall within three months to one year (Table 7.5). The informal FIs are shown to grant the shortest loan-terms ranging from one month to three months. These results principally suggest two important observations. First, it is an indication that the informal activities continue to specialize in small and short-term finance. As Nissanke and Aryeetey (2006) point out, the informal operations compared to the others have been more confined to traditional form of activities without transforming into higher modes of operation. Secondly, as it relates to the formal FIs, these results suggest that eventhough most of the commercial banks are desirous of engaging in microlending, it appears most of them have still not come to terms with giving small and short-term loans to marginal borrowers.

Table 7.5: Average Terms of Loans by FIs (%)

	Formal	Semi-formal	informal	All
1-3 Months	9.1	16.7	33.3	16.4
3^{+}Months - 1 year	50.0	70.8	66.7	61.8
1 - 3 years	27.3	4.2	0.0	12.7
more than 5 years	4.5	0.0	0.0	1.8
Other	9.1	8.3	0.0	7.3
Total	100.0	100.0	100.0	100.0

Field Survey, August 2009

7.4.2.3.2 Formal Banks in Microlending

In what appears contrary to a widespread belief that mainstream formal FIs do not engage in microlending, an overwhelming majority (almost 90 percent) claimed they are engaged in microcredit. Although this result is consistent with Jenkins (2000), who also provided evidence to suggest that the greater majority of formal FIs across the globe are indeed involved in microlending, when we compared this to the percentage of their total loan portfolio in this category, it is far less than a quarter. On the contrary, the semi-formal and informal FIs, as expected, have 56.9 percent and 68.6 percent of their loan portfolio respectively in their microcredit categories. However, one may argue that 20 percent of GH¢50 million is obviously bigger than 60 percent of say GH¢5 million. This is because the combined assets of both semi-formal and the informal FIs are known to be far less than 10 percent of the total assets of the formal FIs in Ghana. It is also noteworthy that approximately 80 percent of FIs who were not engaged in microlending indicated they were planning to enter the fray in the not too distant future.

Table 7.6 Selected Indicators of the Performance of FIs

	Formal	Semi-formal	Informal	All
FIs Engage in Microenterprise Finance (%)	88.9	96.0	46.7	82.1
Years of Engaging in Microlending (Mean)	14.8	6.8	5.6	10.0
% of microloan Portfolio	23.4	56.9	68.6	50.5
Number of Micro Application	2158.3	13698.3	137.3	7327.6
Percentage Approved (%)	54.7	62.2	60.5	58.8
Processing Duration (weeks)	2.4	2.0	1.9	2.1
Charging Different Interest Rate (%)	45.8	20.8	11.1	29.8
Annualised Interest Rate (%)	35.1	47.0	62.6	45.7
Provision of Technical Support (%)	90.9	91.7	53.8	83.1

Field Survey, August 2009

7.4.2.3.3 Age and Percentage of Loan Portfolio in Microcredit

The results further reveal that the formal FIs, contrary to the common belief, have the longest years in microlending than the specialised MFIs. They have, on average, approximately 15 years, which is much longer than the 7 and 6 years for the semi and the informal FIs respectively (Table 7.6). This is quite surprising, but it is also an indication that most of the formal FIs, particularly the rural banks have not been entirely missing from microlending. Nonetheless, a significant finding of this study is the evidence that relatively new commercial banks are more likely to have a higher portion of their total loans in microcredit. The results reveal that those formal FIs established 5 or less years ago have close to 50 percent of their total loan portfolio on microcredit (Table 7.7). This maybe because the relatively new commercial banks have recognised the vast potential market the informal economy presents. However, Jenkins (2000) has argued that the newly established small commercial banks have also a limited scope to enter into the highly competitive market of large enterprise finance, thus their greater concentration in microlending.

Table 7.7 Ages and Percentage of Loan Portfolio in Microcredit (%)

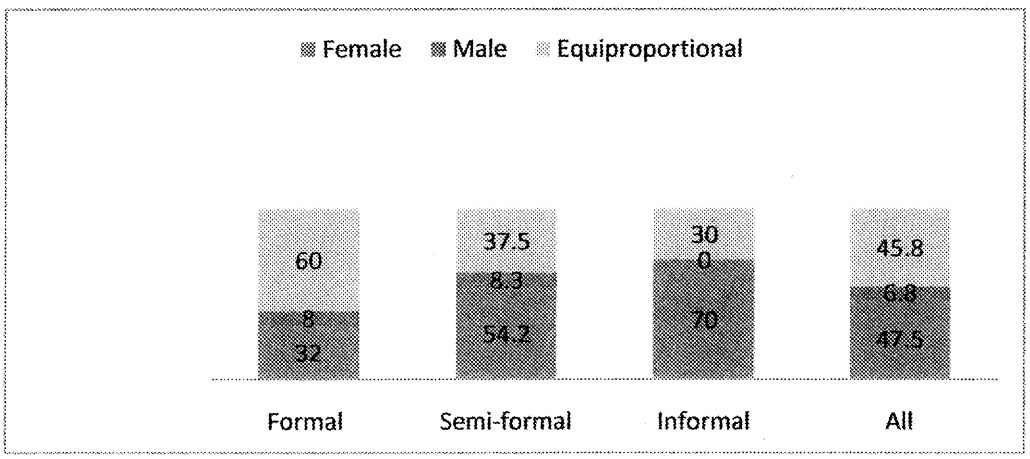
Years	Formal	Semi-formal	Informal	All
1-5	48.3	63.3	77.5	65.1
6 - 15	23.0	69.3	100.0	60.2
16-30	20.9	30.0		21.7
31-50	12.5	90.0		38.3
51>	16.7			16.7

Note: Microloan portfolio is grouped according to the number of years the institution has been in existence.

7.4.2.3.4 Breadth and Depth of Outreach

The number of clients in the three months preceding the survey reflects a more modest outreach by all the FIs. Although the formal FIs have just an average of 2358 microloan applicants per the period, only about 5 in 10 (54 percent) were approved. In contrast, for the semi-formals, which received almost five times that of the former, more than 62 percent was approved (Table 7.6). This result reaffirms the earlier findings that the formal FIs (compared to the specialised MFIs) still have difficulty reaching micro-clients. Similar pattern again emerges when we considered the depth of outreach. The results, as shown in Figure 7.3, reveal that only 32percent of the formal FIs have their main clients among women as against 56 percent for the semi-formals and 70 percent for the informal FIs.

Figure 7.3 The Distribution of FIs by Gender of Larger Clients Served



Source: Field Survey, August 2009

7.4.2.3.5 Interest Rate Charged

Concerns about high lending rates within the microfinance industry in Ghana are rife in recent times. These concerns remain valid when we compared the high interest rates and commission/fees charged on microcredits with those of mainstream credit market. Evidence, as provided by our field survey, shows that whereas mainstream lending rates hovered around 2.5-3 percent per month (averaging about 36 percent p.a.), those of microcredits were within the range of 2-8 percent a month and an annualised average of 45 percent across all FIs. The results (Table 7.6), however, show a considerable wide variation between the different segments of FIs; although all appears to follow closely the trends in the prime rates or policy rates as it is recently called[37].

The FNGOs and S&Ls charged interest rates that were far higher than those charged by the formal FIs. Most of these interest rates range from 4-9 percent per month and even much higher (6-10 percent a month) among the informal FIs. There is however exceptions, particularly the rates charged by some Credit Unions and government or donor sponsored subsidised microcredit projects. These were quite lower. Their interest rates ranges between 20-30 percent p.a. due, in large part, to their organization as cooperative societies or with a social welfare focus. These variations in lending rates, according to the FIs, depend on the level of risk they associate with borrowers.

Although it understandable that micro-lenders across the globe charge interest rates considerably higher than those in mainstream banking largely because of higher risk premium

[37] The prime rate which is set by the Monetary Policy Committee (MPC) of the Bank of Ghana is an indicative interest rate around which all other rates revolve. As at the time of the survey the rates was about 20 percent

and administrative costs, there are certain "predatory" practices or hidden charges that altogether make the cost of microcredit even more expensive in Ghana. For example, more than 80 percent of all the FIs indicated that they charge extra fees on loans granted to micro-borrowers. Additionally, our findings, especially from the specialised MFIs, reveal that as repayments of loan are done on instalments and on regular basis, the rate is often charged as a simple interest on the principal. The standard practice has been, however, to charge interest rate on the reducing balance (Kutsoati, 2007).

7.4.2.4 Risk Perception and Mitigation Techniques

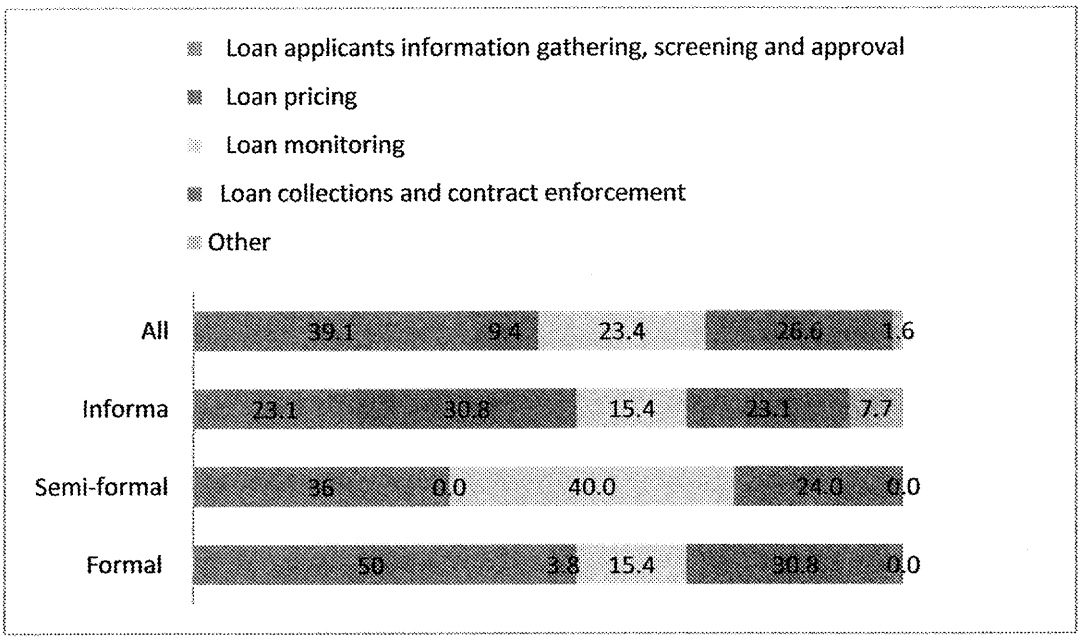
7.4.2.4.1 Screening and Monitoring

Effectively managing credit risk in microlending is challenging as much as critical for MFIs long-term financial sustainability. This thorny issue of credit risk is even of a greater concern for formal FIs. This is because the formal FIs perceive the microenterprise to have higher levels of default risk mainly as a result of the difficulty and higher cost of obtaining information about the creditworthiness of a potential micro-borrower. In confirmation, Nissanke and Aryeetey's (2006) provide evidence that commercial banks' risk perceptions are less favourable for small borrowers than the specialised MFIs, making them less likely to engage in microlending. This subsection therefore discusses how formal FIs with microloan portfolios, compared to others, manage microcredit risk and enforce contracts with emphasis on collateralisation.

We began by asking branch managers to indicate which microcredit methodology presents the greatest challenge and cost. As Figure 7.4 shows, for the majority (50.1 percent) of the formal FIs, these are loan applicants information gathering, screening and approval; although contract enforcement was also significantly cited. However, in the case of the semi-formal FIs, their biggest concern was loan monitoring (40 percent), which incidentally happened to be the least

(15.4 percent) of worries for the informal FIs. The latter supports the view that informal lenders have little need to monitor loans explicitly because of free information flow in their operating circles as a result of personal ties and proximity (Udry, 1990).

Figure 7.4 Managers' Perceived Challenges in Microcredit Extension



Source: Field Survey, August 2009

7.4.2.4.2 Asset-based Collateral

The Table 7.8, which presents the risk mitigation techniques used by FIs, shows that even for microloans the commonest technique use to secure loans is collateral, albeit type varies considerably. Whereas all (100 percent) the formal FIs required some forms of collateral before granting loans, not all of the semi-formals (62.5 percent) and informal (55.6 percent) FIs actually do. For those who do not require collateral, two main explanations were offered. First, it is because their clients are members of their association or unions and second, because of their socially or poverty reduction objective. Even if they require any collateral at all, it is usually a movable assets such as vehicles or cattles or some durable household appliances.

Table 7.8 Collateral Type and Reason for Not Requiring Collateral (%)

	Formal	Semi-formal	Informal	All
Collateral is required	100.0	62.5	55.6	77.6
Collateral Type				
Co-signer or third party guarantor	35.3	37.5	50.0	37.8
Fixed assets for collateral such as land and building	29.4	18.8	25.0	24.3
Motorable Assets such as (Livestock, Vehicle etc.)	0.0	18.8	0.0	8.1
Minimum balance or savings threshold	29.4	25.0	0.0	24.3
Automatic salary deductions or proceeds from sales	5.9	0.0	0.0	2.7
Other	0.0	0.0	25.0	2.7
Total	100.0	100.0	100.0	100.0
Reasons Collateral is not Required				
Assets lack property rights	0.0	12.5	20.0	15.4
Difficult to foreclose	0.0	0.0	20.0	7.7
Because of socially or poverty reduction objective	0.0	25.0	0.0	15.4
Being a member of a group or union	0.0	62.5	40.0	53.9
Other	0.0	0.0	20.0	7.7
Total	100.0	100.0	100.0	100.0

Note: Because the Formal FIs require some form of collateral on all loans, the column corresponding with reasons collateral is not required all show zeros under the formal FIs. **Source:** Field Survey, August 2009

7.4.2.4.3 Collateral Substitutes

We found evidence to suggest that the demand for asset-based collateral such as land and buildings is becoming less popular. Collateral substitutes or joint liabilities such as a third party guarantor or group lending are fast catching up with almost all the FIs, especially with the formal and semi-formal FIs. For example, more than 60 percent of the formal FIs either required a potential microlender to provide a third party guarantor or a minimum balance as a compulsory up-front savings of say 30 percent that is retained as security before loan is granted. According to some branch managers interviewed, microloans secured with personal guarantors have long proven to be of higher quality and much less a struggle to enforce repayment. This is because they pay particular attention to the person's proven personal integrity and financial

worthiness. Moreover, the person's minimum saving balance at all times with the bank or other FI should be adequate to offset the loan sum, in case the client defaults in payment.

Although its usage is somewhat receding, those FIs that do not require physical collateral often resort to joint liability through group lending, particularly in the rural areas. This is where group members guarantee for each other and repayments rely on peer pressure and social sanctions. Another technique found to be important for reducing microcredit risk or offsetting borrowers' lack of collateral was graduated lending and termination incentives (or dynamic incentives), although mainly applied by the semi-formal FIS. Despite the belief that a micro-borrower is keen to maintain access and more likely to repay promptly as long as reliable promise of a progressively bigger loan exists in future, a good number of the managers interviewed, maintained that it nevertheless limits their flexibility and puts pressure on them to increase the loan size, even when they have limited loanable funds.

7.4.2.5 Contract Enforcement

Aside from the fact that many microentrepreneurs lack physicals collateral to post as a guarantee for formal loans, one reason why the use of asset based collateral is not a popular risk mitigation technique among the FIs in Ghana is lack of appropriate legal institutions that support contract enforcement or foreclosures. Most managers interviewed pointed out that foreclosure of collateral property is difficult in the country due to the uncertainties surrounding property rights. Even if the title of the property is verifiably genuine, it is often difficult not only to establish the value of the property, but also its marketability. They explained that while lack of or poorly functioning secondary markets for collateral often renders asset based collateral worthless, even where it exists, it is time consuming to enforce it. This is because it is not easy to simply foreclose a property without going through laborious and long years of legal processes and litigations.

The above might explain why only 50 percent of formal FIs indicated that they often resort to the law courts to enforce loan repayment (Table 7.9). The remaining will prefer to either refinance/restructure the loan facility or foreclose collateral directly. The restructuring of the loan facility by banks is usually to give borrowers enough time to revive their distressed businesses or make them profitable. In the case of the semi-formal and informal FIs, it is interesting and surprising to note that more than 50 percent of those that require collateral often resort to either the law courts or direct asset foreclosures (without recourse to the law courts).

Quite surprisingly, both Semi-formal (20.8 percent) and Informal (37.5 percent) FIs directly foreclose collateral more than the Formal FIs. A plausible reason may be that for formal FIs, by virtue of their legal status, cannot directly or openly foreclose collateral without recourse to the law court. On the contrary, the informal and semi-formal financial FIs, because most of them are not legally registered or directly regulated by Ghana's banking law, it is quite easier for them to engage in illegality without being noticed. However, many would use this method only if all available avenues for redress are duly exhausted. A quarter (about 25 percent) will utilise available social networks and institutions such as group sanctioning, persuasion and dialogue, which were not mentioned at all by the formal FIs.

Table 7.9 Measures for Enforcing Contracts (%)

Measures	Formal	Semi-formal	Informal	All
Use available social networks	4.3	25.0	25.0	16.4
Use the forces of law and court actions	47.8	33.3	12.5	36.4
Foreclose collateral	17.4	20.8	37.5	21.8
Write off the debt	0.0	0.0	12.5	1.8
Refinance or restructure the loan to be profitable	30.4	16.7	12.5	21.5
Use other method	0.0	4.2	0.0	2.1

Source: Field Survey, August 2009

7.4.2.6 Non-Performing Microloan and Perception of Growth

Banks in Ghana continue to grapple with their loan quality in the midst of macroeconomic uncertainties, keen competition and relentless efforts to expand operations as well as lack of secured enforcement regime. Recent report by BOG on non-performing loans to gross loans (NPL) for the year 2009 shows a rising ratio (19.9 percent)[38] compared to the recent past. This, according to the central bank, is worryingly high that requires urgent attention. However, this deterioration of loan quality in the year has largely been attributed to volatile macroeconomic environment as well as the increased lending to the retail sector such as personal and small loans to enterprises. The latter is said to have grown the most as part of most banks' growth strategy.

Table 7.10: Non-Performing Loans and Perception of Growth (%)

	Formal	Semi-formal	Informal	All
Non-Performing Loan (Arrears)	13.6	18.7	10.2	15.2
Growth Perception:				
Increasing	62.5	66.6	57.1	63.7
Decreasing	25.0	25.0	0.0	21.8
No Change	12.5	8.4	42.9	14.5
Total	100.0	100.0	100.0	100.0

Source: Field Survey, August 2009

However, our field survey reveals that formal banks' NPL rate (13.6 percent) is a little lower than the national and even much lower than those in the semi-formal FIs (18.7 percent). In the case of overall growth performance in microlending, over 62 percent of branch managers of formal FIs indicated they have experienced growth compared to the previous year (Table 10). However, over 37 percent has either stagnated or declined over the period. Meanwhile,

[38] See BOG Monetary Policy Committee press released in April, 2010

approximately 67 percent of the semi-formals FIs which, even though reported of high NPL ratio, experienced growth with a quarter declining nonetheless. However, just about half of the informal FIs experienced growth performance although it reported the least (10 percent) NPL. The overarching question here is what are the drivers of these variations in growth performance and the level of NPL ratios among the FIs. It is therefore interesting and important that we undertake a further empirical investigation to determine which factors drive formal banks' performance vis a vis other FIs while at the same time reducing or increasing loan losses in microlending.

Table 7.11 Summaries of Explanatory Variables and Hypothesised Signs

Variable	Description	% (Mean)	Hypothesized Sign	
			Growth Performance	NPL
FIs	=1, if, formal; 2=semi-formal, 3 = Informal	40.3*	+	-
Ownership	=1, if FIs is public-owned or donor funded and 0, if private.	37.9	-	+
Cost	Average lending rate by a FI	(45.7)	-	+
Depth	=1, Female, 0 male	47.5	-	+
	=1,rural location, 2=CBD, 3=location	32.8*	-	+
	=1, if loan size is (<Gh ¢ 500), 0; otherwise	34.4	-	+
Breadth	Number of clients (Natural log)	(4.4)	+	+
Scope	=1, if FI micro-saving services in addition to lending and zero, otherwise.	86.0	+	-
Length	Number of years a FI has been engaged in microlending as a retrospective variable (natural log)	(2.3)	+	-
Collateral	=1, if a fixed or immovable asset is required and 0, if no collateral or collateral substitutes such as third party or upfront payment	31	-	-

Note : The figures with asterisk (*) refer only to the value 1. Source: Field Survey, August 2009.

7.5 Regression Results

The regression results, as presented in Table 7.12 below, show logistic regression estimates of Equation [7.4] (which shows the drivers of managers' perception of growth performance) and

OLS estimates of Equation [7.1], which models the determinants of NPL in microenterprise lending. The model fitting information results all show the equations were well specified and appropriate, whereas the regression results are generally consistent with the microfinance literature. The coefficient on the collateral variable is statistically significant with a negative sign in the NPL model but it is insignificant in the performance model. This result suggests that where a FI demands fixed asset-based as a collateral to secure microloan (as against no collateral required or use of collateral substitutes), it is associated with lower or reduction in NPL ratios. However, with lack of a well-functioning secured credit regime and a credit scoring bureaus, this finding may imply that FIs, especially the formal ones, will continue to prefer microloans collateralised with fixed assets, but which will lead to exclusion of a lot more microentrepreneurs.

In regard to ownership type, whether a FI is publicly or privately owned does not appear to influence performance nor lead to a reduction in NPL. The variable in both models is insignificant, which provides support to a similar conclusion reached by Mersland and Strøm (2007) that ownership type has no effect on the performance in microlending. Likewise, whether a FI is regulated (i.e., formally registered) or unregulated appears not to have any significant impact on performance in microlending. However, informal FIs appear to perform better in reducing loan losses than the formal FIs. The later result reveals a significantly negative relationship between informal FI and NPL. This is, however not surprising, since it confirms the preliminary results of our survey that the informal FIs in the country are more close to their clients and often adopt simple lending facilities, frequent repayment schedules and social sanctions to enforce contracts.

The results further reveal that FIs which have long being engaging in microlending are more likely to have higher growth in performance than their counterparts who are new in the industry. On the issue of breadth of outreach, the results show that the number of clients have no

significant influence on performance. On the contrary, greater breadth has significant positive impact on NPL. This suggests that larger number of clients a FI serves increases high rate of NPL or loan losses. Even though larger volume may mean risk diversification, like the subprime loans, it is also an indication that large volumes of microloans bear greater risk and that unbridled advances in small loan without accompanying effective risk mitigation strategies is a recipe for a failure.

Another outreach indicator, depth, however, presents mixed but interesting results. While depth, proxied by women clients, has a significant and positive relationship with performance, the rural and the small loan size variables are only significant in the NPL model, albeit with opposite signs. The former result suggests that MFIs with clients dominated by women are more likely to perform better, although no evidence of it leading to a reduction in NPL. On the contrary, for depth as it relates to rural outreach, the result shows a positive relationship with higher NPL rates. This means that FIs located in rural areas are more inclined to have higher NPL rates. The results further reveals that FIs in the suburbs, compared with those in CBD, are less likely to perform better. In the case of depth, as it relates to small loan size, it has a negative and a significant relationship with NPL rates. The implication of all these various outcomes for depth is that while aspect of the results is consistent with the evidence that MFIs with greater depth of outreach but with tailor-made products to suit clients' needs will be successful in meeting the twin objectives of financial sustainability and social performance (Biggar, 2009), greater caution has to be exercised, especially when dealing with the rural clients.

The result on scope of outreach shows a statistically significant and a positive relationship with performance but insignificant with NPL rates. This suggests that FIs that offers more micro financial products such as saving services are more likely to perform better. This supports our

hypothesis that varying products offered to micro-clients are more likely to lead to client loyalty or relationship banking, less dropout and thereby higher growth performance. On lending rates charged by FIs, although a higher lending rate does not appear to affect performance, the result indicates an adverse effect on NPL rates. The positive significant outcome suggests that too high a lending rate charged by FIs leads to higher default rates. Consistent with a similar finding by Jenkins (2000), this outcome suggests that microenterprises are not capable of borrowing and repaying their loan in time when lending rates charged by FIs were high.

Table 7.12 Regression Results for Determinants of Growth and NPL

	Logistic Regression Model (Performance)		**OLS Regression Model (NPL)**	
Variables	Estimates	Std. Errors	Estimates	Std Errors
Breadth of Outreach	-0.066	0.215	0.014***	0.004
Collateral Type (Fixed Assets)	0.897	1.057	-0.066***	0.019
Cost (Lending rate)	5.951	5.037	0.233**	0.088
Depth (Female)	2.497**	1.044	0.021	0.018
Depth (Loan Size <Gh ₵ 500)	-0.885	0.992	-0.030*	0.018
Depth(Rural)	-0.333	1.138	0.042**	0.020
Suburban	-2.185*	1.145	0.022	0.019
Scope of Outreach (savings)	4.117**	1.496	0.009	0.021
Semi-Formal Finance	2.039	1.427	0.001	0.024
Informal Finance	-0.777	1.893	-0.058*	0.033
Public Ownership	0.960	0.854	0.0012	0.017
Years in Microlending	1.055**	0.522	-0.009	0.009
Constant	-8.622**	3.546	0.002	0.054
-2 Log likelihood		43.142		
Cox & Snell R Square (Adjusted R)		0.413		(0.576)
Durbin-Watson				1.76
Overall Percentage Correct		82.7		
No. of Observation		52		52

Note: * =10% Significant; **=5% Significant; ***= 1% Significant

Formal Finance is set as the reference category to the other FI –Semi-formal and Informal

CBD is set as the reference category to the other locations – Rural and Suburban

7.6 Conclusion

The study has attempted to investigate the incentives, disincentives and the performance of mainstream formal FIs vis `a vis semi-formal and informal FIs. Specifically, the study examined factors that determined FIs' performance and Non-performing loans (NPL) relating microlending. Using structured questionnaires to gather data, mainly from the perspectives of local branch managers among a broad spectrum of FIs in Ghana, both descriptive and quantitative techniques were adopted to analyse the set objectives. The descriptive analyses of the survey results, though preliminary, emphasise four important findings.

First, contrary to a widespread belief that mainstream formal FIs in Ghana are absent from microlending, an overwhelming majority claimed otherwise, although evidence suggests many still apply similar lending rules and policies to microlending as in their core lending activities. Second, the formal FIs, as commercially oriented as they are, indicated their main incentives for engaging in microlending are profitability and changing market conditions. On the contrary, the semi-formal FIs endeavour to strike a balance between profitability and social objectives though disproportionately. Third, the major obstacles or disincentives for not making microloans are almost equiproportionally distributed among four main factors, namely high transaction cost, difficulty in monitoring because of the sector's diversity, and high risk of the sector as well as macroeconomic uncertainties. Fourth, although almost all the formal FIs require collateral, the use of asset-based collateral is becoming less popular. Collateral substitutes or joint liabilities such as third party guarantor and group lending are fast catching up with almost all the FIs, especially with the formal and semi-formal FIs.

The study also reports several other significant findings from the regression analyses. One important findings of this study is that while asset-based collateral was found not to affect the performance of FIs in microlending, we found evidence to support the hypothesis that asset-

based collateral leads to a reduction in NPL rates. However, we argue that with lack of a well-functioning secured credit regime and a credit scoring or information system, this finding suggests that the formal FIs will continue to prefer microloans collateralised with immovable or fixed assets, which, however, are likely to exclude the majority of microentrepreneurs. The study further finds that consistent with other studies, ownership type has no influence on microlending performance. However, informal FIs were found to perform better in reducing default rates than the formal FIs. Moreover, on depth of outreach, while FIs with clients dominated by women are more likely to perform better, FIs located in rural areas are more inclined to have higher default rates. Finally, whereas higher scope of outreach was found to be significant for growth in performance, high lending rate charged by FIs was found to be counterproductive as it leads to higher levels of default rates.

We therefore conclude that as a growing number of commercial banks are downscaling to engage in microlending, it is vital they adapt their financial products and methodologies to the needs of microenterprises. They should also adopt new technological platforms that are more suited to microlending to ensure better performance. However, we believe that to better achieve an aggregate performance and build a more inclusive financial system in the country, the formal FIs should foster effective partnerships with the traditional MFIs and the informal SUSU operators.

Additionally, as the overwhelming majority (about 85 percent) of branch managers interviewed were of the opinion that availability of credit scoring bureaus and collateral registries will greatly broaden access through enhanced client information gathering and risk management, the establishment of such institutions in the country is long overdue. Furthermore, in order to assuage the fears of the risk-averse bankers, there is the need for demonstration effect in the country supported by either government or donor agencies. This would provide an opportunity

for such banks to take note of best practices and potential returns in microlending. This, coupled with effective contract enforcing legal and regulatory framework, will not only promote healthy competition in the sector, but also drive down delivery cost - which will in turn reduce the microlending rates.

CHAPTER 8

Microenterprise Development: Does Source of Finance Matter for Productivity Growth?

(Impact Analysis)

Abstract

The purpose of this chapter is to investigate the effects of nature and a range of institutional sources of finance on Micro and Small enterprises' (MSEs) productivity edge and growth. Specifically, the primary goal of this chapter is to gauge the incentive properties of the various financing sources and their nature by accounting for productivity variation in enterprises. Using a unique non-farm household enterprise survey data from Ghana, we employ various measures of MSEs productivity such as a cross-sectional comparative unexplained residual as a proxy for productivity edge, labour productivity, capital labour ratio (as capital deepening) and microentrepreneurs own perception of growth. After controlling for specific firm-level characteristics such as size, age, ownership type etc, the study reports the following findings. First, we find that where the nature of enterprise's start-up capital was loan or debt finance, compared to grant finance, the enterprise is associated with a higher productivity edge. In other words, debt finance was found to be positively associated with productivity edge and growth of the enterprise, while financing from donation or charity did not. Second, we found significant positive associations between a more formal financing source (i.e. formal and semi-formal financing sources) and MSE's productivity edge. This finding was robustly confirmed by the other proxies of MSEs productivity growth such capital labour ratio (measuring capital deepening) and growth perception. The findings present important policy implication for providing appropriate source of enterprise financing in Ghana.

8.1 Introduction

One often-cited reason for Africa's slow pace of growth and underdevelopment is low productivity growth (Wolf, 2007; Bloom *et al.* 2010). Although several underlying factors have been identified for this in the region, financial constraints particularly among micro and small enterprises (MSEs) have received much more attention in recent times. This is because evidence abounds that lack of finance stifles innovations, investments in physical capital and new technology that are likely to stimulate productivity growth (Wolf, 2007; World Bank, 2008). Moreover, the significant role MSEs play in reducing poverty through income and employment of the vast majority of labour force in Africa is widely acknowledged. For example, the results of the 2000 Population and Housing Census of Ghana show that about 80% of the economically active population works in the informal sector.

Additionally, the latest 2005/2006 Ghana Living Standard Survey reports that approximately 3.2 million, representing about (46.4%) of all households in Ghana, operate non-farm enterprises of which 72% are women (Ghana Statistical Service Report, 2008). Thus, improving the productivity of this sector is likely to have a greater growth potential in the economies of Africa. This is because it does not only serve as a training ground for developing technical and entrepreneurial skills, but also by virtue of their greater use of indigenous technological capabilities, they promote local inter-sectoral linkages particularly with agriculture and contribute to the dynamism and competitiveness of the economy (Brunton, 1987).

In this regard, though policy responses have been mixed, governments, international community and NGOs are increasingly rolling out credit support programs or providing interest subsidised credits to ease the credit constraints of the MSEs. This, in part, has resulted in many microfinance institutions (MFIs) and government credit guarantee schemes providing important sources of MSEs' financing - albeit on short-term or sometimes inadequate - in many countries

like Ghana. Whilst this direct intervention is going on, many governments are also fostering a policy of all-inclusive formal financial system. This is where mainstream formal banking institutions are being encouraged to broaden access to these under-served MSEs. Although formal banks are believed to have a wider scale, offer large size and longer term loans, they have long restricted access to MSEs because of perception of risks and high transaction costs of delivery (Beck and Demirguc-Kunt, 2006).

Despite these interventions from MFIs and mainstream commercial banks, however, the majority of MSEs, particularly at start-ups, are still severely constrained. Thus, they are forced to often rely on limited household savings (self-raised financing), remittances or even donation from charitable organisations as well as sometimes on informal finance, which are known to charge exorbitantly high interest rates (Osei-Assibey, 2010). The implication of all these is that MSEs in Africa, as some of the preceding chapters of this study and many previous studies (Green *et al.* 2002, Abor 2008) have shown, obtain finance from a variety of different sources. These sources thus reflect both microentrepreneur's preferences and the options that are available to them. Yet, the relative advantages and the output growth potentials of these respective sources are still unclear, particularly in the context of African rural financial system.

The question thereby remains as to which of these financing sources are important and more associated with productivity growth of the enterprise. In other words, what are the incentives properties of financing sources in spurring enterprise output growth besides the contributions of labour and capital? In the recent Africa Investment Forum 2010, held in Accra, one of the key policy fall-outs was that improving access to finance is not sufficient for building successful enterprise. Much more significantly is capital that drives the levers of firm-level productivity growth.

Given that the nature as well as the institutional source of these finances differs markedly, their precise relative importance in stimulating growth via productivity effect is also likely to be different. For example, while some of the financing sources come with technical and managerial advice necessary for productivity growth, Beck *et al.* (2009) have argued that financing source that provides interest subsidies will not only result in negative incentives for repayment, but also a potential disincentive for adopting-market based innovations for growth. Furthermore, according to Giugale *et al.* (2000), exogenous "Help" packages such as grants, subsidised interest rates, tax incentives targeted to informal firms promote MSE (i.e., increase their numbers) but do not "develop" them or foster their growth. To them, this breeds complacency and generates a short-term span of abnormal profits that only perpetuate and encourage smallness, as they increase the relative attraction of informality.

This issue therefore re-ignites the old-age debate on the source of enterprise productivity growth. Despite the neoclassical view that exogenous technical progress drives long-run productivity growth which has been severally countered by the new growth models that explain technical progress internally or endogenously; both theories make significant contributions to our understanding of productivity growth and the importance of investment as a fundamental part of the growth process. Our study seeks to explain that when a microentrepreneur has access to credit/loan, particularly from the formal mainstream banking sector, it can then invest in newest equipments and benefit from recent vintages of capital inputs which embody more advanced technology and have a higher productive efficiency. Moreover, access to external finance that comes along with technical and managerial advice can also be an important source of productivity growth with given capital and labour inputs.

In light of the foregoing, and since the varying sources of finance has different incentive properties, we point out that understanding what kind or nature of financing source needed to

spur productivity growth of MSEs, holds promise to building and promoting the necessary rural financial system likely to drive the overall growth of African economies. However, to our best knowledge, no study has empirically explored these issues particularly in African context. Therefore, this study aims at filling the gap by investigating how the nature and varying institutional sources of MSEs' financing influence the productivity growth.

Specifically, our study contributes to the existing literature in many respects. First, we highlight three distinct natures of financing source peculiar to MSEs, namely self-finance, debt finance and grant/donation finance. Second, we made a distinction among a range of institutional financing sources beyond which is typically the case in the capital finance literature. These are self-finance, informal finance, semi-formal finance and formal finance as well as an alternative categorisation into internal vs. external finance, while assessing their respective impacts and complementarities in driving productivity and growth. Third, the unique and detailed survey data-set on nonfarm household enterprises from Ghana allows us to focus on micro-enterprises which have long been overlooked in the literature. Fourth, as many of such previous studies potentially suffer from endogeniety problems, we overcome these problems by using past or start-up financing sources on the present MSE's productivity indicators. Finally, we uniquely measure productivity edge or technical efficiency from a cross-sectional unexplained residual with labour and capital inputs as well as estimating other measures of factor intensities and growth perception as robustness checks.

The rest of the chapter proceeds as follows. Section 8.2 explores the theoretical and empirical literature of the relationship between sources of finance and productivity growth. Section 8.3 describes an empirical framework of analysis, estimation procedure and data source. Section 8.4 reports the estimation results. Finally, section 8.5 summarises the study findings and policy implications.

8.2 The Literature

8.2.1 Finance and Productivity Growth Nexus: what are the channels?

Despite the wealth of empirical literature underpinning the positive growth effects of finance (e.g., Levine 2005; King and Levine 1993; Beck and Demirguc-Kunt 2006), the exact channels through which finance affect growth remain to be resolved. However, what appears to be unanimous and clear in both past and recent development literature is its impact through enterprise productivity growth. Historically, theoretical literature (Tobin 1965; McKinnon, 1973; Shaw 1973) has sought to relate the possible channel through which finance affects growth to improvement in productivity. For example, Shaw (1973) emphasises the role of external rather than internal finance as an effective constraint on firm growth. He shows that external finance raises the average efficiency of investment because financial intermediaries can use their expertise to allocate efficiently. In this regard, the link between financial intermediation and economic growth as postulated by the McKinnon –Shaw hypothesis is shown via productivity growth. This also raises the issue of the debate on the sources of productivity growth. Hereafter, we discuss this debate and identify the position of finance in driving enterprise productivity growth.

8.2.2 Source of Productivity Growth

The standard neoclassical growth model pioneered by Solow (1956) postulates that generally capital accumulation drives growth in the short run, but capital eventually yields to diminishing returns. Therefore, long-run productivity growth is entirely driven by exogenous technical progress rather than capital and labour inputs. However, modern endogenous growth theories have tended to invalidate this theory because, in their view, it did not consider the possibility of external effects such as R&D and stock of knowledge available to all firms (see Romer 2006; Jorgenson 1996). The seminal paper by Romer (1986) that ignited the new endogenous growth theory, provides a mechanism and corresponding economic explanation for why capital might

not suffer from diminishing returns in the long-run - mainly through R&D efforts and knowledge spillovers among firms. Thus, productivity growth can continue indefinitely without the elixir of exogenous and entirely unexplained technical progress (Stiroh 2001). The literature on this has since been growing rapidly - albeit varied with alternative explanations ranging from many factors like different production structures, the dynamics of competition, innovation, increasing returns, and production spillovers.

However, even before this renewed interest in explaining long-time productivity growth by Romer, several studies have indicated the importance of explaining technical change endogenously. For example, Arrow (1962) emphasizes "learning-by-doing," in which investment in tangible assets generates spillovers as aggregate capital increases. Further, Jorgenson and Griliches (1967) show that changes in the quality of capital and labour inputs and the quality of investment goods explained most of the Solow residual.

It must be stressed however that investments - which includes expenditures on tangible assets, education, training, and other human capital accumulation, as well as R&D — play a pivotal role in both Solow's and Romer's framework as well as all other view points, although investment's precise impact on productivity growth differs (Stiroh 2001). This has led to several lines of subsequent research on the relationship between investment and productivity growth. For example, the issue of investment in physical capital recalls the so-called "vintage capital" models, which predict that firms with new capital equipment technologically outperform existing firms or those without, and constitute an important channel for productivity improvements in the market (Campbell, 1998; Giannangeli and Gómez-Salvador, 2008). Similarly, Bloch and Madden (1995) concludes that embodiment of technical change in capital equipment means that labour productivity reaches its full potential only when workers are equipped with the newest equipment. Their study further finds that when the stock of equipment

consists of a mixture of old and new vintages, average labour productivity falls short of the best practice level.

As financially constrained firms or firms without access to external finance are known to be deficient in investing in new capital (Kaplan and Zingales's, 1997), recent strand of literature has sought to move the debate further by gauging the relative importance of finance and firm's productivity growth. In a recent study by World Bank (2008), for example, it outlines three potential channels through which finance is associated with firm's productivity growth. First, the availability of external finance is positively associated with the number of start-ups—an important indicator of entrepreneurship—as well as with firm dynamism and innovation. Second, finance is also needed if existing firms are to be able to exploit growth and investment opportunities and to achieve a larger equilibrium size. Third, firms can safely acquire a more efficient productive asset portfolio where the infrastructures of finance are in place and they are also able to choose more efficient organizational forms such as incorporation.

Similarly, Wolf (2007), exploring a study of how to encourage innovation for productivity growth in Africa, asserts that the ability to adopt new technologies, information and skills - technical, managerial and institutional - necessary to innovate and adapt them to local conditions will be crucial first step to increase productivity, which is a precondition for growth. She further observes that to increase productivity at the firm-level, several of the following have to come together: investment in new equipment, reorganization of the production process, research and development activities, access to higher quality inputs, training of workers and marketing of the improved or new products. To achieve all of these, however, Wolf (2007) believes access to finance is key.

8.2.3 Empirical Evidence of Finance and Productivity Growth

Empirical evidence supporting the finance and productivity growth nexus has also been unambiguous. For example, Gatti and Love (2006) provide one of the strongest evidence yet in support of the hypothesis that access to finance improves productivity. Using data from a cross section of Bulgarian firms, they estimated the impact of access to credit (as measured by indicators of whether firms have access to credit or overdraft facility) on productivity. To overcome potential omitted variable bias of OLS estimates, they used information on firms' past growth to instrument for access to credit and concluded that credit is positively and strongly associated with TFP. In a rather experimental based study, Butler and Cornaggia (2008) also find a positive relationship between access to finance and productivity. Specifically, they exploit an exogenous shift in demand for an agricultural product to expose how producers adapt their productivity in the presence of varying levels of access to finance. Using a triple difference testing approach and using crop yield as a proxy for productivity, they find that production increases the most over the sample period in areas with relatively strong access to finance, even in comparison to a control group.

8.2.4 Does Source of Finance Matter for Productivity Growth?

- Formal vs. Informal Finance

Even though the potential of finance to impact positively on enterprise's level productivity growth has been well documented (as explored above), there is paucity of evidence on which source or what nature of finance is better associated with MSEs' productivity growth. The literature on capital structure of firms has mainly emphasised source as either debt vs. equity (or external vs. internal finance) (Greene *et al.* 2002). Although the notion of external finance as a homogenous source of funds is a powerful construct and a useful first step, Jaramillo and Schiantarelli (2002) argue that one must go beyond this or the leverage decision and investigate other dimensions of external finance. This is particularly important because the type of finance

and its incentives properties can differ considerably. For example, its maturity (whether short or long term), its degree of formality (whether formal, semi-formal or informal), or its nature (whether non-cash, grant/subsidised interest or debt) varies markedly. Although there is scanty of evidence on these dimensions, two recent studies by Du and Girma (2008; 2009), and Maksimovic *et al.* (2008) have attempted to empirically investigate the effects of formal vs. informal financing sources on firm's productivity growth. Interestingly, however, both studies had focused on China's economy.

Before trying to answer the question of whether financing sources matter for growth, Du and Girma (2008) point out that while mainstream theories and evidence in the finance and growth literature are developed with the default focus on formal finance, which is indeed justified in most developed economies where the formal financial system dominates, for many developing economies in which informal financial institutions may be just as important or even more so, its role in the economy are largely limited. However, it is commonly believed that countries like Taiwan and China have grown rapidly despite underdeveloped formal financial sectors as their fastest growing firms have relied on alternative or informal financing channels rather than formal external finance (Allen *et al.* 2005).

In that regard, while Du and Girma (2008) affirming emphatically that source of finance matters for firm's growth, particularly in China, they argue that it is too sweeping to draw a conclusion that the formal finance is more important than informal one or vice versa. In their view, it is the mixture of various financial arrangements and agents from which the industrial firms have benefited - "perhaps what matters in the end is not the specific channel of finance, but the 'structure' of finance". Controlling for endogeniety of finance variable and using TFP to proxy for firm's growth, they find that foreign finance leads to the highest growth rate in the examined period. Self-raised finance and domestic bank loans follow next, while state budget finance is

the least efficient financing source in driving firm growth. They therefore conclude that there are apparent well-built complementarities between formal financing channels and informal ones, as well as between domestic finance and foreign investment.

In an alternative argument, however, Maksimovic *et al.* (2008) argue that informal financial institutions may play a complementary role other than substitute to the formal financial system by serving the lower end of the market. According to them, the informal financial institutions serve firms which cannot access the formal financial system due to the lack of good growth opportunities or poor credit ratings. Empirically, however, although Maksimovic *et al.* (2008) find that a relatively small percentage of firms in their 2400 sample of Chinese firms utilized formal bank finance with a much greater reliance on informal sources to confirm their earlier observation, the relative impact of both sources on growth is in the opposite direction. Their results suggest that financing from the formal financial system is associated with faster firm growth, whereas fund raised from alternative channels is not.

While these previous studies are important starting point for understanding the relationship between source of finance and MSEs' productivity growth, they are nonetheless conclusive and leave a lot more questions than answers. In particularly if we consider financing within the context of African's rural financial system, where the complex socio-economic status of microentrepreneurs and the undeveloped markets mean that MSE's financing is not only about sources, but also the nature of it.

8.2.5 Why should a greater formality or nature of financing matter in African Context?

The financial markets in Africa are characterised by a number of market imperfections often resulting in incentives problems such as adverse selection and moral hazards. These problems are even more acute within the rural financial market which is characterised by risk, high

transaction cost and uncertainty (Kimuyu and Omiti, 2000). The result, particularly in SSA countries like Ghana, has been underdeveloped financial markets which have given way to market segmentations and fragmentations (Nissanke and Aryeetey, 2006). For example, the information problem in Ghana has meant that the formal commercial banking industry, despite its rapid growth and keen competition in recent times, has restricted access to the MSEs. These constraints in accessing formal finance coupled with the widespread poverty in the sub-region mean that financing patterns of MSEs differ widely from the rest of the developing world. Evidence abounds that microentrepreneurs tend to rely heavily on their past savings, followed by informal sources of credit from family and friends, money lenders, SUSU operators and trade credits as well as donations particularly at start-up (Aryeetey, 1994). A significant number also obtained subsidised interest loan from some semi-formal financial institutions such as financial NGOs, Credit Unions, Saving and Credit companies, and government sponsored schemes.

However, as mentioned previously, the incentives properties of each of these financing for spurring MSEs' productivity growth still remain unresolved. For example, despite their limited usage, formal finance, which is commonly known to have the ability to give large and long term loan, may be more associated with MSEs' productivity. This is because while access to formal finance may allow firms access to better and more productive technologies, provision of long term finance by formal finance may avert a squeeze on working capital, and that could have favourable consequences on productivity (Jaramillo and Schiantarelli, 2002).

Moreover, Du and Girma (2009) observe that the formal finance does not only convey information *ex ante* regarding the value of potential investment projects to individual savers, but also it monitors and motivates firm's managers and ensures that effective corporate governance mechanisms are in place. This managerial and technical advice may improve the skill and

human capital abilities of the enterprise leading to changes in organisational structures and core functions, management systems as well as work arrangements to take the best advantage of new technologies and changing market opportunities.

In regard to the informal financing source, however, Jaramillo and Schiantarelli (2002) argue that despite the fact that they have been found to charge astronomically high interest rates that can be inimical to the growth potentials of MSEs, if their short-term loans entails more continuous monitoring, it may force firms to reduce inefficiencies and to increase productivity at each level of measurable inputs (capital stock, number of workers, materials). However, since short-term loans do not also allow investment in new vintages of capital that embodies modern technologies; informal financing source may have a chilling effect on productivity growth. Furthermore, those without access to external finance or use their own limited internally generated fund are more likely to employ outmoded second hand inputs

8.2.6 Nature of Financing

Another important dimension of the financing pattern of MSEs in Ghana and Africa in general is the nature of financing. By nature of financing, we refer to the structure of financing whether it is a self-raised financing, a loan finance with commercial interest rates or a "free loan" finance such as interest-free, subsidised or even financing from grants or donation where beneficiaries are not under any obligation to repay or pay a competitive interest rate. The grant or subsidized type of external financing is particularly important for starting up small household enterprises among the relatively poor in Africa. The sources usually range from the semi-formal financial institutions such as FNGOs or governments agencies, religious organisations to close relatives.

For instance, as an integral part of social norms in most family settings in Ghana, wealthier kin or family members are supposed to help the underprivileged ones, usually with some small amount of start-up capital (referred to in the Akan language as *dwetiri*) for them to begin a small business to make a living. While in most cases these amounts of money borrowed from kin are not expected to be paid back nor documented, Aryeetey (2004) observes that they, nevertheless, a fact which partly explain why a considerable part of the borrowings done within the rural financial market in Africa for setting up small businesses are from family, friends etc. But, however handy or beneficial these types of financing may be, the existing literature argues that a firm that generates too much free cash may find its insiders making poor investments and relaxing cost control efforts. In this case, free cash or grant could actually weaken the growth process compared with a situation where the enterprise sector has to rely more on external finance provided by an efficient and competitive financial system (Jensen 1988; also cited in World Bank, 2008). Such financing can make MSEs complacent and sluggish or wasteful which do not encourage productivity growth.

8.3 Analytical Framework and Model Specification

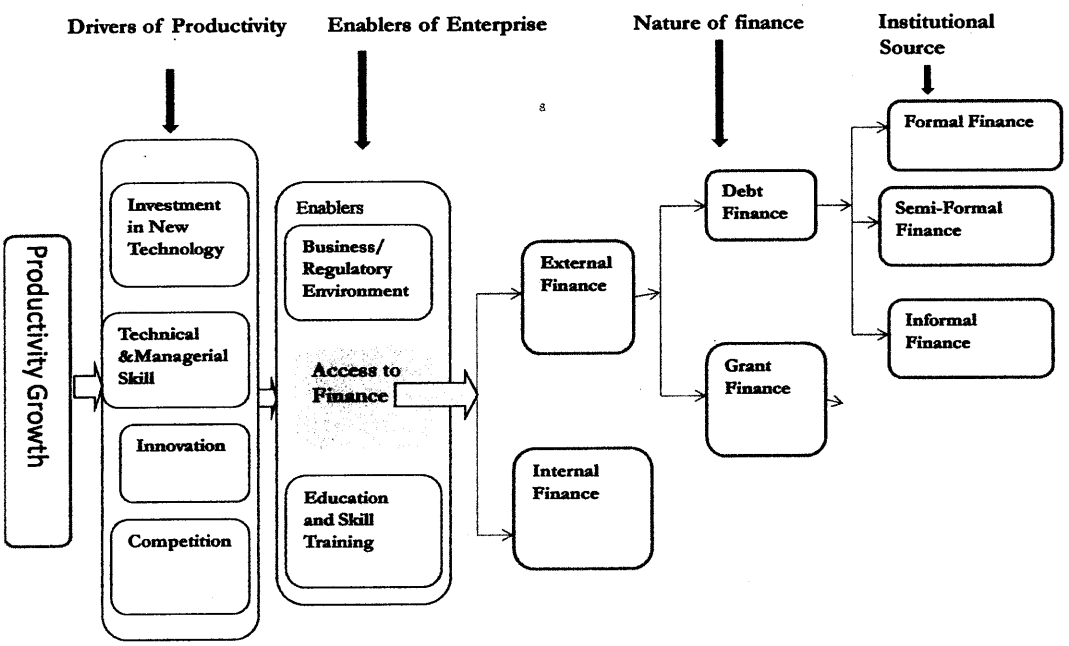
8.3.1 MSE Productivity and Source of Financing Framework

Building on the existing literature, we show in the framework below that enterprise productivity are mainly driven by four factors, namely investment in new technology, technical and managerial skills, innovation and competition (see Figure 8.1). The framework also shows that these drivers are essentially enabled by three underlying proximate factors, namely business and regulatory environment, education and skill training of the workforce and managers, and perhaps most importantly, access to finance[39]. As we seek to make the argument that it is not

[39] See also HM Treasury (2008) for a detailed analysis of enablers of enterprise productivity.

just any finance that is important in enabling the right kind of drivers of productivity, but an appropriate source of finance that support investment in newest vintages of physical capital and human capital development, we extend this framework further to include the nature and institutional sources of finance available to microentrepreneurs within the rural financial market in Ghana. We first categorise these sources into a simple debt-equity dichotomy or external vs. internal finance.

Figure 8.1 Microenterprise Productivity Growth and Source of Financing Framework



Source: Author's

While External Finance comprises all finance sourced outside the domain of the enterprise, Internal Finance is made up of all funds raised internally including retained profit and household savings. External Finance is further categorises according to its nature, i.e., whether financing is a Debt (or loan, which requires repayment with market interest) or a Grant (i.e.,

donation where no repayment is required - a kind of free money - or where interest rate is heavily subsidised). Furthermore, we disaggregate Debt into its institutional sources, namely, Formal Finance; Semi-formal Finance, and Informal Finance. Formal finance includes all mainstream commercial and universal banks as well as rural banks. The Semi-formal Finance sources, on the other hand, comprise financial NGOs, Credit Unions, Savings and Loans companies and government agencies. The Informal Finance sources include Moneylenders, SUSU/ROSCAs, and friends or relatives, etc.

8.3.2 Study Hypotheses

Following the literature and the conceptual framework, three main hypotheses are specified as follows:

H_1: External source of finance of any kind is more associated with MSE's productivity growth than Internal or Equity finance.

H_2: Debt finance is more associated with MSE's productivity growth than both Grant and Internal finance.

H_3: A greater formality of institutional source of finance is more associated with MSE's productivity growth than a more informal source.

8.3.3 Model Specification

In an attempt to investigate the impact of source and nature of financing on MSEs' productivity and growth, we specify the following generic productivity growth equation:

$$\text{Productivity growth } (Y_{ij}) = \delta_0 + \mathbf{f_{ij}}\theta_i + \mathbf{x_i}\beta_i + \mathbf{z_i}\boldsymbol{\alpha_i} + \boldsymbol{\varepsilon} \qquad \textbf{[8.1]}$$

Where Productivity growth is primarily proxied by what we referred to as productivity edge as well as other proxies such capital deepening, labour productivity and growth perception (a detailed discussion of measurement procedure follows this section)

Our main explanatory variable of interest, $\mathbf{f}_{ji,}$ represents a vector of the various financing sources and nature. The subscript j represents individual cases, while the subscript, i, (i = 1, 2, 3) represents different vectors of different structures of finance considered in this study (as shown below. Each is considered in a separated regression (refer to Figure 8.1).

1. a vector of financing sources (where j = formal, semi-formal, informal and self-finance).
2. a vector of the nature of financing (where j = Debt, Grant and self-raised finance) as well as
3. a simple binary dummy of external vs. internal finance.

However, while our baseline Equation (8.1) generally hypothesised a positive relation between a more formal finance, and debt finance (or a negative relation between self-finance or Grant finance) and enterprise productivity growth, there is a concern that this may be due to a reverse causality. Nevertheless, as observe by Maksimovic *et al.* (2008), to the extent that we are primarily interested in establishing a broad association between the sources or nature of financing and MSEs' productivity, the direction of causality is of no consequence. Besides, we attempt to overcome endogeniety problem by simply using past or start- up capital financing sources, where the dependent variable, productivity, is the firm current productivity growth. We believe that past factors that are likely to gauge these initial sources of capital are unlikely to correlate with current observed and unobserved characteristics of the enterprise current productivity shocks.

Aside from the fact that data on nature of financing variable is only available for MSEs' start-up-capital, the present model is somewhat justified on the basis of the robust evidence provided by (Aw, 2001) that the initial productivity of firms, is a significant determinant of subsequent growth. Thus, a financing source, if for instance, has caused initial firm productivity growth,

then, ceteris paribus, it is more likely to influence subsequent growth - although remotely. Even though this approach may appear over-simplification of the solution to the problem of endogeniety, the approach, nonetheless, reduces the degree to which the problem could occur.

8.3.3.1 Control Variables

The variable $\mathbf{x}_i$ in the model is a vector of firm level control variables that have been studied in recent literature (Du and Girma 2009; Maksimovic *et al.* 2008; Gatti and Love 2006) such as firm size, age, ownership type, industry dummies etc. To the extent that firm age and large size are good for productivity growth, we expect positive relations between both ageing and increasing size of firms and productivity growth. However, these relationships may be nonlinear and/or non-monotonic. For instance, as enterprise increase in size, benefit relating to scale is only to a point. Beyond that, however, laxity in supervision and lack of effective coordination can make production inefficient and hence retards productivity. In this case we also included in the regression squared terms for both age and size of the enterprise.

The variable $\mathbf{z}_i$ is a vector included to control for employees educational status or proportion of skilled labours employed by the firm. It also includes a location dummy to control for unobserved heterogeneity at urban/rural level. (See Table 8.2 for detailed descriptions of these variables). We expect enterprise that employs high proportion of skilled and trained labour to be more productive. This is because skilled labours are able to adapt to new technology/management style easier and quicker than their unskilled counterparts. We also expect firms located in the urban areas to be associated with higher productivity growth because of competition and larger market exposures. In the section that follows, we introduce how MSE's productivity growth is measured and other measurement of firm growths for robustness checks.

8.3.3.2 Measuring MSE's Productivity

It has been observed that the neoclassical model has proven to be a useful tool for understanding the proximate factors that contribute to output and productivity growth (Stiroh, 2001). Furthermore, Basu and Fernald (1997), reporting a high correlation between a traditional Solow residual and a more sophisticated index of technology that controls for market imperfections, contend that the Solow residual is an important welfare measure, even when it is not a measure of pure technical change. Stiroh (2001) further argues that the sophisticated methodological tools developed by neoclassical economists enable us to measure the rate of technical change, while the sophisticated models of the new growth theorists provide an internal explanation for the sources of technical change. The famous Solow residual, within a growth accounting framework, also known as technical efficiency/progress or TFP growth, is therefore defined as the difference between output growth and the share-weighted growth rates of primary inputs (capital and labour) – thus, productivity growth is due to exogenous and entirely unexplained technical progress (Siroh, 2001). In other words, although firm productivity is an unobservable firm characteristic, estimates of productivity can be recovered as the difference between actual output and output estimated by a production function using actual input quantities (Gatti and Love 2006). Therefore, the estimated residual of a production function, which is actually the technical efficiency or a measure of TFP of a firm, is given as:

$$Technical\ Efficiency\ (Residual) = \varepsilon_i = \ lnY_i - ln\hat{Y} \qquad [8.2]$$

Where $\ln\hat{Y}$ estimated or fitted production functions of lnY or actual output given as:

$$lnY_i = \delta + \beta_1 lnK_i + \beta_2 lnL_i + \varepsilon \qquad [8.3]$$

The time subscripts are removed for ease of exposition. The dependent variable, lnY_i, is a natural log of MSE's total output or receipts per 12 months period. The $linK_i$ variable represents the natural log of real capital stock or tangible assets, which is proxied by the book value of

such physical assets as machines, simple tools and equipment, land, vehicles, etc. The variable, lnL_i, measures the total number of people engaged by the by the enterprise. It has been argued that with an increase in part-time employment, hours worked provide a more accurate measure of labour input. Accordingly, the average total hours worked per year by employees were used as a proxy for labour variable. Several recent studies such as Du and Girma (2009); Gatti and Love (2006); and Levinsohn and Petrin (2003) had adopted this method in measuring firm's productivity growth or TFP over time. This study takes a similar view in measuring enterprise productivity growth.

However, the limitation with the present study is that it uses a cross-sectional dataset instead of a growth accounting or time series which accurately measures technical progress or changes over time. Nonetheless, the argument we advance here is that even at one-point in time or within a fixed time frame, in a relative term, we are likely to observe cross-sectional variations in enterprise productivity. For example, in a cross-sectional context, for the same level of capital stock and labour inputs, some enterprises may be producing more compared to others or show differences in output levels. On the other hand, we may observe that at different levels of capital stock and labour inputs, some enterprises' output levels may coincide or are comparatively the same. This seemingly unexplained variation in outputs is a typical case of one enterprise having a productivity edge over the other. This productivity edge is therefore a shock that is likely to be captured by the unexplained residual or the stochastic error term even at one point in time. In that regard, we will refer to the unexplained residual generated from the difference between actual output and output estimated by a production function as specified in Equation 8.2 (the stochastic error term) as a cross-sectional productivity edge instead of productivity growth.

Why does enterprise have productivity edge? As previously mentioned elsewhere in this chapter, this could be that it is not just the book value of capital (as often use in measuring capital stock)

that explains output levels, but the quality of the stock of capital and the labour inputs. An enterprise may be using a more modernised capital or newest vintage of capital that embodies a more advanced technology and thus has a higher productive efficiency. Therefore, even though the values of the capital stock are the same, in terms of vintages, one could be new; the other is old or outmoded. In that case, MSEs with access to external long term finance are more likely to invest in such new equipment and hence be associated with greater productivity edge. Alternatively, an enterprise can have productivity edge which may not be reflected in or attributed to the vintage of capital, but may mainly due to the quality of human capital or labour intensity. It may also be due to the enterprise having access to newer technical ideas or information to engineer efficient production process. Although these cannot be included in measurement of capital stock and labour inputs, they are likely to show up in the cross-sectional residual. In this regard, MSEs which have access to finance from say the formal or semi-formal institutions that are known to often give technical and managerial advice or skill training to their clients, are more likely to be associated with a higher productivity edge than their counterparts who rely on self-finance, grant or informal source of financing.

8.3.3.3 Other Proxies of Productivity (as robustness check)

Stiroh (2001) argues that growth in average productivity depends on three factors. These are capital intensity or deepening (that is capital to labour ratio), which captures the increase in capital services per hour, and the growth in labour quality, which measures substitution toward workers with higher marginal products, as well as the growth in TFP, defined in the Equation (8.2) above, which captures the impact of technical change and other factors that raise output growth beyond the measured contribution of inputs. Moreover, it has been observed that the level of productivity which prevails is largely the result of a combination of choices made by firms and the efforts of those that work in them. For example, investing in new capital, all things being equal, is likely to show in capital deepening or capital-labour ratio of the enterprise.

Likewise, where management and labour receive skill training or put in more efforts because of pressure to pay back loans, the effect is more likely to show up in labour productivity. In this regard, as robustness check, we directly gauge the influence of finance on productivity through capital intensity and labour productivity. While Capital intensity (capital deepening) is estimated by the capital/labour ratio, labour productivity is measured by the ratio of Value Added to labour input, where labour input is hours worked. Value added is defined as Total Receipts or Sales minus Total Intermediate or Input Costs.

Additionally, due to possible factor inputs measurement errors which can either overstate or understate the importance or the size of the residual, and the fact that for the majority of MSEs, the composition and the value of their resources (or fixed asset base) tend to be low (and in some cases non-existence), we also used a qualitative binary response data on owners/managers' own perception about enterprise growth as compared to the previous year. The managers were asked to indicate how they would compare their gross receipts of their enterprise over the past 12 months to the preceding year. Using a simple logistic regression, the dependent variable, *Growth*, in the baseline model (Equation 8.1) takes the value one, if the enterprise reported of higher growth and 0, if it experienced a decrease or stagnation. All things being equal, we expect a high productive enterprise to have a higher growth in output, thus showing similar responses with our financing variables of interest in the baseline equation. The following shows the three main equations (Equation [8.4]; [8.5] and [8.6]) that are to be estimated with the various measures of productivity of MSEs:

$$1.\ Y_{ij} = \delta_0 + \theta_i Nature\ of\ Finance + \beta_1 Age + \beta_2 Age\ square + \beta_3 Sector\ of\ Activities + \beta_4 \text{Size} + \beta_5 \text{Size Square} + \alpha_1 \text{Skilled Labour} + \alpha_2 \text{Location}_i + \varepsilon$$

$$2.\ Y_{ij} = \delta_0 + \theta_i \text{Institutional Source of Finance} + \beta_1 \text{Age} + \beta_2 \text{Age square} + \beta_3 \text{Sector of Activities} + \beta_4 \text{Size} + \beta_5 \text{Size Square} + \alpha_1 \text{Skilled Labour} + \alpha_2 \text{Location}_i + \varepsilon$$

$$3.\ Y_{ij} = \delta_0 + \theta_i \text{External Finance Dummy} + \beta_1 \text{Age} + \beta_2 \text{Age square} + \beta_3 \text{Sector of Activities} + \beta_4 \text{Size} + \beta_5 \text{Size Square} + \alpha_1 \text{Skilled Labour} + \alpha_2 \text{Location}_i + \varepsilon$$

Where Y_{ij}, the dependent variable, takes different measures of productivity growth namely, productivity edge (technical efficiency or unexplained residual) (i =1), a dummy of perception of growth (i =2), Labour Productivity ((i =3) and Capital Labour ratio (i =4)

8.3.4 Data Source and Summary Statistics

8.3.4.1 Data Source

The main dataset used in this study is based on the fifth round of Ghana Living Standard Survey (GLSS 5) of 2005/2006. The GLSS 5 is a nation-wide survey which collects a comprehensive data on areas such as demographic characteristics of the population, education, health, employment and migration as well as a special module on Non-Farm Household Enterprises. The non-farm household enterprises dataset consists of a total sample of 5057 enterprises and provides detailed information on firm-specific level characteristics such as output levels, revenue, age, and wages as well as manager or owner's and employees' characteristics. It also reports on enterprise's start-up capital and ongoing financing or working capital sources in the last 12 months. The survey also covers three ecological zones namely, Savannah, Coastal and Forest with a further stratification into urban and rural areas (Ghana Statistical Service, 2008). However, to limit this study to microenterprises, only enterprises engaging less than 10

employees were included in our analysis. This means all those employing 10 and more were deleted as outliers, although this reduced the sample size by just less than one percent to 5023.

Supplementary data

In order to further gauge and understand the channels through which source of finance influence MSEs productivity growth we conducted a field survey in August 2009 on some 176 microentrepreneurs in Ghana (for detailed analysis of sampling procedures and data collection techniques, refer to Chapter 5 of this thesis).

8.3.4.2 Preliminary Survey Results

The respondents or microentrepreneurs of the GLSS5 were asked in the survey to indicate the main source of capital in setting up their business. The preliminary results show that the main source of start-up capital for these microenterprises was from Self-finance (69.3%). The next important source of start-up capital was Informal finance (28.6%) of which approximately 70% were from friends and relatives (see Table 8.1 for a detailed summary description of the data). Formal and semi-formal finances together constitute just about 2% of the source of capital for setting up business. However, these latter sources almost doubled when the enterprise was up and running as *a* working capital from banks was 3.6%. Interestingly, almost 90% of all the MSEs did not seek any credit to finance their working capital needs. On the nature of start-up financing, whereas 14.7% of the start-up capital was debt-finance which had to be paid back, a little over 18% were considered as grant finance or free money for that matter, with the remaining 67.2% being self-raised finance. As well as the financing data, the summary statistics for the all other variables including the proxies for MSE's productivity measurements are presented in Tables 8.2 and Table 8.3.

Table 8.1 Descriptive Statistics of the Enterprise Sources and Nature of Start-up Capital

Financing Source	Observation	Minimum	Maximum	Mean	Std. Deviation
Formal Finance	5016	.00	1.00	.0138	.1165
Semi-Formal Finance	5016	.00	1.00	.0078	.0878
Informal Finance	5016	.00	1.00	.2825	.4503
Self- Finance	5016	.00	1.00	.6914	.4619
External Finance	5016	.00	1.00	.3086	.4619
Nature of Finance:					
Debt Finance	5012	.00	1.00	.1478	.3549
Grant Finance	5011	.00	1.00	.1808	.3848
Self- Raised Finance	5012	.00	1.00	.6714	.4697

Source: Data from GLSS5

Whereas the Table 8.2 shows the descriptive statistics of various measurements of MSE's productivity and growth performance, the Table 8.3 shows all the descriptive statistics of the control variables used in estimating the models. The Table 8.2 shows that the maximum number of labour employed is nine but the minimum is zero, implying that some MSEs do not hire any labour at all. Likewise, in terms of physical assets, the results show a very wide dispersion. While the maximum asset employed in production is about GHc 83500, the average is just about GHc341, indicating that most microenterprises use either limited capital stock or very low valued (simple) equipment. This is, however, not surprising since the Table 8.3 shows that about 60 percent of the MSEs are engaged in the service sector or trading activities. Similarly, MSE's value-addition shows a wide dispersion. While it averages about GHc129, the standard deviation is about GHc9844. Further, the results indicate approximately 40 percent of owners or managers of MSEs cited a positive growth of their outputs or revenue levels compared to the previous year. With regard to MSE's productivity edge, as by definition a stochastic error term, it expectedly averaged out to zero with the maximum being 6.8 and minimum -4.8.

Table 8.2 Descriptive Statistics of the Enterprise Outputs and Inputs Data

Firm Performance	Observation	Minimum	Maximum	Mean	Std. Deviation
Labour Hours / Day	5021	.00	18.00	8.042	3.406
Value Added	5020	-1.42E5	4.80E5	129.100	9843.535
Labour Engaged	5022	.00	9.00	1.512	1.101
Total sales/receipt	5021	.00	27200.00	128.910	595.176
Nat. log of output	4899	-1.83	10.21	3.555	1.504
Total physical Assets	5022	.00	83500.00	340.560	3295.087
Productivity Edge	4511	-4.8040	6.8815	.000	1.467
Positive Growth (=1)	5005	.00	1.00	.390	.4878

Source: Data from GLSS5

Note: All values are measured in local currency, Ghana Cedi (where US$1 equivalent to about GHc1.42)

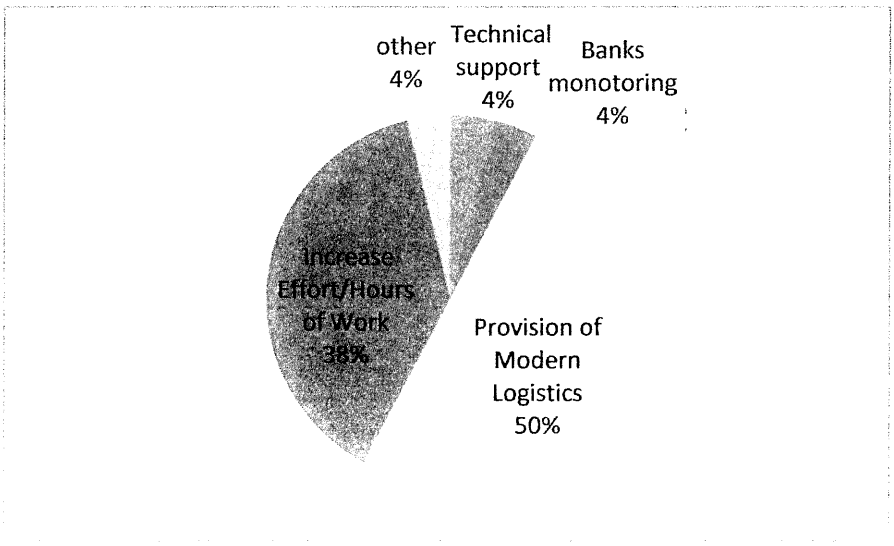
Table 8.3 Descriptive Statistics of the Survey Data used in Regression

Firm Characteristics	Observation	Minimum	Maximum	Mean	Std. Deviation
Ratio of skilled to total labour	4856	.00	1.00	.6919	.43144
Size square	4984	.00	4.83	.3065	.68419
Age square	4567	.00	3.84	.7982	.71910
MSE's size (Nat. log of employee)	4984	.00	2.20	.2716	.48244
Nat. log of MSE age	4567	.00	1.96	.7789	.43767
Primary activity such as agric/mining	5003	.00	1.00	.0174	.13073
Secondary or Construction Ind.	5002	.00	1.00	.3796	.48535
Trading or Servicing Ind.	5003	.00	1.00	.6030	.48932
Ownership Type (sole proprietorship = 1)	4856	.00	1.00	.9685	.17470
Registered with any Gov. =1)	5016	.00	1.00	.1579	.36468
Locality (Urban =1)	5022	.00	1.00	.4630	.49868
Labour Engaged	5022	.00	9.00	1.513	1.10101

Source: Data from GLSS5.

It is noteworthy that the results of the supplementary data from our field survey are very much consistent with the national household data results presented above (see Chapter 6). The supplementary data, as mentioned previously, provides further information that was not captured in the national GLSS5 dataset. Asking questions about source of productivity growth, our field survey sought to find out from those who were successful with their loan application, how having access to credit had improved their current productivity or growth, compared to the past when they did not have access. The overwhelming majority, 78.6%, thinks their productivity levels had increased, while 17.9% and 3.6% of the respondents indicated no improvement and a declined respectively. When asked how the loan helped them to increase the enterprise's productivity or sales, approximately 50% indicated it was through purchasing or provision of modern tools and logistics – in other words, they made investments in physical capital that may embody newest technology. Approximately, 38%, however, indicated it was through increased efforts or a pressure to work harder by increasing the number of hours worked in order to be able to repay the loan (See Figure 8.2). Others also cited technical support or monitoring by loan providers, although they were the least cited (4% apiece).

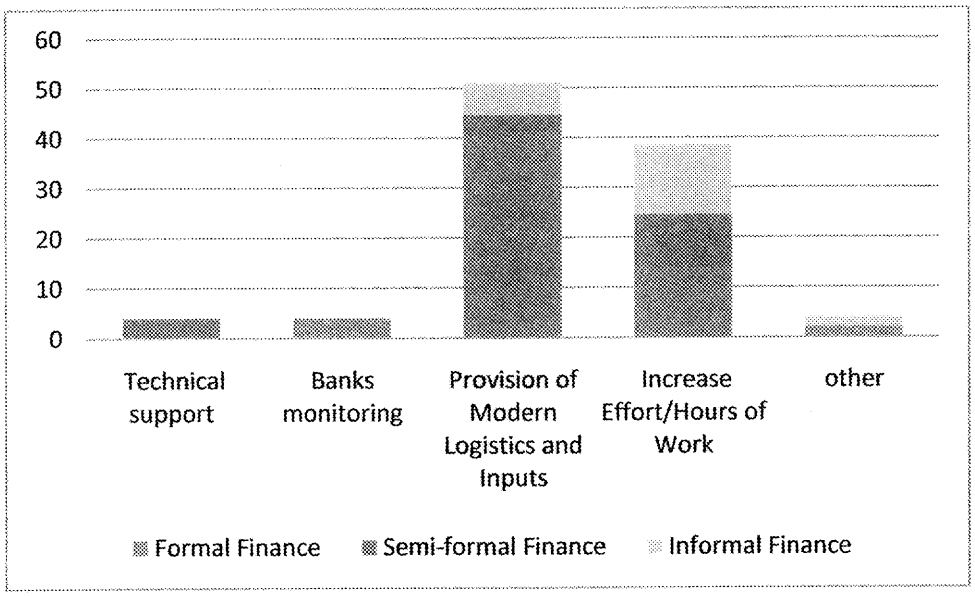
Figure 8.2 Productivity Channels of Credit Use



Source: Field Survey, August 2009

In regard to distribution among the financing sources, formal finance appears to be leading, as more than 90% of those whose productivity increased because of acquisition of modern logistics and capital inputs obtained finance from the formal banking institutions (Figure 8.3). However, while those with increased efforts and hours of work are evenly distributed among the three institutional sources, among all those who received technical support, 100% of their financing came from the semi-formal financial institutions, particularly the financial NGOs.

Figure 8.3 Productivity Channels Distribution by Financing Sources



Source: Field Survey, August 2009

8.4 Regression Results

This section discusses econometric evidence of the effect of source and nature of financing on MSE's productivity growth. With reference to Equation [8.4]; [8.5] and [8.6], we performed a series of linear regressions with varying measures and proxies of MSE's productivity. Our main model with the dependent variable productivity edge (estimated from the unexplained residual as specified in Equation 8.2), was linearly estimated on three separate occasions. Each regression contains either the nature of financing, institutional source of financing or a simple

external financing dummy. The results are reported in Tables 8.4, 8.5 and 8.6 respectively. In all the cases, the one-way analysis of variance (ANOVA) F test shows that the differences between two group means of various financing sources are statistically significant (however, these were not reported here for the sake of brevity). Except for the Capital Labour Ratio model, this procedure was repeated for the other proxies, namely the Labour Productivity model and the MSEs' owners Growth Perception model - all are reported alongside the main model in the tables specified above. With regard to the capital labour ratio (K/L) model, we found that estimating the one-way ANOVA between K/L and the financing sources with all the cases did not show any significant differences between two group means. However, when we selected only the cases that had access to external finance (i.e. informal, semi-formal and formal finances) in starting their businesses, ANOVA was significant. Thus, we run a regression with this selected cases to gauge the relationship between financing source and K/L.

As previously mentioned, Table (8.4) presents the regression results of nature of financing and MSEs productivity edge. The results show that Debt finance, compared to Grant finance, is statistically significant and positively associated with the MSEs' productivity edge. However, as expected, Self-raised finance, relative to Grant finance, does not appear to have a significant relationship with productivity edge. This result is robustly supported by the findings from estimation of the relationship between growth perception and debt finance. Although the relationship involving the other two factor intensities are insignificant, compared to grant finance, debt finance shows a significant and a positive relation to perception of growth. This suggests that MSEs which used debt or loans (where repayments were required with interest) as a start-up capital were more likely to report of positive growth of their business compared to those who used grants or free money.

As the incentive properties of debt and grant finances differ markedly, these findings seem to imply that debt/loan financing appears to exert pressure on MSEs owners to be more efficient or apply more innovative ways anxiously to increase enterprise productivity in order to leverage their ability to repay their loans. On the contrary, financing that comes "free" may stifle efforts, encourage complacency and eventually have a chilling effect on enterprise productivity growth.

Table 8.4 Productivity and Nature of Financing Estimation Results

	Main Model 1		**Robustness**			
Variables	Productivity Edge		Labour Productivity		Growth Perception (Logistic Regression)	
	Estimate	Std Error	Estimate	Std Error	Estimates	Std Error
Age of MSE	0.471**	0.179	-0.202	0.671	0.133	0.251
Age square	-0.003	0.095	-0.065	0.352	-0.078	0.129
Nature Finance:						
Debt Finance	0.468***	0.080	-0.111	0.299	0.186*	0.110
Self-raised Finance	0.013	0.060	-0.386*	0.225	-0.052	0.084
Secondary Industry	-0.516***	0.049	-0.361*	0.184	0.024	0.243
Services Industry					0.072	0.242
Size of MSE	-0.124	0.136	-0.225	0.505	0.335*	0.072
Size square	-0.220**	0.115	0.071	0.430	-0.166	0.304
Skilled/educated labour	0.095*	0.051	-0.417**	0.202	0.264***	0.076
Location (Urban=1)	0.624***	0.047	0.576***	0.177	- 0.240***	0.066
Constant	-0.122	0.153	1.633***	0.578	-0.006	0.984
Durbin Watson		1.534		1.97		
Overall Percentage Correct						59.6
R-square		0.017		0.08		0.017
Observation		3845		4196		4231

*10% Significant; **5% Significant; ***1% Significant. Note: Grant finance is set as the reference category to the other nature of financing (see the nature of finance in Figure 8.1)

Looking at finance from the perspective of institutional source, the regression results, as presented in Table 8.5, show somewhat strong associations between greater formal sources of finance and MSE's productivity edge. Compared to self-finance, both formal and semi-formal

financing sources show statistically significant positive associations with productivity edge. These relationships are robust in the growth perception model. In the growth perception model, also reported in Table 8.5, both Formal and Semi-formal, compared to Self-raised finance appear to have significant positive impacts on MSEs' growth. However, the results show no significant difference between self-finance and informal financing source in driving MSEs productivity or growth.

Table 8.5 Productivity and Institutional Sources of Finance Estimation Results

Main Model 2			**Robustness**			
Variables	Productivity Edge		Labour Productivity		Growth Perception (Logistic Regression)	
	Estimate	Std Err	Estimate	Std Error	Estimate	Std Err
Age of MSE	0.363*	0.179	0.240	0.672	0.154	0.252
Age square	-0.164*	0.115	0.074	0.430	-0.180	0.162
Ownership Type (sole proprietor)	-0.181	0.127	-0.437	0.484	-0.638***	0.179
Secondary Industry	-0.516***	0.049	-0.342*	0.185	-0.054	0.069
Primary Industry	-0.173	0.180	0.430	0.672	-0.088	0.242
Services1 Industry	0.512***	0.048	0.406**	0.164	0.080	0.242
Size of MSE	0.024	0.136	-0.272	0.505	0.337*	0.187
Size square	-0.070	0.095	-0.058	0.352	-0.078	0.130
Skilled labour	0.100*	0.055	0.420*	0.203	0.273***	0.076
Registered	0.504***	0.069	0.132	0.259	0.135	0.097
Source of Finance:						
Formal	0.900***	0.189	1.694*	0.713	0.855***	0.266
Semi-Formal	0.876***	0.269	0.210	0.946	1.120**	0.374
Informal	0.032	0.052	0.055	0.196	0.224**	0.072
Urban Location	0.658***	0.047	0.567***	0.177	-0.233***	0.066
Constant	-0.204	0.147	1.336**	0.561	0.238	0.585
Durbin Watson		1.488		1.97		
Overall Percentage Correct						60
R-squared		0.128		0.09		0.24
Observation		3887		4200		4234

*10% Significant; **5% Significant; ***1% Significant

Note: Self-finance is set as a reference or base category (see institutional source of finance in Figure 8.1)

Furthermore, when all these financing sources were modelled in a binary choice variable or a dummy representing whether a source was external or internal (a debt-equity dummy) in the third model, the regression results again robustly confirm the positive impact of external finance on MSEs productivity edge (see Table 8.6). Relative to internal finance, the result indicates a statistically significant and a positive relationship between external financing source and MSEs' productivity edge. Similar outcome was also found with the relationship between external finance and perception of growth in the logistic regression model. However, the relationship between financing source and labour productivity appears weak and in most cases insignificant.

Nonetheless, the foregoing results suggest that MSEs that have access to external finance, particularly from a more formal source, are more likely to have productivity edge and perhaps experience growth over time. This is because with access to external finance, they are able to invest in the newest vintage of capital that embodies new technology to make, for example, capital per worker more efficient. Moreover, as aspect of the survey results suggest some MSEs receive technical and managerial skill training, monitoring and appropriate marketing information from the financial institutions, access to external finance were more likely to spur productivity edge and growth.

Moreover, as a robustness check, we estimate the K/L ratio separately from the other forms productivity measurement to gauge more directly the relationship between source of finance and capital deepening. As previously mentioned, this is relevant because in the neoclassical Solow growth model, increase in capital labour ratio or capital deepening defines the per capita output of labour, which in essence is labour productivity.

Table 8.6 Productivity and External Financing Source Dummy Regression Results

Main Model 3			**Robustness**			
Variables	Productivity Edge		Labour Productivity		Growth Perception	
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
Age of MSE	0.478**	0.180	-0.225	0.671	0.143	0.251
Age square	-0.020	0.096	-0.056	0.352	-0.080	0.130
External =1	0.122**	0.051	0.151	0.189	0.273***	0.070
Ownership Type	-0.272**	0.127	-0.456	0.483	-0.628**	0.178
Primary	-0.251	0.183	0.380	0.672		
Secondary	-0.513***	0.049	-0.365**	0.184	0.058	0.244
Services					0.104	0.242
Size of MSE	-0.090	0.137	-0.242	0.504	0.330*	0.186
Size square	-0.234**	0.115	0.068	0.430	-0.173	0.162
Skill/educated labour	0.093*	0.055	-0.404**	0.202	0.265***	0.076
Urban/Rural Location	0.615***	0.047	0.599**	0.176	-0.234**	0.066
Constant	-0.045	0.148	1.339**	0.560	-0.056	0.311
Durbin Watson		1.53		1.974		
Overall Percentage Correct						59.7
R-squared		0.1		0.09		0.021
Observation		3847		4199		4234

*10% Significant; **5% Significant; ***1% Significant

Note: Internal finance is set as the reference category (refer to Figure 8.1).

Thus, in the neoclassical growth context, capital deepening should show up in increase in productivity. In that regard, estimating the K/L model tests the direct relationship between capital expansion and source of finance. The result, as presented in Table 8.7, is consistent with the study hypothesis that a more formal financing source is associated with enterprise productivity growth. The results show a statistically significant positive relationship between a more formal financing and capital labour ratio.

Table 8.7 OLS Regression of Capital-Labour Ratio and Institutional Source of Finance

	Estimates	Std. Error
External Source of Finance	0.1193**	0.0582
The ratio of skilled to total labour	-0.0208	0.0634
Size square	-0.0825	0.1066
Age square	-0.0528	0.1345
MSE Size	0.0372	0.1566
Formal (Registered=1)	0.1877**	0.0798
Ownership Structure (Sole Proprietor =1)	-0.5890***	0.1200
Age	0.1481	0.2041
Secondary Industry	-0.0936	0.0590
Primary Industry	-0.0565	0.1870
Locality Dummy (Urban=1)	0.0887*	0.0553
Constant	0.3972*	0.1860
Durbin-Watson		1.9140
R-Squared		0.0440
Observation		1183

Note: The External Source of Finance variable is modelled as informal finance =1, semi-formal finance = 2 and formal finance = 3. Thus, positive sign means K/L is more associated with formal finance. ANOVA F-statics = 4.502 (0.000)

The outcome of these empirical analyses (particularly in relation to the external financing dummy results shown in Table 8.6) suggests that there are somewhat complementarities among this range of financing sources – formal, semi-formal and informal finance, which appears to support Du and Girma (2009) conclusions that the formal financing source is no better in spurring firms growth than the informal ones or vice versa. Thus, in Ghana's context, much as we have provided some evidence to show that the formal and semi-formal financing sources are relatively better associated with productivity edge, it is more evidently clear that a mixture of these institutions and the traditional informal financing sources are even more likely to have a greater growth or development outcomes - as they reinforce one another.

Turning briefly to the other control variables, the level of MSE's productivity edge and growth appear also to be influenced by age of the enterprise, proportion of skilled labour to total workforce, industry type, registration status and location. The results indicate that the age of an enterprise appears to have diminishing marginal effect on enterprise productivity edge. Specifically, while age appears to have a statistically significant and positive relationship with MSE productivity edge in most of the regressions, age square has a negative sign whenever it was significant. The results further show that MSEs that employ high proportion of skilled or trained labour, relative to unskilled labour, are positively associated with high productivity edge and growth of the enterprise.

Similarly, the location of the enterprise or spatial dimension appears robust and consistent in explaining enterprise productivity urge. The positive and significant sign in most of the estimation suggests that MSEs located in urban areas are more likely to be associated with productivity growth than their counterparts in rural areas. This is not surprising as urban areas permit wider market outreach and keen competitions. Finally, the results also show that MSEs that work in the service industry are more likely to be associated with higher productivity growth than their counterparts in manufacturing or service industries. Likewise, where the ownership type is partnership or the enterprise is registered with a government agency, the enterprise appears to be associated with productivity edge and growth.

8.5 Conclusion

This chapter investigated the effects of nature and sources of finance on MSE's productivity growth. Specifically, the paper sought to find out whether nature of finance (i.e., if loan, grant – 'free money' - or self-raised financed) mattered for MSEs' productivity edge and growth. Further, we examine which institutional sources (e.g., formal, semi-formal, informal, and self-

finance) are more associated with enterprise productivity. Using a unique non-farm household enterprise survey data from Ghana, we employ various measures of MSEs productivity such as a cross-sectional comparative unexplained (stochastic error term) residual as a proxy for productivity edge, labour productivity, capital labour ratio (as capital deepening) and microentrepreneurs own perception of growth.

After controlling for specific firm-level characteristics such as size, age, ownership type etc, the study reports the following findings. First, we found that where the nature of enterprise's start-up capital was loan or debt finance, compared to grant finance, the enterprise is associated with a higher productivity edge. In other words, debt finance was found to be positively associated with productivity edge of the enterprise, while financing from donation or charity did not. Second, we found significant positive associations between a more formal financing source (i.e. formal and semi-formal financing sources) and MSE's productivity edge. This finding was robustly confirmed by the other proxies of MSEs productivity growth such capital labour ratio (measuring capital deepening) and growth perception. Further, compared to internal finance, external financing sources dummy was found to be positively associated with MSEs' productivity edge - indicating a somewhat complementarities among all external financing sources in driving growth.

In conclusion, while noting that it is not giving out grants or free money to microentrepreneurs, particularly the underprivileged ones, that are being questioned – such people without doubt need help, and making grants or subsidised interest loans are necessary in some cases–, the study sought to imply that too much of such free money can be counterproductive. It has the tendency to undermine the motivation and incentive for microentrepreneur to be innovative in bringing about higher productivity. Awareness of appropriate sources, and improving access to external finance at a reasonable cost, will not only afford microentrepreneurs to make the

needed investment in innovations and newest vintages of capital which embodies technologies and productive efficiencies, but also they are more likely to receive technical and managerial advice that will eventually lead to higher productivity and growth.

CHAPTER 9

Synthesis, Summary and Policy Recommendations

9.1 A Synthesis of the Study Findings

All across Sub-Sahara Africa, access to finance is rightly seen as a key tool to unlocking growth and poverty reduction. Yet, the greater majority of its population does not have access to any kind of finance and are financially excluded, especially from mainstream formal finance. Ghana, for example, in spite of going through more than two decades of financial sector reforms with extensive deregulated policies that had allowed a great influx of both foreign and domestic private banks into the sector, access to finance is woefully limited to the upper end of the market while the majority of the population remain financially excluded or unbanked.

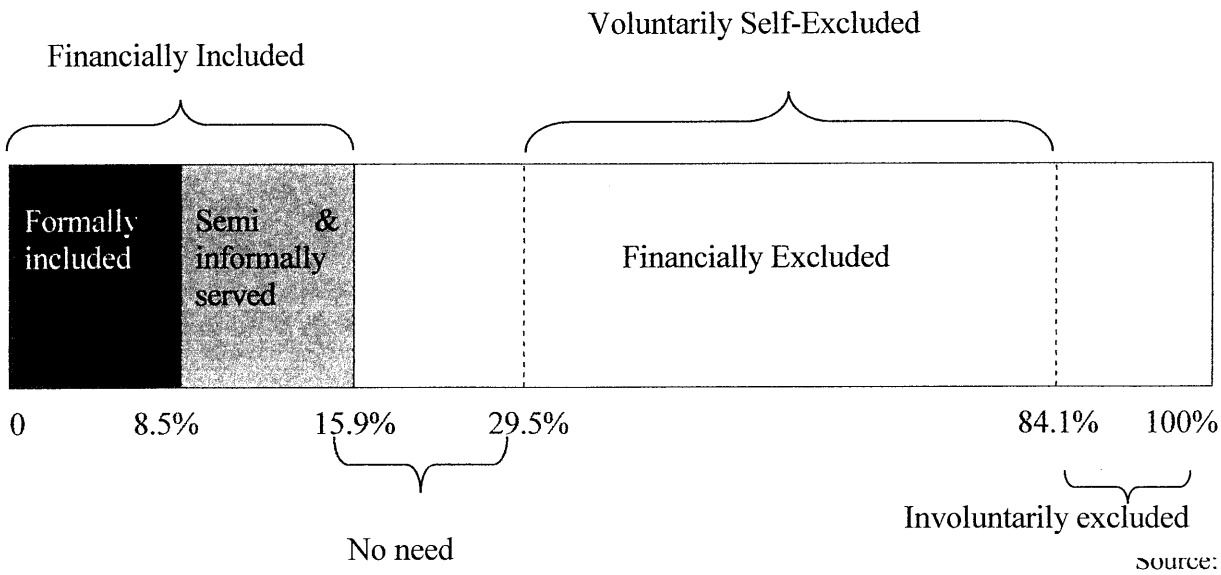
This study has therefore sought to explain that Ghana, for that matter SSA, needs to make the issue of achieving a more financially inclusive society or broad access to finance by all underserved and excluded people imperative, if the poverty reduction potential of finance was to be realized. Thus, undertaken this in-depth empirical study has not only helped to fill the gap in the literature, but also has helped to identify the most appropriate policy response to addressing the issue of financial exclusion and building all-inclusive financial services. The focus has been on the rural financial system in Ghana, assessing the extent of availability, use and quality of financial services to all people at three societal levels which are often on the fringes of formal finance – rural community, poor households and microenterprises. Specifically, the main objective of the study was to analyze the drivers of financial exclusion from both supply and demand side perspectives, and to gauge the relative importance of how sources of finance affect poverty via its impact on enterprise's productivity growth.

We therefore synthesise the study findings from the various analytical chapters within the context of the study's conceptual framework specified in Figure 1.2 in Chapter 1. The study believes that in order to achieve a more financially inclusive society, the problem of financial exclusion must be tackled from both demand and supply of basic financial services. On the demand side, which covers Chapters 4 to 6, we focussed on household demand for a basic bank deposit account and microenterprises preference for external finance. While the former examines the socio-economic conditions of the household that drive households' demand and use of basic savings account, the latter is in two-fold. First, we sought to understand the underlying socio-cultural factors driving the majority of microentrepreneurs to voluntarily exclude themselves from seeking external finance, despite complaints of severe financial constraints. Second, for those who decide to seek external finance, we sought to find out which of the external financing sources they are likely to prefer. In other words, we investigated the determinants of financing preference of Micro and Small Enterprises, whilst distinguishing a broader range of financing sources beyond what is typically the case within the corporate finance literature.

The findings from these chapters are revealing and interesting, though largely consistent with both theoretical and empirical literature. On the demand for a basic bank deposit account by households, as presented in Chapter 4, the study finds that a large number of unbanked is due to lack of opportunity to bank resulting from limited geographic coverage of the commercial banks and household's socio-economic conditions such as low income, financial illiteracy, religious and ethnic reasons, as well as high inflation rates. This findings were somehow confirmed when we considered in Chapter 5 why microentrepreneurs choose not to borrow despite been in dire need of financial assistance. The findings suggest that voluntary self-exclusion is not only driven by microenterprises' socio-economic characteristics, but most significantly, by owners' perception of access to external finance difficulties and negative cultural-religious biases toward

credit use or indebtedness as well as financial illiteracy. The study further finds that most microentrepreneurs are interest inelastic or insensitive suggesting that they are more interested in easier and faster access to finance rather than the cost of borrowing. This latest finding underscores the importance of physical presence of or proximity to a bank and socio-cultural status of people in gauging the use of financial services as these factors featured prominently in both chapters. Preceding this outcome, the Chapter 5 presents a framework that shows the extent of use and non-use of financial services as well those who are included and those excluded either voluntarily or involuntarily from finance. The Figure 9.1 below, as derived from the analysis of a field survey conducted among some 176 microenterprises in the Kumasi metropolis of Ghana, is quite revealing.

Figure 9.1The Distribution of Financially Included and Excluded based on Field Survey



Source: Author's with survey data 2009

While the Figure 9.1 indicates that a huge number of microentrepreneurs voluntarily self-exclude themselves from use of external finance, it also depicts that the financing pattern or preference for a source of finance somewhat varies considerably. In other words, despite a

limited use of formal finance, microenterprises use a variety of finances within the rural financial market ranging from internal, trade credit or bootstrap finances, informal finance, semi-formal and formal finance. For this reason, the subsequent Chapter 6 took the issue further by investigating microentrepreneurs' external financing preference when they decide to borrow or if the access constraints are removed. The chapter also tests whether there is an evidence of hierarchical preference ordering as predicted by Pecking Order Hypothesis (POH).

The findings of this chapter also reinforce those of the previous chapters about the importance of socio-cultural characteristics of a household or enterprise owner in determining the use of financial services. Moreover, we found evidence of severe persistent financial constraints, rather than sheer preference, underlying the capital structure or financing pattern of micro and small enterprises. Further, consistent with POH, the findings suggest that new enterprises are more likely to prefer low cost and less risky or less formal financing such as internal or bootstrap finances. However, as the enterprise gets established or matures its capacity to seek formal financing increases thereby becoming more likely to prefer or being in a higher category of formal financing.

On the supply-side evidence of financial services in Ghana, we examined the issues of bank branch penetration to rural communities and performance of formal commercial banks compared to the traditional MFIs within the context of Ghana's rural financial market. Regarding the first former issue, aspect of Chapter 4 examined factors that determine commercial banks' branch placement decisions or geographic penetration to rural communities in Ghana. The study is premised on the fact that although there have been increased competition and its resultant rapid expansion of banks' branch networks across the country, banks branch closures and geographic exclusion still persist in poor urban neighborhood and rural communities. On why this is the case, we found from a regression analysis that commercial

banks' branch placement decisions in rural communities are positively influenced by the market size, urbanization and modernization in the area of infrastructure development such as energy and communication facilities, market activeness etc. but negatively influenced by the general level of insecurity associated with crime, conflict, natural disasters etc.

This result suggests that banks in Ghana are much concerned about fixed transaction cost and risk involved in providing microfinance in low-income or highly volatile communities unless the expected demand or population size is large enough to ensure economies of scale. The result again implies that with the sparsely populated nature of the rural dwellings the issue of geographic exclusion of financial services could persist for a long time unless a more cost effective means of delivering financial services to the rural population is adopted.

It is against this background that the Chapter 7 of this study sets out to investigate the performance of the rural banking industry in microlending while emphasizing the incentives and disincentives as well as risk perception and mitigation strategies by providers. Among some of the study findings are that while the main incentives driving banks into microlending were profitability and changing market conditions, disincentives ranged from high cost of transaction to perceived high risk of microentrepreneurs. One key finding of this chapter resulting from further econometric analyses, however, was that while asset-based collateral was found not to affect the performance of financial institutions, we found evidence to support the hypothesis that collateral leads to a reduction of non-performing loans.

However, with lack of a well-functioning secured credit regime and a credit scoring bureaus, we argue that this finding implies that FIs, especially the formal ones, will continue to prefer microloans collateralised with fixed assets, but which will also lead to the exclusion of a lot more microentrepreneurs. As our findings in Chapter 5 revealed, collateral requirement by the

financial institutions are the main reason why many microentrepreneurs do not apply for credit or why their loan applications were rejected. It is also the same underlying reason explaining our finding in Chapter 6 that new enterprises were more likely to prefer internal finance or trade financing and would only seek external finance, particularly from formal finance only when they were matured enough to have the capacity to pledge asset-based collateral. Further implication of this is that it will effectively constrain new business start-ups or leads to high fold-ups among newly established enterprises because of their inability to pledge asset based collateral.

This is particularly the case in Ghana and many other developing countries because of the perceived high risk often associated with small borrowers and the difficulty and/or high cost of obtaining accurate information from this diverse sector. Thus, the need for collateralising loan is crucial for loan repayment in living up to the theory that collateral increases borrower's liability in the case of default and also reduces incentive problem such as adverse selection and moral hazards under highly imperfect rural financial markets as pertains in Africa.

However, despite these findings on the collateral requirements in the rural financial market, the responses from our field survey on both microentrepreneurs and branch managers of financial institutions appear to be pointing to a new wave of collateralisation or institutional innovation to mitigate risk of all kind in Ghana. The qualitative evidence has shown that many financial institutions, especially the semi-formals such as the Savings & Loans companies and the Financial NGOs, (and to some extent some formal banks) are gradually moving away from the stringent requirement of asset based collateral. Many of them indicated they no longer relish the use of fixed assets such as land or building as security for loan as it used to be, but rather collateral substitutes such as third party guarantor, minimum balance requirement or group lending.

This is happening mainly because aside from the fact that the majority of the microentrepreneurs are severely under-resourced to post any worthy assets as collateral, the banks are also beginning to face the reality of the difficulties involved in foreclosing collateral property in many African countries. This is mainly due to the ambiguities surrounding property rights and lack of collateral registries. Even if the title of the property is verifiably genuine, it is often difficult not only to establish the value of the property, but also an analysis of its marketability. Lack of or poorly functioning secondary markets for the collateral often render it worthless. In most cases, only properties in high priced residential areas are accepted because of the easiness in marketing them. The other important reason is the legal constraints to realize the value of yet to be foreclosed property in Ghana. It is often the case that in the event of default, the bank cannot directly foreclose the property until it has gone through laborious legal processes to obtain such right, the cost of it could surpass the entire realised value of the property. Whatever the reason, however, the findings from the studies thus far suggest that the stringent requirement for collateral is a barrier to achieving a more financially inclusive society and possibly derails the benefits that the society may derive from having broad access to finance.

Last but not least, after gauging the socio-economic factors underlying financial exclusion in Ghana, there was the need to assess how having access to finance influence poverty reduction in Ghana. In this regard, the last analytical chapter, Chapter 8, sought to investigate the effects of nature and a range of institutional sources of finance on Micro and Small enterprises' (MSEs) productivity edge. We believe that having a productivity edge is a crucial source of growth in living standards and thus poverty reduction. An enterprise having productivity edge or growth means more value is added in production and this means more income is available to be distributed to its workers, all things being equal. Further, productivity edge is important because it means the enterprise has the potential to remain competitive and grow over time to employ

more people. Since the incentives properties of sources of finance differ markedly, the chapter in particular sought to gauge which institutional source and nature of finance is more associated with MSE's productivity edge. We found positive associations between more formal financing sources and MSE's productivity edge (measured by the enterprise level cross-sectional unexplained Solow residual from estimation of the production function). Moreover, more formal financing sources were found to be positively associated with capital deepening (or capital labour ratio) and growth perception.

These results may suggest that MSEs with access to formal finance are more likely to invest in newest vintage of capital embodying latest technology to foster productivity urge or growth. Besides, such enterprises can receive technical and managerial advice that can help them to change organisational structures, management systems, work arrangement and embark on the job training as well as seizing market opportunities - all geared towards enhancing efficiency and productivity.

It is noteworthy that the finding of the positive association between a more formal source of finance and MSEs' productivity has important implication for new enterprises, if we take the findings in Chapter 6 into consideration. Recalling the chapter's key finding that at the enterprise start-up stage, because of access constraints, internal finance or a more informal finance is preferred to a more formal finance, and that formal finance is only preferred when the enterprise is matured and has the capacity to borrow, may explain why most new enterprise fold up quickly or do not grow quick enough. The implication is that enterprises productivity at the early stages of establishment can be dampened as MSEs do not have access to formal financing source which are more likely to provide large amount with longer repayment period to enable owners to invest in newest equipment or modern productive capital. It is important to note that due to lack of access to long term finance, most of the MSEs rely on second-hand and

outmoded physical capital inputs which may generate even more operational and maintenance costs than the revenue they bring in.

In the section that follows, we present a more detailed summary of the findings of the core chapters of this study. The subsequent section briefly discusses the implication of the study findings and recommends policy options to the government, monetary authorities and financial service providers in efforts at building financial inclusion. This is followed by limitation and future research.

9.2 Summary of Main Findings

Beginning with Chapter 4, we studied the underlying factors explaining financial exclusion in Ghana focusing on two main types of exclusions: geographic exclusion on the supply side and exclusion based on household socio-economic conditions on the demand side. In particular, the chapter examined the determinants of bank branch location decision in rural communities and household's demand for basic financial service such as a bank deposit account. Using the concept of Access Possibilities Frontier framework for financial services, we found that financial exclusion or the large number of unbanked population in Ghana is both a problem of sub-optimal constraints in demand and in supply. On the demand side, the study finds that a large number of unbanked is due to lack of opportunity to bank resulting from limited geographic coverage of the commercial banks and household's socio-economic conditions such as low income, financial illiteracy, religious and ethnic reasons, as well as high inflation rates.

On the supply side, the key constraint is the high fixed transaction cost due to the sheer cost of building a bank, operating and maintaining branch networks to reach dispersed, low income communities with low level of basic infrastructure such as energy and communication facilities.

This is because the study finds that banks' decision to place a branch in a community are positively influenced by the market size, the level of infrastructure such as energy and communication facilities in the area, market activeness etc. but are negatively influenced by the general level of insecurity associated with crime, conflicts, natural disasters etc.

Turning attention to financial constraints faced by the majority of microentrepreneurs and to further explain financial exclusion at this level, Chapter 5 examined the issue of voluntary self-exclusion or why most microentrepreneurs choose not to borrow or seek external finance even though their businesses are in dire need of financial support. Characterizing MSEs into voluntarily and involuntarily constrained, and unconstrained, the study tested a wide range of hypotheses to explain voluntarily constrained or self exclusion. These ranged from perception of access difficulties, negative perception about indebtedness, interest rate sensitivity or risk aversion to information gap or lack of information flow. The study finds that perception of access to finance difficulties (as a result of negative past experience or suspicion of the financial institutions), negative cultural or religious bias on credit use and information gap are very important factors underlying voluntary self-exclusion. We argue that whether these perceived difficulties are real or mere perception, they evidently impede majority of MEs from stepping out of their shells to access external loan to sustain or grow their businesses. However, contrary to our expectation, the we find most microentrepreneurs are interest inelastic or insensitive to the high interest rate, suggesting that they are more interested in easier and faster access to finance rather than the cost of borrowing.

In Chapter 6, we took the argument further to examine microenterprises' financing preference and patterns (i.e., if they decide to borrow, which of the variety of financing sources in the rural financial market are they likely to prefer assuming access constraints are removed). In particular, the chapter raised two important issues: Does the relatively limited use

of mainstream formal finance a supply–side constraint or an issue of microentrepreneurial preference? And what determines MSE financing pattern; does it conform to a hierarchical order as POH predicts? This chapter then proceeded to answering these questions by going beyond the conventional capital structure theory of debt-equity decision of the firm and investigated the drivers of the entire gamut of financing options available to a microentrepreneur within the rural financial system of Ghana. Based on the speed, ease, cost and risk of access, and the degree of formality, we categorized this range of financing choices into Formal, Semi-formal, Informal, bootstrap and Internal Finances.

The study finds through an Ordered Probit model regression analysis that at start-up, MSEs have a strong preference for using personal, bootstrap and informal sources of finance, and that the use of external finance particularly formal bank loans becomes the commonest and most preferred as the business is up and running. The underlying reasons for these findings are that for new enterprises because they are more bound by information asymmetric problems they are more likely to prefer either less costly financing such as self and bootstrap financing or less risky and easy access financing such as informal SUSU schemes. However, as the enterprise gets established or matures its capacity to seek more formal financing increases and thus, are more likely to prefer formal financing.

Although the findings are somewhat consistent with POH, we argue that this hierarchical order is a consequence of severe persistent constraints other than sheer preference. This is because at all stages of the MSE's life, we find evidence to support the fact that MSEs were confronted with severe financial constraints. This is based on the further findings that other microentrepreneur's and MSE's specific level socio-economic characteristics such as owner's education or financial literacy status, households tangible assets, ownership structure, enterprise

size as well sensitivity to high interest rates in the credit market to be important determinants of either past (start-up), present or future financing preference.

The evidence thus far provided on microenterprise financing has come from the demand side; however, in order to see both side of the coin, Chapter 7 focused on the supply side evidence of microenterprise financing in Ghana. In particular, the chapter assessed the extent of formal financial institutions involvement in microlending compared to the traditional MFIs, while highlighting the incentives and disincentives as well as risk mitigation strategies. The study further investigated the determinants of the financial institutions' performance in microenterprise financing as it relates to the Non-performing loans and local branch managers' own assessment of growth performance in microlending. A wide range of outreach indicators such as cost, breadth, depth, scope, length formed the basis of our analysis. The rationale for this study is that understanding the factors underlying the performance of FIs in microenterprise financing will not only serve as a policy guide for the 'new actors' in microlending, but also an important contribution to the microfinance literature and enhancement of microcredit delivery environment in Ghana.

Our preliminary survey result reports four main findings. First, contrary to a widespread belief that mainstream formal FIs in Ghana are absent from microlending, the majority of the respondents claimed otherwise, however what average loan size they defined as microloan is far higher than those of the traditional MFIs. Second, the formal FIs indicated their main incentives for engaging in microlending are profitability and changing market conditions. On the contrary, the semi-formal FIs endeavor to strike a balance between profitability and social objectives though disproportionately. Third, the major obstacles or disincentives for not making microloans are almost equiproportionally distributed among four main factors, namely high transaction cost, difficulty in monitoring because of the sector's diversity, and high risk of the

sector as well as macroeconomic uncertainties. Fourth, although almost all the formal FIs require collateral, the use of asset-based collateral is becoming less popular. Collateral substitutes or joint liabilities such as third party guarantor and group lending are fast catching up with almost all the FIs, especially with the formal and semi-formal FIs.

Further empirical analyses on performance also report the following findings: While asset-based collateral was found not to affect the performance of FIs in microlending, the study finds evidence to support the hypothesis that asset-based collateral leads to a reduction in NPL rates. However, we argue that with lack of a well-functioning secured credit regime and a credit scoring or information system, this finding suggests that the formal FIs will continue to prefer microloans collateralized with immovable or fixed assets, which, however, are likely to exclude the majority of microentrepreneurs. The study further finds that consistent with other studies, ownership type has no influence on microlending performance. However, informal FIs were found to perform better in reducing default rates than the formal FIs. Moreover, on depth of outreach, while FIs with clients dominated by women are more likely to perform better, FIs located in rural areas are more inclined to have a higher default rates. Finally, whereas higher scope of outreach was found to be significant for growth in performance, high lending rate charged by FIs was found to be counterproductive as it leads to higher levels of default rates.

Finally, and perhaps most importantly, does finance matter for growth and, for that matter, poverty reduction? Chapter 8 attempted to investigate the effects of nature and a range of institutional sources of finance on Micro and Small enterprises' (MSEs) productivity edge and growth. In particular, the chapter primarily aimed at gauging the incentive properties of the various financing sources and their nature by accounting for productivity variation in enterprises. Using a unique non-farm household enterprise survey data from Ghana, we employ various measures of MSEs productivity such as a cross-sectional comparative unexplained

Solow residual as a proxy for productivity edge, labour productivity, capital labour ratio (as capital deepening) and microentrepreneurs own perception of growth.

After controlling for specific firm-level characteristics such as size, age, ownership type etc, the study reports the following findings. First, we find that where the nature of enterprise's start-up capital was loan or debt finance, compared to grant finance, the enterprise is associated with a higher productivity urge. In other words, debt finance was found to be positively associated with productivity urge and growth of the enterprise, while financing from donation or charity did not. Second, we found significant positive associations between a more formal financing source (i.e. formal and semi-formal financing sources) and MSE's productivity edge. This finding was robustly confirmed by the other proxies of MSEs productivity growth such capital labour ratio (measuring capital deepening) and growth perception. Further, external financing sources dummy has significant and positive association with MSEs' productivity urge – indicating a somewhat complementarities among all external financing sources in driving growth.

The study therefore concludes that too much of 'free money' or grant finance can be counterproductive. It has the tendency to undermine the motivation and incentive for microentrepreneur to be innovative in bringing about a higher productivity. Awareness of appropriate sources, and improving access to external finance at a reasonable cost, will not only afford microentrepreneurs to make the needed investment in innovations and newest vintages of capital which embodies technologies and productive efficiencies, but also MSEs are more likely to receive technical and managerial advice that will eventually lead to higher productivity and growth.

9.3 Summary of Field Observations

Beyond the findings from the quantitative analysis, there are also very significant findings from field observations as we directly interviewed and engaged in conversation with some local branch managers of financial institutions and microentrepreneurs during the field survey exercise. It is noteworthy, however, that most of the observations were confirmed by the findings from the descriptive and econometric analysis. For instance, our observations on the field suggest that while most of the FIs are willing to advance credits to microenterprises and petty traders, in their bids to reduce default risk probability through various mitigation techniques, they are effectively excluding the majority of the potential micro-borrowers. Most of the branch managers we spoke with, particularly those in the rural areas were of the opinion that even though they are willing to give loans to microentrepreneurs, they are compelled to turned down many of the applicants because of insufficient collateral or surety to secure the loans. They mentioned that while they do require landed property before loan is granted, in a situation where a micro-borrower is unable to meet such a requirement, they rely on collateral substitutes. These substitutes usually include about 30 to 50 percent compulsory upfront savings and at least two third-party personal guarantors as sureties. At least one of these guarantors must be a government salary worker, whose monthly salary passes through the bank or a prominent customer of the bank whose account balance is at all times sufficient to pay for the loan in an event of default.

In addition to personal guarantors, some of the FIs also require micro-borrowers to purchase a 30 percent fixed deposit facility of the amount requested. This, they claimed, does not only inculcate the culture of savings in microentrepreneurs, but also it enables them to earn extra interests on their deposits. In the event of default, these deposits, as well as the salaries or the accounts of the guarantors, are frozen until the full amounts of the loans with interests are redeemed. In rare cases, loans in arrears are restructured or additional loan is given to prop up

the business from collapsing or to make it more profitable. The latter was mostly mentioned by the branch managers of formal FIs in the central business district.

With regard to FIs that target group lending, we found out from some managers that often they rely on joint-liabilities of members to enforce loan repayment. Mostly occurring in rural and sub-urban communities, members are required to make daily or regular contribution in a form of SUSU to the FI, while the institution rotates loans among the members. However, if at any time members could not trace the whereabouts of a borrower, either the savings of the group is used to defray the loan or a court order is sought to freeze the assets of the group. As for business starters, no matter the worth of collateral they present, they normally do not get loans from any of the FIs. One rural bank credit manager we interviewed said unless on a very rare occasion when they can be convinced that the would-be business has a very high prospect of being lucrative and financially sustainable, start-up business has no chance of getting a loan from them.

These actions often taken by lenders to reduce defaults risk, although from the perspective of providers are necessary to ensure financial sustainability/stability; they nevertheless appear to have negative consequences on microentrepreneurs' access to external finance. For example, the stringent requirement for third-party personal guarantors as surety before a loan application is granted, although appears simple, for many petty traders and artisans, it is one of the most binding constraints preventing them from accessing loans, particularly from the formal FIs. Even for those who claimed to have landed property, they still complained of rejection because they could not provide credible guarantors – in the eyes of the bankers. A case in point is during our interviews with some of the microentrepreneurs in the central business district of Kumasi, one shop owner complained bitterly about how her loan application was rejected because she could only provide one guarantor instead of two – although she had presented landed property

in addition, yet the bank was not convinced. Much as she tried, she could not get someone who met the bank's requirements, so she had since abandoned the whole idea of ever seeking a loan from any bank. Getting guarantors in the country now is, without doubt, a herculean task. This is because the few regular savers and government workers are already overburdened by government supported student's loan guarantee scheme that requires three guarantors per a tertiary student. Moreover, in recent times, most workers are cautious and reluctant of guaranteeing micro-loans because of numerous past experiences where guarantors do not fully consider the prospect of business failure or the credibility of the borrower and eventually got themselves in trouble.

Besides this obvious case of involuntary exclusion, our findings from further field interviews with some microentrepreneurs and artisans confirmed a typical case of voluntary-self exclusion. For many of the microentrepreneurs, the fear of rejection or the expectation of not been successful because some colleagues tried in the past and were rejected or for some unpleasant personal experience in the past. For example, in a village nearby Kumasi, a metal welder we interviewed, who at the time had about eight apprentices working under him in a small shop, complained that his business was in a critical need of capital to buy raw-materials and to expand the shop in order to increase production. Surprisingly, however, his shop is situated right across from the town's only rural bank, yet he claimed he had never thought of approaching them for a loan. His reason; he does not have what it takes to go there for a loan. And besides, even if he applied, he knew it would not be granted because he had heard of many accounts of bad treatments some applicants of his calibre had received from the bank in the past. He believed that getting a loan is based on 'whom you know' and one's social connections and status, which he does not have.

Furthermore, quite a sizable number of the people we interviewed had the opinion never will they go in for loans or advise others to go in for them. According to some of these microentrepreneurs, most banks cheat on them with high interests and commission charges that usually make them end up perpetually indebted to them. Many therefore said they will rather seek help from friends or relatives, or use supplier's credits, retain profits or probably operate a SUSU account. In fact, our interviews with some of the MFIs confirmed some of these apprehensions expressed by these entrepreneurs. We discovered that because there are currently no laws regulating the microfinance industry in the country, many of them charged exorbitant rates and commissions that are often not made clear to the micro-borrowers. Some of them charge as much as 8 to 15 percent per month, accumulating to more than 120 percent per annum. Yet, for many of the micro-borrowers, because of lack of education, they did not even realise how much they were paying in a year. Many of them could not even keep accounts of their daily activities, let alone, knowing how much net profit they make at the end of the month.

Some of these market women and petty traders would prefer to save with SUSU operators because, as they claimed, the operators understand them better and also have flexible payment conditions and do not require collateral. However, the SUSU operators are themselves constrained. We found out that even though many of them are willing to give small loans to their clients, they are unable to do so because of lack of long-term funds. Even if they lend, and the unlikely event that the borrower defaults, there is no law to enforce repayments - such loans are considered illegal. Some SUSU collectors we interviewed lamented that they do not give loans anymore because some people take the loans and intentionally do not pay back. According to them, they are unable to enforce repayment because the current laws prohibit them from advancing loan of any size.

On the way forward, we asked branch managers to write how in their opinions access to financial services can be broadened to reach greater number of unbanked microentrepreneurs and households in the country. The overwhelming majority (about 85 percent) of them were, however, of the view that lack of credit reference bureaus and collateral registries are greatly hampering their efforts to granting credit to micro and small enterprises and thus it needs critical attention. Various other suggestions were given which have been sampled as:

- By relaxing the requirement and making payment schedule more flexible.
- Educating microentrepreneurs and poor households to restructure and position their businesses to enable them quality for loans.
- Educating clients on the essence and benefits of savings.
- Providing financial and entrepreneurial advice to prospective micro-borrowers.
- Engaging SUSU collectors to reach greater number of people.
- Adopting a more proactive approach in educating microentrepreneurs of the financial market and benefits to be derived.
- Establishing banking agencies in deprived communities
- Lending to MFIs at low concessionary or in other words, FIs having access to low cost funds to enhance further on lending to the informal sector.
- Government guarantying loans to MFIs for onward lending to MEs.
- Intensifying financial literacy education.
- Creating special units in the banking halls to deal with MEs.
- To reduce minimum balance requirement in saving accounts.
- To embark on capacity rebuilding of staff in financial institutions.
- Training of MEs in business and managerial skills.

- Taking banking to the door steps of MEs and poor households by giving them financial counselling, business management training and start up capitals.
- Reduce collateral and documentation requirements.

9.4 Policy Implications and Recommendations for All-inclusive Finance

From the study findings, we conclude that despite comprehensive reforms and a series of new regulations in the financial sector in the last two decades, efforts at building inclusive finance have so far achieved limited outreach with higher costs instead of broad outreach with lower costs. This is attributable to a problem of sub-optimal constraints in both demand and supply of financial services. What then are the implications of these findings from the perspective of broad policy directions to addressing these constraints and to facilitating all-inclusive finance? We believe that a major drive towards financial inclusion should be a joint effort from government, monetary authorities, financial institutions and donor agencies. Therefore the following are six thematic directions that could help guide policy choices:

1. Expanding Geographic Banking Penetration through Innovations

The first implication of our findings is in regard to geographic exclusion and bank penetration into the rural areas. This is because geographic distance and travel costs are important barriers to savings and a key constraint to access. As many rural areas are sparsely populated and are far in-between with limited basic infrastructure, the financial institutions (FIs) need to be innovative to broaden access to these areas, while reducing high fixed and transaction costs. One way of doing this is by promoting and encouraging branchless banking among the FIs. The rationale of branchless banking is for FIs to adopt a cheaper alternative and a lower cost of transactional channels rather than the conventional branch-based banking. In order to reduce "brick and mortar' type of branching, which arguably is very costly, the use of existing

infrastructure through retail agents or franchise chains such as gas distribution companies, Merchants, Post Offices etc. should be greatly encouraged to minimize fixed costs and accelerate scale. Moreover, the use of information technology such as ATM, mobile phones, mobile and internet banking can be very effective in lowering operational costs. We believe that even though branchless banking is quite a new phenomenon and it presents a new challenge in terms of supporting infrastructure, with little innovation, creativity and an appropriate regulatory framework its potential remains strong.

2. Creating Financial Awareness through Education and Social Mobilization

On the demand-side constraints in broadening of access to finance, the importance of education and financial literacy cannot be overemphasized. Financial illiteracy emerged as a common thread running through the issues relating to demand deficiencies and voluntary self-exclusion. As some of the study findings suggest, lack of demand for financial services is as results of perception of difficulties in accessing formal finance, lack of awareness/misinformation about availability of appropriate finance or the benefits of using financial services, mistrusts, cultural and religious biases to the use of credit, and perhaps most importantly, illiteracy. High rate of illiteracy in the country implies that a great variety of people or microentrepreneurs do not demand any financial services because they may have difficulty analyzing credit risks and benefits of loans or savings schemes. Moreover, it also means the majority of illiterate traders or microentrepreneurs are excluded because of their inability to provide documents and information such as a business proposal required to apply for a loan, and may not also understand conditions and contracts.

In light of this, we conclude that policies directed at building inclusive finance by focusing on supply side alone are unlikely to be successful. Complementary policies aimed not only at removing access constraints, but also target policies that tackle the fundamental demand

deficiency issues such as negative perceptions and mistrusts of the financial institutions are more likely to be effective. Moreover, government should intensify its general educational programmes as well as all stakeholders getting involved in creating a national awareness campaign through extensive financial literacy programs and social mobilization, particularly at the grassroots level. This is to encourage the unbanked or the excluded to open a bank deposit or savings account. Besides, FIs should be encouraged to introduce innovations such as savings incentives and religious-compliant financial products to meet the financing needs of those who exclude themselves because of religious beliefs.

3. Improving Regulatory and Supervisory Environment through Institutional Building

Inclusive financial system cannot happen or operate in a vacuum. They rely on a well-functioning institutional infrastructure, legal and regulatory environment to ensure that broadening access to all people will not compromise on prudential standards, sound and stable financial system. However, despite a series of new regulations introduced in recent times, there are still legal and regulatory inadequacies, especially as regards to contract enforcement and secured transaction regime as well as regulations within the rural financial market in Ghana. Our findings suggest that most formal FIs are not serving the lower end of the market/new niches because of inadequate legally enforced contract regime.

This also may explain why NPL or default rates are relatively high within the sector as FIs are not able to distinguish credit worthy borrowers from bad ones. This situation also tends to add to the cost of borrowing as all borrowers are made to contribute to paying off the loans of bad debtors largely through high risk premiums imposed by FIs. However, the availability of credit reference bureaus and collateral registries will enhance client information gathering, eliminate duplicate/multiple pledging of collateral, and also allow them to accept movable assets in

securing microcredit facilities. The BOG has somewhat recently responded to these constraints by promoting the passage of Credit Reporting Act, 2007 (Act 726) and Borrowers and Lenders Act, 2008 (Act 773), which were to pave way for establishing credit reference bureaus and collateral registries in Ghana. However, three years down the line, only one Credit Reference Bureau Company had so far been licensed; and even with that its operations have delayed as banks complaints they cannot trust who else would get the information they release. In this regard, we recommend that the regulatory authority, in this case BOG, should strengthen such institutions either with a new stricter regulatory framework or directly get involved in running such bureaus so as to ensure transparency, trust and data integrity.

Furthermore, the informal FIs as well as the financial NGOs are fraught with a myriad of operational problems and remain without proper legal and prudential regulatory regime as it was revealed in Chapter 3 and our field observation. This has led many of them to operate illegally/fraudulently or charge exorbitantly high interest rates and 'covert' fees and commissions to unsuspecting clients. Many of them are also not financially sustainable either because of weak management capacity or their inability to take deposits from the public in accordance with the existing regulations. Thus, to ensure adequacy of the regulatory framework, regulators should improve and modernise the regulatory and supervisory regime within the microfinance subsector. To effectively do this, the monetary authorities should consider building a strong institutional capacity through, perhaps, setting up a subsector regulatory board or an apex bank to focus exclusively on governing and ensuring prudential standards within the rural financial market.

4. Broadening Access through Banks Downscaling and MFIs Upscaling

Our study findings also have an important implication for mainstream formal banking institutions to downscale, while traditional MFIs upscaling to reach a greater number of

unbanked people within the informal sector. Due to the huge size of this informal market, effectively serving it will critically require two most important elements – capacity and sustainable finance. The traditional MFIs have not been able to achieve this because of their limitations in these elements and thus they require a substantial upscale, if they are to broaden access. However, in the case of the commercial banks, they are believed to have a tremendous potential to broadly serve all these unserved or underserved segments of the society because of their strong institutional capacity, resources and access to longer-term and lower-cost funding. This notwithstanding, evidence, as provided, shows that the commercial banks' performance within the microfinance subsector has not been impressive and still lags behind the traditional MFIs and the informal financial institutions. This is because while, for many, their unwillingness to go downstream and assume risk is hampering their commitment to serving the sector, a greater number of them who are already in it continue to use the same traditional methods of delivering financial services without any adaptations. But the unique characteristics of microfinance require that commercial banks adapt their financial products and methodologies to meet the socio-economic needs of households and microentrepreneurs within the informal economy. The commercial banks should learn particularly from the informal sector by following these recommendations:

- As many micro-borrowers do not have fixed assets to pledge collateral for loans, banks should accept movable accept or alternative forms of collateral substitutes such as social collateral (group lending), compulsory savings, personal guarantees, crops, livestock, machines or household items.
- Smaller size of products - loan/savings - or minimum or no deposit requirement should be an operational tool for serving this sector in order to better attract lower-income groups, women and rural farmers.
- Flexibility, seasonal or frequent loan repayment, so that installments fall in line with the income flows of micro-borrowers.

- Integrate microfinance into the traditional banking operations rather than establishing a separate subsidiary or new company to conduct microfinance activities.
- To ensure sustainability, the principal motivation should be profits. Financial services to the informal sector should be seen as a new way of doing business, not social image nor or a development agenda.
- In the case of the traditional MFIs, they should be allowed to take micro deposits from their clients/public in order to ensure their financial sustainability and effective intermediation.

5. Forging Linkages among Financial Institutions through Partnership

While Ghana is well known to operate a three-tiered system – formal, semi-formal and informal financial institutions - each serving a particular market niche, there are virtually little or no linkages among them. However, as each has been shown to have substantial weakness and limitations but varying strengths in broadening access to all people particularly the marginalised, the need to forge partnerships among these institutions cannot be over-emphasized. We believe that to better achieve an aggregate performance and build a more inclusive financial system in the country, the formal FIs should be encouraged – and given incentives – to foster effective partnerships with the traditional MFIs and the informal SUSU operators. For example, like Barclays Bank began some years ago, using the *SUSU* schemes on a large scale to open bank accounts for members and mobilize savings on behalf of the banks, while banks, in turn, loan money to the MFIs or the SUSU operators for on-lending to the micro-borrowers. This will go a long way to facilitate financial inclusion. Creating strong linkages hold promise not only for removing the financing constraints confronting MSEs, but also by bringing about a more sustainable, organized as well as a technological and operational transformation of the rural financial system particularly among the informal financial institutions.

6. Creating Conducive and Enabling Environment through Appropriate Government Interventions

What then should be the government role in all these to ensure all-inclusive finance? We believe that government role should be limited to facilitation and creating an enabling environment for the private financial institutions to thrive. As this study has revealed, the direct involvement by government, particularly granting of microloans to households and microenterprises with grants or subsidized interest rates, has rather proven to be counterproductive in many respects. First, where loans have come from state-owned or donor funded institutions, more or less as a social or development agenda of government, there have been high incentives for defaults because of patronage or many seeing such funds as charitable gestures. Second, subsidised interest loans, and too much charity or grants, as found in Chapter 8, have been found to have the tendency to undermine the motivation and incentive for a microentrepreneur to be innovative in bringing about a higher productivity growth. Third, direct involvement of government is likely to distort the market price and quality of financial services delivery thereby becoming detrimental for new and efficient profit-oriented institutions to enter the market. The government role should therefore be limited to the following:

- Ensuring macroeconomic stability- a volatile macroeconomic environment and high inflation do not only hamper efficient intermediation, but also increase a country systemic risk, which in turn increases the risk premium and thus high cost of lending.
- In order to assuage the fears of the risk-averse bankers, there is the need for demonstration effect of a bank successfully providing microfinance. A selected bank can be supported by either government or donor agencies with long-term technical assistance programs. This would provide an opportunity for all banks in the country to take note of best practices and potential returns in microlending.
- In the long term however, the policy recommendation is for the government or the monetary authorities to promote market development policies that will promote

competition within the banking sector and broaden outreach through structural reforms, institutional building and improvement of state variables such as physical infrastructure upgrading to drive down cost for both providers and users.

9.4 Limitation and Future Research

Limitation of this study largely relates to data and sampling procedure. One major limitation our survey encountered during the sampling process was dearth of statistical data on the number of microenterprises in the informal economy. There were no records or documentation on their area of activities, locations and the number of employees or apprentices engaged by them. Apart from Ghana Statistical Service that has some limited data on non-farm household enterprises; there is virtually no baseline data or records on enterprise registration status, addresses, ownership structure etc. in any of the government agencies. Therefore, we were compelled to adopt an accidental selection of enterprises without any prior information about them. Because of that, and also due to time and logistical resource constraints in the field survey, our sample size was relatively small.

Future Research

Future research should therefore seek to overcome the limitations of the field survey, especially by increasing the sample size that will support a more rigorous quantitative analysis to validate some of the study findings. Further research should also extend the scope of this work by focusing on the welfare gains of access to formal finance at the household level.

Reference

Aaron, (2005), "Multinomial and Ordered Logit", available at: www.uoregon.edu/~aarong/teaching/G4075_Outline/node24.html

Abor, J. (2008), "Determinants of the capital structure of Ghanaian firms," African Economic Research Consortium, Research Paper RP_176, Nairobi, Kenya

Abor, J., and Biekpe, N. (2009), "How do we explain the capital structure of SMEs in sub-Saharan Africa?: Evidence from Ghana", *Journal of Economic Studies*, Vol. 36, No:1,pp.83– 97

Adjasi, K. D. C. and Kyereboah-Coleman A. (2006), "Sustainability and success of microfinance: the case of Ghana". Final Report Presented at Biannual African Economic Research Consortium Conference, Nairobi, Kenya, 27 May – 2nd June

Afrane, S and Banibensu, E. M (2002), "Fixing of interest rates in the informal financial sector in Ghana: analysis of determinants and trends", *Journal of the Kwame Nkrumah University of Science and Technology*, Vol. 22 Nos. 1, 2 & 3

Alabi, G. Alabi, J. and Tei, A.,S. (2007), "The role of "susu" a traditional informal banking system in the development of micro and small scale enterprises (MSEs) in Ghana", *International Business & Economics Research Journal* , Vol. 6, No. 12 pg 99-116

Allen, F., Qian, J. and Qian, M. (2005), "Law, finance and economic growth in China", *Journal of Financial Economics* 77, 57-116

Amaeshi, K. M., (2006), "Financial exclusion, financial institutions and corporate social responsibility: a developing country perspective. Warwick Business School, United Kingdom. Available online at SSRN: http://ssrn.com/abstract=950989

Ambreen, F (2009), "Socio-economic constraints to demand for borrowing among rural females of Pakistan", *International Journal of Social Economics*, Vol. 36, No. 11, pp. 1050 – 1070

Amimo O., Larson, W. D. Bittencourt, M. and Graham H. D. (2003), "The potential for financial savings in rural Mozambican". The Ohio State University Proceedings of the 25th International Conference of Agricultural Economists (IAAE) 16 .22 August.

Asiama, P. J. and Osei, V. (2007), "Microfinance in Ghana: an overview", Working Paper, Research Department, Bank of Ghana, Accra.

Aryeetey, E (2004), "Household asset choice among the rural poor in Ghana", presented at the Authors' Workshop for the Project on "Understanding Poverty in Ghana" Organized by the ISSER, University of Ghana and Cornell University, Accra, January

Aryeetey, E and Udry, C. (1997), "The Characteristics of informal financial markets in Sub-Saharan Africa", *Journal of African Economies*, Vol. 6, 161-203

Aryeetey, E. (1994) 'Financial integration and development in Sub-Saharan Africa: a study of informal finance in Ghana', Overseas Development Institute Working Paper 78, London: ODI.

Aryeetey, E. (1996), "The formal financial sector in Ghana after the reforms", Working Paper 86, Institute of Scientific, Social and Economic Research, University of Ghana, January

Aryeetey, E. (2005), "Informal finance for private sector development in Sub-Saharan Africa" in *Journal of Microfinance*, vol. 7 (1), pp. 13 - 39

Aw, B. Y. (2001), "Productivity dynamics of small and medium enterprises in Taiwan (China)." The World Bank Institute

Balkenhol, B. and Schütte (2001) "Collateral, collateral law and collateral substitutes" Social Finance Programme Working paper No. 26, ILO, Available at: http://www.ilo.org/employment/Whatwedo/Publications/lang--en/docName-WCMS_117987/index.htm

Bank of Ghana (2007), "A note on microfinance in Ghana", Working Paper WP/BOG-2007/01

Bank of Ghana, (2008), "Quarterly economic bulletins for 2008" Bank of Ghana publication, Available at: www.bog.gov.gh/index1.php?linkid=156&day=30&month=01&year=2008

Bank of Ghana (2008), "Quarterly economic bulletines for 2008" Bank of Ghana publication, Ghana. Available at URL: (http://www.bog.gov.gh/index1.php?linkid=156&day=30&month=01&year=2008&stn=1998&fy=1)

Barclays Bank (2005), "Barclays Bank of Ghana limited launches Microbanking" December 19, Available at: http://www.newsroom.barclays.co.uk/aspx?404

Basu, A., Blavy R. and Yulek M. (2004), "Microfinance in Africa: experience and lessons from selected African countries". IMF Working Paper WP/04/174, African Department.

Baydas, M. M., H. G. Douglas and L. Valenzuela, L. (1998) "Commercial banks in microfinance: new actors in the microfinance world", CGAP Focus Note, no. 12, Available at: www.cgap.org/publications/focus_notes.html.

Beck T Demirguc-Kunt A. and Peria M S., (2007). "Reaching out: access to and use of banking services across countries." *Journal of Financial Economics* 85 (1): 234–66.

Beck, T and Demirguc-Kunt, A. (2006), "Small and medium-size enterprises: access to finance as a growth constraint", *Journal of Banking and Finance*, Vol. 30, pp. 2931–2943

Beck, T and Demirguc-Kunt, A. (2006), "Small and medium-size enterprises: access to finance as a growth constraint", *Journal of Banking and Finance*, Vol. 30, pp. 2931–2943

Beck, T and Tore de la, A (2006) "The basic analytics of access to financial services", World Bank Policy Research Working Paper 4026, October, available at http://econ.worldbank.org.

Beck, T. A. Demirgüç-Kunt, A., Laeven, L. and Levine R. (2007), 'Finance, Firm Size, and *Credit in the Private Economy*, Washington, D.C.: World Bank.

Beck, T., Demirguc-Kunt A. and Levine R. (2004), "Finance, Inequality and Poverty", World Bank Policy Research Working Paper 3338

Beck, T., Demirguc-Kunt, A. and Soledad, M. P. (2006), "Banking services for everyone? Barriers to bank access and use around the world", World Bank Policy Research Working Paper 4079, December

Beck, T., Demirguc-Kunt, A. and Honahon, P. (2009), "Access to financial services: measurement, impact, and policies", *The World Bank Observer*, Vol. 24, No. 1, pp. 119-145

Beck, T., Demirgüç-Kunt, A. and Maksimovic V. (2005) "Financial and legal constraints to growth: does firm size matter?", *Journal of Finance*, 60(1): 137-177

Beck, T., Levine R. and Loayza N. (2000), "Finance and the sources of growth", *Journal of Financial Economics,* 58, 261-300

Beverly S. G. and Sherraden, M. (1999), "Institutional determinants of saving: implications for low-income households and public policy". Journal of Socio-Economics, Volume 28, Issue 4, 1999, Pages 457-473

Bigsten, A, Collier, P, Dercon, S., Fafchamps, M, Gauthier, B, Gunning, W. J, Oduro, A., Oostendorp, R., Patillo, C., S–derbom, M., Teal, T., and Zeufack, A. (2003), "Credit constraints in manufacturing enterprises in Africa", *Journal of African Economies*, vol. 12(1), pp 104-125.

Bloch, H., and Madden, G. (1995) "Productivity growth in Australian manufacturing: A vintage capital model." *International Journal of Manpower* 16, 21-30.

Bloom, N., Mahajan, A. McKenzie, D. and Roberts, J. (2010), "Why do firms in developing countries have low productivity?" *American Economic Review,* 100 (2), 619 -23

Brunton, P. D. (1999), "Financing small-scale rural manufacturing enterprises", Caribbean Development Bank Working Paper Series, Barbados

Business Development (BDS) Forum, (2008), " Financing your business", *A training modules 5 for SMEs*, Dieter Gagel, freelance consultant Heidelberg, Germany, available at: www.bds-forum.net/training-modules

Butler, W. A. and Cornaggia, J. (2008), "Does access to external finance improve productivity? Evidence from a natural experiment" Journal of Financial Economics (Forthcoming). Availabl at SSRN: http://ssrn.com/abstract=1084154

Calcagnini, G., R. De Bonis and D. D. Hester, (1999), "Determinants of bank branch expansion in Italy" This paper has been prepared for the 40th Società Italiana degli Economisti meeting to be held at the University of Ancona on October 29-30.

CGAP, (2006) "The history of microfinance" Contributed by CGAP. Prepared for CGAP UNCDF Donor Training, "The New Vision of Microfinance: Financial Services for the Poor." Available at: http://www.globalenvision.org/library/4/1051/

Chant and Link (2004), "A report on financial exclusion in Australia" A report commissioned by ANZ National Bank, Australia, Available online at: www.anz.com/aus/aboutanz/community/programs/pdf/FinancialExclusionFinalReport.pdf

Claessens, S. (2005), "Access to Financial Services: A Review of the Issues and Public Policy Issues". *World Bank Research Observer*

Clark, G. (Ed), (1994), *Onions are my husband, survival and accumulation by West African market women*, University of Chicago Press, Chicago and London

Cressy, R., (1990), "Commitment lending under asymmetric information: theory and tests on UK startup data", *Small Business Economics*, 8, 397-408

Department for International Development (DFID) (2004), "The importance of financial sector development for growth and poverty reduction" Financial Sector Team, Policy Division Working Paper, UK August

Diagne, A. (1999), "Determinant of household access to and participation in formal and informal credit markets in Malawi"; International Food Policy Research Institute、FCND Discussion Paper NO. 67 Washington, D.C.

Diamond, D.W. (1989), "Reputation acquisition in debt markets". *Journal of Political Economy*,

Du, J. and Girma, S. (2008), "Financing source and firm growth in a hybrid financial system: evidence from China" available at: http://ssrn.com/abstract=1032942

Du, J. and Girma, S. (2009), "Source of finance, growth and firm size – evidence from China", UNU –WIDER Research Paper No. 2009/03, January

Ekumah, K. E. and Essel, T. T. (2003), "Information is power: the problem with credit Accessibility in rural banks in Ghana", IFLIP Research Paper 03-12, December

Elhiraika, A. and Nkurunziza, J. (2006), "Facilitating firm entry, growth and survival with special attention to smes" United Nations Economic Commission for Africa (UNECA), African Trade Policy Centre Working Paper, No. 46, November.

European Commission, (2008), "Financial services provision and prevention of financial exclusion" Directorate-General for Employment, Social Affairs and Equal Opportunities, Available at: http://www.2010againstpoverty.eu/extranet/financial_exclusion_en.pdf

Fazzari, S, Hubbard, G, and Petersen, B (1988), "Financing constraints and corporate investment," *Brookings Papers on Economic Activity*, vol.1, pp 141-195.

Findings, (2004), "Micro and rural finance in Ghana: evolving industry and approaches to regulation" World Bank Group: Private Sector and Infrastructure, Findings 234 January

Gatti, R. and Love L, (2006),"Does access to credit improve productivity? Evidence from Bulgarian firms", The World Bank Policy Research, Working Paper Series No. 3921

Gebru, G. H. (2009), "Financing preferences of micro and small enterprise owners in Tigray: does POH hold?" *Journal of Small Business Enterprise Development*, Vol.16, No. 2, pp. 322-334.

GHAMFIN, (2003) "Census of micro credit NGOs, community-based organizations and self-help groups in Ghana" Accra

Ghana Statistical Service Report, (2008), "Ghana living standard survey (GLSS 5)", Ghana Statistical Service, Accra

Ghosh, R. and Pain, A. K (2005), "What determines household saving in India?", Available at SSRN: http://ssrn.com/abstract=747046, June

Giugale, M. M., El-Diwany, S. and Everhart, S. (2000), "Informality, size, and regulation: theory and an application to Egypt", *Small Business Economics*, Vol. 14, No. 2, pp. 95 – 106

Glackin, E C (2002), "What does it take to borrow? A framework for analysis", *Journal of Microfinance,* Vol. 4, No. 1, pp 115-135

Green, J C, Kimuyu, P, Manos, R and Murinde, V. (2002), "How do small firms in developing countries raise capital? Evidence from a large-scale survey of Kenyan micro and small scale enterprises", Economic Research Paper No. 02/6 Centre for International, Financial and Economics Research, Loughborough University

Greene W. H., (Ed), (2003), *Econometric analysis*, Englewood Cliffs,.: Prentice Hall, N.J., U.S.A

Greene, W. H. (Ed), (2008), *Econometric Analysis*, Pearson Prentice Hall, N.J., U.S.A

Guirkinger, C and Boucher, S (2007), "Credit constraints and productivity in Peruvian agriculture", a paper presented at International Conference on Rural Finance Research: Moving Results into Policies and Practice Rome, Italy, 19-21 March

HM Treasury (2008), "Enterprise: unlocking the UK's talent", London, HM Treasury. Available at: hm-treasury.gov.uk

Hamilton, R. T. and Fox, M. A. (1998), "The financing preferences of small firm owners", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 4, No.3, pp: 239-248

Hannan H. T. and A. G., Hanweck (2007), "Recent trends in the number and size of bank branches: an examination of likely determinants", Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, Washington, D.C. February.

Heckman, J., (1976), The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models, *Annals of Economic and Social Measurement,* 5, 475–492.

Helms, B. (Ed), (2006), Access for all: building inclusive financial services, World Bank, Washington

Hema, B (2009), "A study on customer perception in banking industry using gap analysis" Available at: http://www.scribd.com/doc/18544537/A, November

Herrnstein, R. J. (Ed), (1997), *Matching Law: Papers in Psychology and Economics,* Edited by Howard Rachlin, David I. Laibson, Harvard. U.S.A

Honohan, P. (Ed), (2004a), *financial development, growth and poverty: how close are the links*? In Charles Goodhart, ed. Financial Development and Economic Growth: Explaining the Links. London: Palgrave.

Honohan, P. (2004b), "Data on microfinance and access: thinking about what is available and what is needed". World Bank mimeo

Honohan, P. (2006), "Household financial assets in the process of development", World Bank Policy Research Working Paper 3965, July

Hulme, D. and Mosley, P. (Ed), (1996), *Finance against Poverty*, vol. 1 and 2, London: Routledge

Hussain J, and Matlay, H. (2007), "Financing preferences of ethnic minority owner/managers in UK", *Journal of Small Business and Enterprise Development* vol. 13 no. 4, 584-599

Isern, J. and Porteos, D. (2005), "Commercial banks and microfinance: evolving models of success", CGAP Focus Note No.28, Available at: www.cgap.org/docs/FocusNote_28.pdf

Isern, J., A. Ritchie, A., Crenn, T. Cook T. and Brown, M. (2003), "Review of commercial bank and other formal financial institution participation in microfinance", CGAP, Washington D.C.

Jaramillo, F. and Schiantarelli, F (2002) "Access to long term debt and effects on firms' performance: lessons from Ecuador" *Latin American Economic Policies Newsletter*, Network Working paper No.R-460, July, Available at: www.iadb.org/res

Jenkins, H., (2002), "Are commercial banks really absent from micro and small enterprise finance?", *Yapi Kredi Economic Review*, Volume 13, No:1, 2002.

Jensen, M. (1988), "Agency costs of free cash flow, corporate finance, and the market for takeovers", *American Economic Review,* Vol. 76(2), pp 323-29

Jorgenson, D.W and Griliches, Z. (1967), "The explanation of productivity change", *Review of Economic Studies* 34 (99): 249–283

Kahneman, D and Tversky, A. (1979), "Prospect theory: an analysis of decision under risk, *Econometrica* 47, 263-291.

Kaplan, S. N. and Zingales, L. (2000) "Investment-cash flow sensitivities are not valid measures of financing constraints". *Quarterly Journal of Economics,* vol. 115:2, pp 707-712

Kempson, E. (2006), "Policy level response to financial exclusion in developed economies: lessons for developing countries", presented at the conference of "Access to Finance: Building Inclusive Financial System", May 30-31, World Bank, Washington D.C.

Kempson, E. and Whyley, C. (2000), "Kept out or opted out? Understanding and combating financial exclusion", Bristol: Policy Press.

Kimuyu, P. and Omiti, J., (2000), "Institutional impediments to access to credit by micro and small scale enterprises in Kenya", Institute of Policy Analysis and Research Discussion Paper, No. DP/026, Nairobi.

King, R. G and Levine, R. (1993), "Finance, entrepreneurship and growth: theory and evidence", *Journal of Monetary Economics*, Vol.32, pp.513-42.

King, R., and Levine, R., (1993), "Finance and growth: Schumpeter might be right, *Quarterly Journal of Economics* 108, 717–738.

Kraus, A. and Litzenberger, R.H. (1973), "A state-preference model of optimal financial leverage", *Journal of Finance*, pp. 911-922

Kutsoati, E. (2007), "Micro-credit: Trickling down growth or profiting from the poor?" Feature Article, Department of Economics, Tufts University, 2 September, Available at: http://www.ghanaweb.com/GhanaHomePage/features/artikel.php?ID=129839

Lancaster, J. (2006), "Outreach depth impact on non-performing loans of bank for agriculture and agricultural cooperatives" A paper presented at a colloquium at the Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington, on Monday, February 6

Lean, J. and Tucker, J., (2001) "Information asymmetry, small firm finance and the role of lessons for developing countries" Paper for Access to Finance: Building Inclusive Financial Systems May 30-31, World Bank, Washington DC

Levine, R. (1997), "Financial development and economic growth: Views and Agenda". *Journal of Economic Literature* 35, 688-726.

Levine, R. (Ed), (2005), *Finance and growth: theory and evidence*, Chapter 12 in P. Aghion and S. Durlauf (eds). *Handbook of Economic Growth*. The Netherlands: Elsevier Science.

Levinsohn, J. and Petrin, A. (2003), "Estimating production functions using inputs to control for unobservables" *Review of Economic Studies*, 70(2): 317–41.

Littlefield, E., Murduch, J. & Hashemi, S. (2003), "Is microfinance an effective strategy to reach the Millennium Development Goals?", Focus Note Series no. 24. Washington: CGAP

Mahendra, R. Vijay N. and Sunia, V. (2005), "Determinants of household savings behavior in an emerging economy: market vs. non market factors" The University of the South Pacific, Faculty of Business and Economics, Development Studies academic papers. Available online at URL: www.usp.ac.fj/fileadmin/files/Institutes/piasdg/dev_studies/papers/reddy_savings.pdf

Maksimovic, V., Demirgüç-Kunt, A. and Ayyagari, M. (2008) "Formal versus informal finance: evidence from China", World Bank Policy research working paper No. 4465. Available at SSRN: http://ssrn.com/abstract=1080690

Masakure, O., Cranfield, J. and Henson, S. (2008) "The financial performance of non-farm microenterprises in Ghana", *World Development,* Vol. 36, No. 12, pp. 2733–2762

Maurice, M P and Colin, S. (2002), *Phenomenology of Perception*, Translated by Colin Smith, (Ed). 2, Routledge, pp. 484-486. Also Available at http://en.wikipedia.org/wiki/Perception

McKinnon, R. (1973) *Money and Capital in economics*, Brookings Institution, Washington DC

Mensah, S. (2004), "A review of SME financing schemes in Ghana", A paper presented at the UNIDO Regional Workshop of Financing Small and Medium Scale Enterprises, Accra, Ghana, 15-16 March

Mersland, R. and Strøm, R. Ø. (2007), "Microbanks: ownership, performance and social trade-offs – a global analysis". Paper presented at International Conference on Rural Finance Research: Moving Results into Policies and Practice, FAO HQ, Rome, Italy, 19-21 March

Miliotis, P, M. Dimopoulou and Giannikosa, I. (2002), "A hierarchical location model for locating bank branches in a competitive environment". International Federation of Operational Research Societies. Published by Blackwell Publishers Ltd, Greece. Vol. 549–565# 200

Modigliani, F. and Miller, M. H. (1958), "Cost of capital, corporation finance, and the theory of investment", *American Economic Review,* 48, pp. 261-297.

Murray, F. Z. and Goyal, V.K. (2003), "Testing the pecking order theory of capital structure", EFA 0157: AFA 2001, New Orleans. Available at SSRN: http://ssrn.com/abstract=243138 or doi:10.2139/ssrn.243138

Myers, S.C. and Majluf, N.S. (1984), "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics*, 13: 187–221.

Myers, S.C., (1984), "The capital structure puzzle", *The Journal of Finance*, Vol. 39, No. 3, pp. 575-592

Neeley, L. (2009), "Entrepreneurs and bootstrap finance", .doc88; Available at http://www.doc88.com/p-94950626823.html

Nichter, S. and Goldmark, L. (2005) Understanding micro and small enterprise growth" U.S. Agency for International Development (USAID), microREPORT No. 36, Washington, November, Available at: www.microLINKS.org

Nichter, S. and Goldmark, L. (2009), "Small firm growth in developing countries", world development", Vol. 37, No. 9, pp. 1453–1464

Nissanke, M. (2001), "Financing enterprise development in Sub-Saharan Africa", *Cambridge Journal of Economics,* 243-367.

Nissanke, M. and E. Aryeetey, (2006), "Institutional analysis of financial market fragmentation in Sub-Saharan Africa a risk-cost configuration approach", Research Paper No. 2006/87, UNU-WIDER

Nissanke, M. and Aryeetey, E. (Ed), (1998), *Financial Integration and Development in Sub-Saharan Africa*, London and New York, Routledge

Ofei, A K (2004), "Terms and access to credit: perceptions of SMEs entrepreneurs in Ghana" paper presented at the International Conference on Ghana at the Half Century; organized by ISSER, University of Ghana and Cornell University, Accra, 18th July

Oldfield S. G. and Santomero M. A. (1997), "The place of risk management in financial institutions". The Wharton Financial Institutions Center, University of Pennsylvania. Working Paper series, 95-05-B, January.

Osei-Assibey, E, (2009), "Financial exclusion: what drives supply and demand for basic financial services in Ghana?" *Saving and Development Journal*, Vol. 33, No 3, pp 207 - 238

Osei-Assibey, Eric (2003), "Financial liberalization and investment in Ghana", Unpublished M.Phil thesis, University of Ghana

Osei-Assibey, E., (2010), "Choosing not to borrow: an evaluation of perception and socio-cultural factors underlying voluntary self-exclusion. *The IUP Journal of Financial Economics*, Vol. VIII, No. 1 & 2, pp: 36-66

Pagura, E. M. (2007), "Demand dynamics, Outreach expansion, and product innovation: Recent research in Rural finance", Savings and Development Journal, No. 3- XXXI, pp 241-250

Paul, S. Whittam, G, and Wyper, J. (2007), "The Pecking Order Hypothesis: does it apply to startup firms?", *Journal of Small Business and Enterprise Development* vol. 14 no.1, 8-21.

Peachey, S. and Alan R. (2006), "Access to finance, measuring the contribution of savings banks; technical and control functions to estimate economic choice models", *Review of Economics*, World Bank Savings Institute

Porteous, D. (2005), "The access frontier as a tool in making markets work for the poor", Available at URL: http://www.worldbank.org/afr/findings.

Rajan, R., Zingales, L. (1998), "Financial dependence and growth", *American Economic* 88, 559-587.

Rhyne, E and Otero, M. (Eds), (1994), *The New World of Microenterprise Financing: Building Healthy Financial Institutions for the Poor*, Kumarian Press,West Hartford, CT.

*Romer, P.(*1986) "Increasing returns and long-run growth." *Journal of Political Economy* 94, no. 5, 1002-37.

Schreiner, M. (2002), "Aspects of outreach: a framework for the discussion of the social benefits of microfinance", *Journal of International Development*, Vol. 14, pp. 591–603.

Seidman, E. Hababou, M. And Kramer J. (2005), "Getting to know under-banked consumers: a financial services analysis", The Center for Financial Services Innovation, South Michigan, USA. Available at URL: www.cfsinnovation.com/managed_documents/seg.pdf

Selvavinayagam K. (1995) "Improving rural finance market for developing microenterprises", FAO investment centre, Occasional paper series No. 2, June

Sharma, M. and Zellar M. (1999), "Placement and outreach of group-based credit organizations: the cases of ASA, BRAC and PROSHIKA in Bangladesh". Food Consumption and Nutrition Division of International Food Policy Research Institute, FCND discussion paper no. 59. Washington D.C., March

Shaw, E. (Ed), (1973), *Financial deepening in economic development*, Oxford University Press, New York

Simanowitz and Brody (2004), "Realising the potential of microfinance", id21 insights, December, Issue -51

Solo, T. (2005), "Financial exclusion – what it is, why it costs, what to do about it" Conference by Florida International University's Summit of the Americas Center and South Florida Sun-Sentinel, June. Available online at: www.americasnet.net/Events/OAS/Solo.pdf

Solow, Robert M. (1956), "A contribution to the theory of economic growth", *Quarterly Journal of Economics* 70, no. 156-94

Sowa, Nii K. (2002), "An assessment of Poverty Reducing Policies and Programmes in Ghana" MIMAP Ghana Working Paper. Center for Policy Analysis, Accra

Steel, W. F. and Andah, D. O. (2003), "Rural and micro finance regulation in Ghana: *implications for development and performance of the industry"* Africa Region Working Paper Series No. 49, June

Steel, W.F. and Webster, L.M., (1991), "Small enterprises under adjustment in Ghana; in manufacturing enterprises in Africa"; CSAE Working Paper 2000.24, Oxford University, paper no. 138, World Bank, Washington, DC.

Stiglitz, E J and Weiss, A (1981), "Credit rationing in markets with imperfect information", *The American Economic Review*, Vol. 71, No. 3. pp. 393-410. U.K.

Stiroh, K. J. (2001), "What drives productivity growth? *FRBNY Economic Policy Review* pp 37-59

Stulz, R. (1990), "Managerial discretion and optimal financing policies", *Journal of Financial Economics,* Vol. 26(1), pp 3-27

Syeda K. (2007), "Microenterprise and entrepreneurship development through microfinance", *Regional Development Studies,* Vol.11, pp 55 – 70

Tobin, J. (1965), "Money and economic growth", *Econometrica*, Vol. 33 pp.671-684

Udry, C., (1990), "Credit markets in northern Nigeria: credit as insurance in a rural economy", *The World Bank Economic Review*, 4(3): 251-69.

Vandell, D K (1984), "Imperfect information, uncertainty, and credit rationing: comment and extension", *The Quarterly Journal of Economics*, Vol. 99, No. 4, pp 841-863

Von Pischke, J.D. (Ed), (1991), *Finance at the Frontier: Debt Capacity and the Role of Growth*, World Bank

Wai, U.T. (Ed), (1972), *Financial intermediaries by individuals and national savings in developing countries,* New York: Praeger Press.

Weber M. (Ed), (1904), *The protestant ethic and the spirit of capitalism*, trans. T. Parsons/intro. A. Giddens, Routledge, London.

Wolf, S. (2007), "Encouraging innovation for productivity growth in Africa" United Nations Economic Commission for Africa (UNECA), African Trade Policy Centre Working Paper, No. 54, January, www.uneca.org/atpc/Work%20in%20progress/54.pdf

World Bank (Eds), (2008), *Finance for all? Policies and pitfalls in expanding access*, World Bank Group, Washington D.C

Wu, F. and Guan, Z., (2008), "Farm capital structure choice under credit constraint: theory and application", Paper presented at the American Agricultural Economics Association Annual Meeting, Orlando, FL, July 27-29

Wyer, P., Ekanem, I, North, D., and Deakins D. (2007), "Literature review for the Small Business Service: the impact of perceived access to finance difficulties on the demand for external finance: final report", Centre for Enterprise and Economic Development Research, Middlesex University, London, available at: http://www.berr.gov.uk/files/file40922.pdf

Zellar, M. And Sharma M. (2001), "The demand for financial services by the rural poor". Rural Financial Policies for Food Security of the Poor, IFPRI, Policy Briefs No. 1 March

Zeller, M and Sharma, M. (2002), "Access to and demand for financial services by the rural poor: a multicountry synthesis", Manfred Zeller and Richard L. Meyer (eds.), *The Triangle of Microfinance: Financial Sustainability, Outreach, and Impact*, Johns Hopkins University Press, London, pp. 19□45.

Appendix

Comparisons of Indicators of Access to Financial Services across the Globe

The graphs and the figures outlined below show a wide range of access to finance indicators across the globe compiled from Beck *et al* (2007) and World Bank (2008. The rationale is to show the position of Ghana and Sub-Saharan Africa in global comparisons of barriers, access to and use of financial services across the globe. Among some of the indicators are a composite measure of access to financial services, use of loan and deposit services across economies, Branch and ATM penetration, barriers to deposit services and barriers to loan services to consumers and SMEs across economies.

The composite index indicator measures the percentage of the adult population with access to an account with a financial intermediary. The index was constructed from any country with data on access from household survey. In the case of specific use of loan and deposit services, the reported indicators were based on data collected through a survey of bank regulators by Beck *et al* (2007). Loan (deposit) accounts per capita refer to the number of loans (deposit) per 1,000 people. Loan (deposit) – income ratio refers to the average size of loans (deposits) per GDP per capita. Likewise, while, geographic branch (ATM) penetration refers to the number of branches (ATMs) per 1000 square kilometres, demographic branch (ATM) penetration refers to the number of branches (ATMs) per 100,000 people.

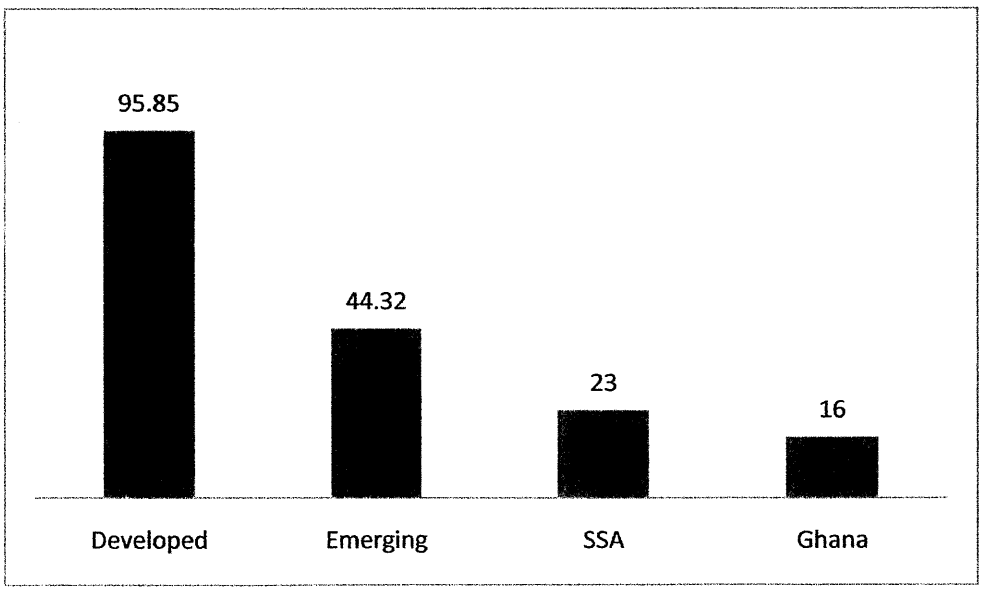
Furthermore, on indicators of barriers to deposit services, indicators were obtained from a bank-level survey and Bankscope. Whereas, minimum amount to open (be maintained in) a checking (savings) account is the minimum balance required to open (maintain a checking (savings) account, the affordability indicators are expressed as a share of GDP per capita (GDPPC).

Appendix 1

Composite Indicator of Access to Financial Services

This indicator allows estimates to be made of the share of the population with accounts at formal or semi-formal financial intermediaries in most countries. The Figure A below shows a cross-regional variation in access to finance. Over 90 percent of households in most of developed countries including Western Europe and North America have an account with a financial institution, while the share is below 25 % in many countries in Sub-Saharan Africa including Ghana. This clearly shows that financial exclusion is associated with the level of development as shown by the graph above. The World Bank (2008) shows with these headline indicators that access to finance or, more precisely, use of financial services is positively, although not very closely, correlated with economic development.

Figure A: Composite Measure of Access to Financial Services



Source: Data from Beck et al 2007

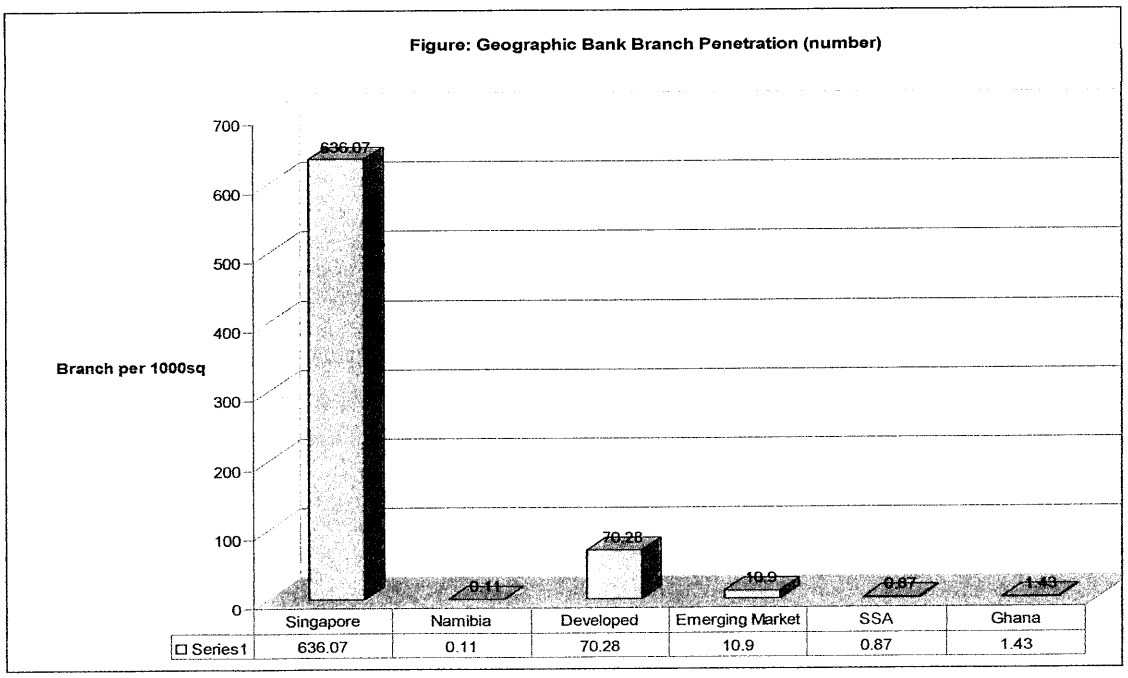
Note: The composite indicator measures the percentage of the adult population with access to an account with a financial intermediary.

Appendix 2

Physical Access to Finance: Geographic and Demographic Bank Penetration

As noted earlier, geographic branch (ATM) penetration refers to the number of branches (ATMs) per 1000 square kilometres, demographic branch (ATM) penetration refers to the number of branches (ATMs) per 100,000 people. Branches, and, in most recent times, ATMs, have been the traditional bank outlet. This therefore makes geographic distance to the nearest branch (or ATM), or the density of branches (ATM) relative to the population a first crude indication of geographic access or lack of physical barriers to access (World Bank 2008; Beck *et al* 2007).

Figure B: Geographic Bank Penetration.

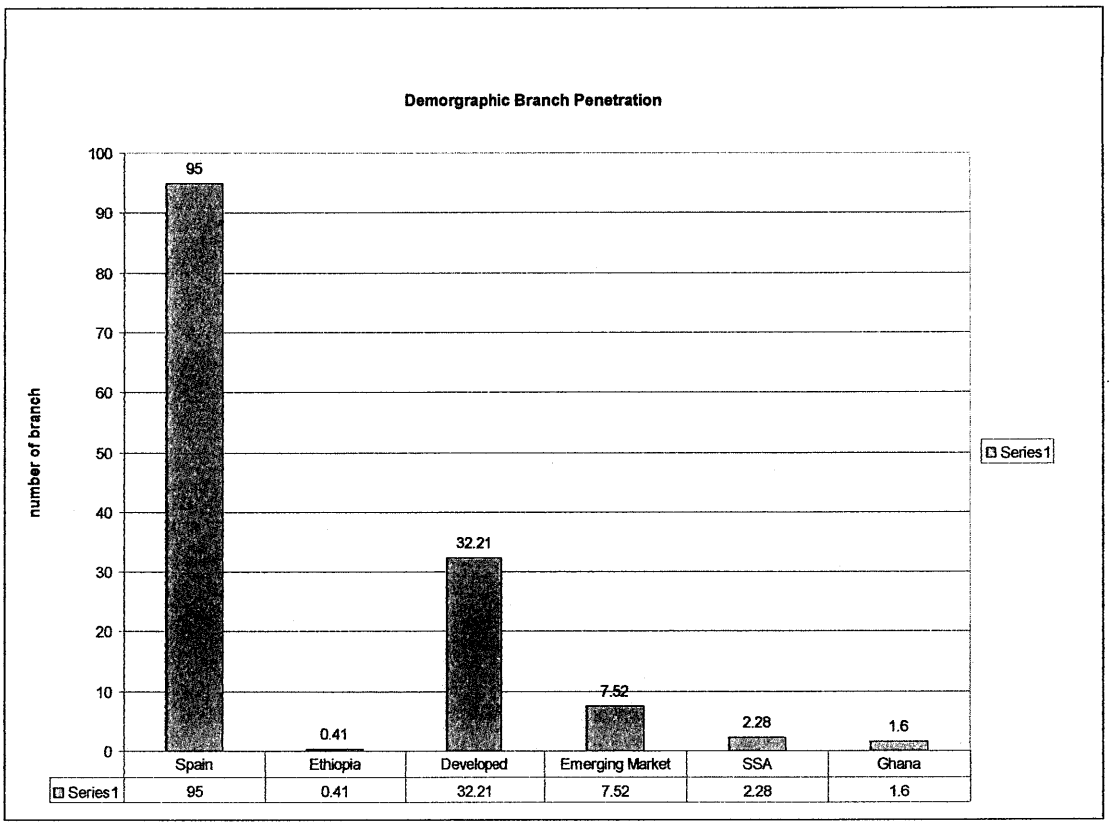


Source: Beck *et al* 2007

Like the composite indicator of access or use of financial services, geographic access varies considerably across countries. The Figure B above shows that whereas in Singapore there are 636.07 branches per 1000 $km^{2,}$ in Ghana there are 1.43 /1000 km^2. Demographically, in Ethiopia there is less than one branch per 100,000 people, while Spain has about 96 branches

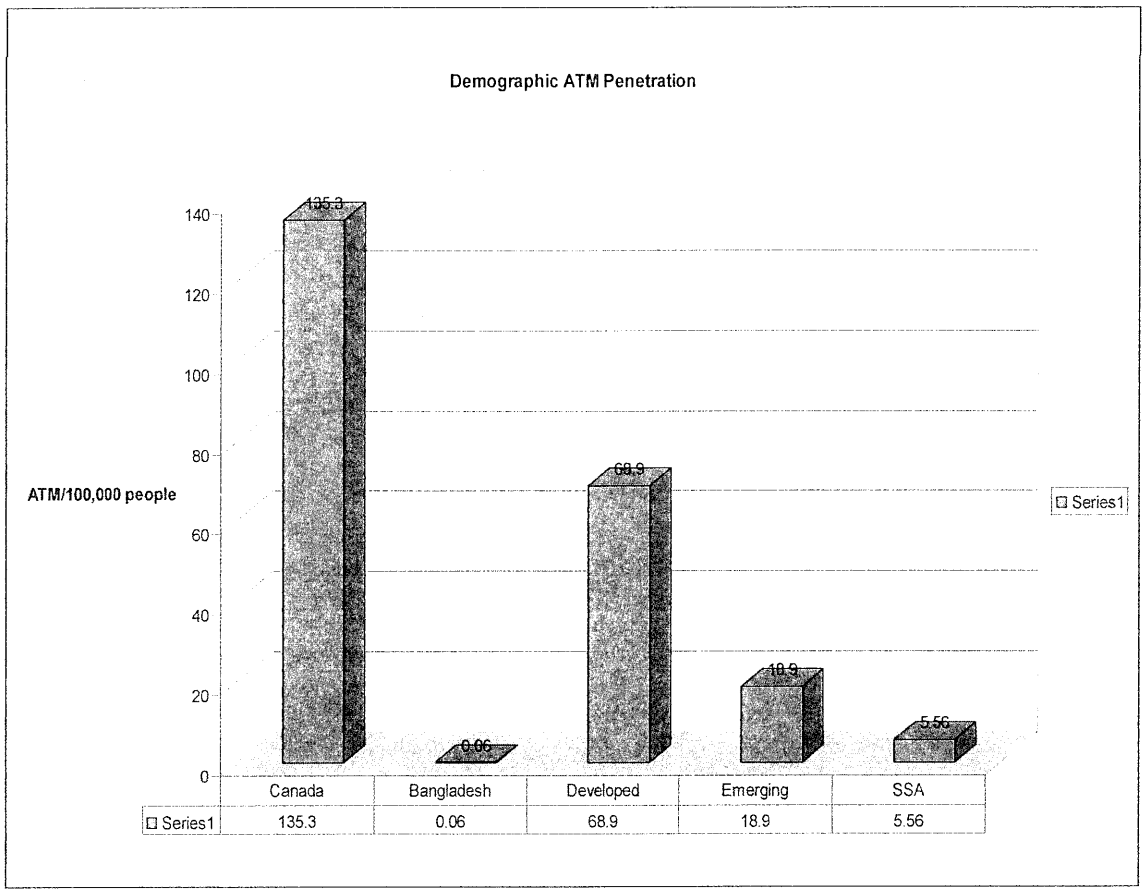
per 100, 000 people or 1 per 1000 people (see Figure C in appendix 2). In the case of ATMs penetration, the Figure D below shows an even wider dispersion in geographic access among some developed countries and low-income countries. For instance, whereas in Canada there are 135.3 ATM per 100,000 populations, in Bangladesh there is 0.06 ATMs per 100,000.

Figure C: Demographic Bank Penetration



Source: Beck *et al* 2007

Figure D: Physical Access: ATM Penetration



Source: Beck *et al* (2007)

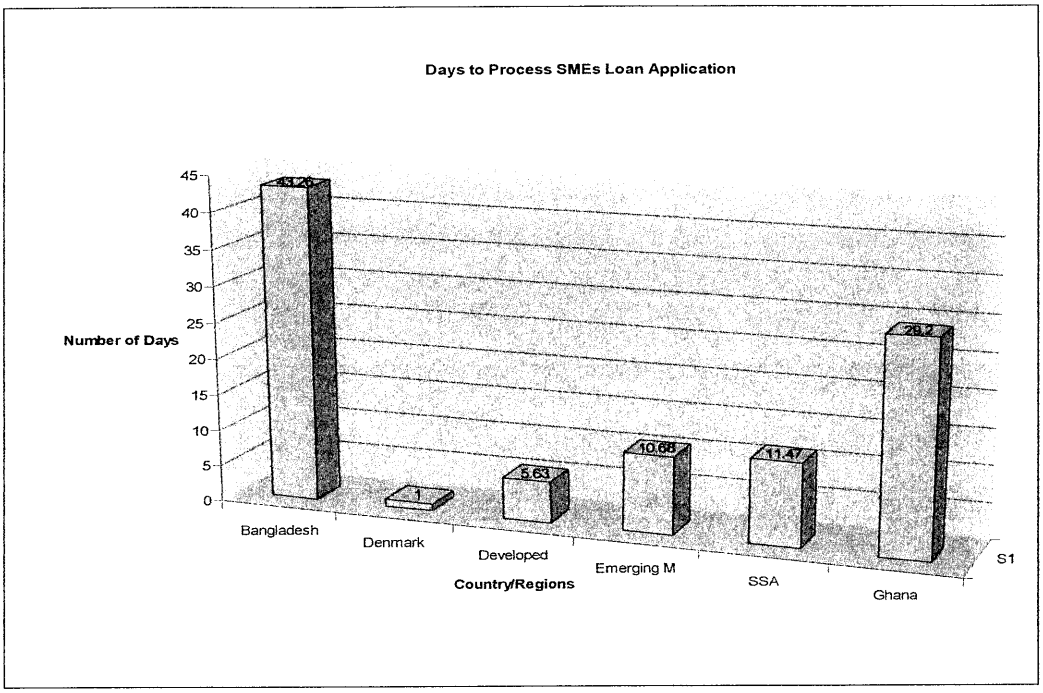
Appendix 3

Barrier to Loan Services: Affordability and Eligibility

Is limited geographic or physical access to a bank the only barrier a potential user of financial service face? No! It has been well acknowledged since the interest in broad access to finance was reignited in the turn of the millennium that geographic access is just one type of access barrier. By limiting eligibility (i.e., document requirement) and affordability (i.e., price pay for using financial services) can be other important barriers to access (World Bank, 2008). For example, in Ghana, Beck et al (2007a) report that the minimum amount to open a savings account is 22.69% of GDP per capita, whereas the number of documents such as identification,

payment slip, letter of reference, proof of address or rent agreement etc, to open such account is 3.24 from a scale of 5.

Figure E Eligibility: Days to Process SME Loan

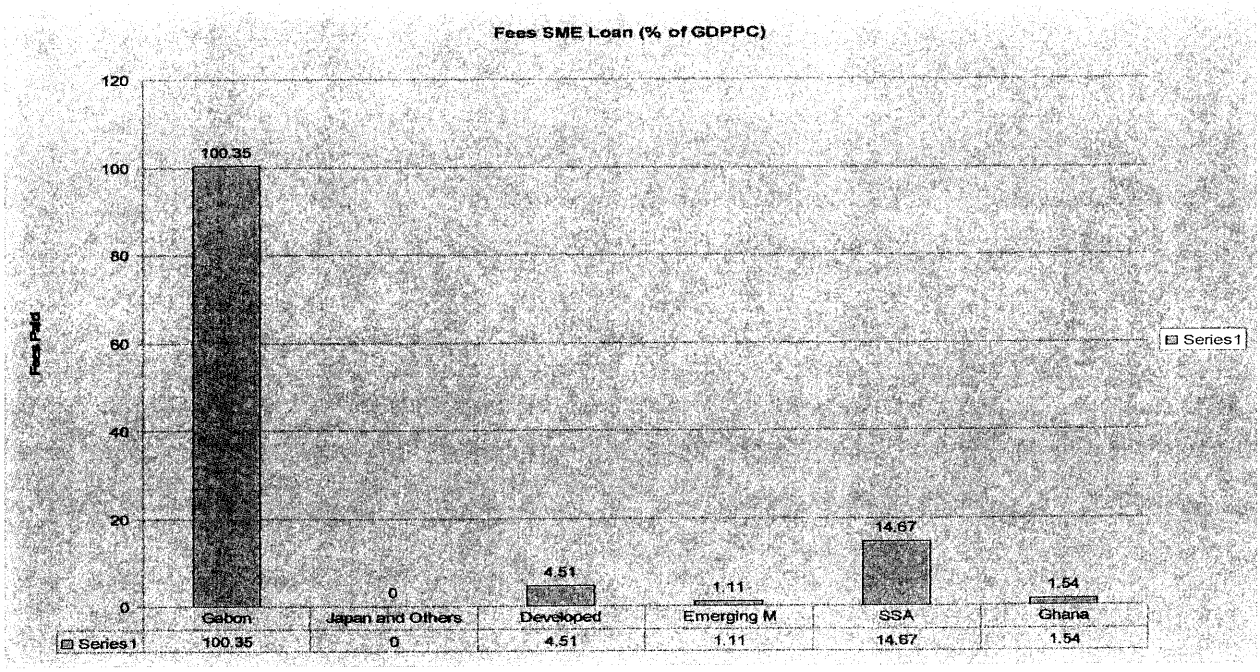


Source: World Bank (2008)

Note: The numbers represent the number of days banks take to process a typical SMEs loan application.

Besides, as shown in the Figure E above, whereas in Denmark it takes just a day to process SMEs' loan application, in Ghana it takes about 29 days. Similarly, there is also a wide cross-country variation in terms of affordability, particularly processing of small loans. For example, while in Japan and some other developed countries it costs virtually nothing to process SMEs loan, in Gabon and Ghana it costs 100.4 and 1.54 percentage (of GDP per capita) respectively (see Figure F below).

Figure E Affordability: Fees for SME Loan (% of GDP Per Capita)



Source: Beck et al (2007)

Note: This figure shows the fees (expressed in % of GDP per capita) associated with processing of SMEs loan across some selected regions and countries.

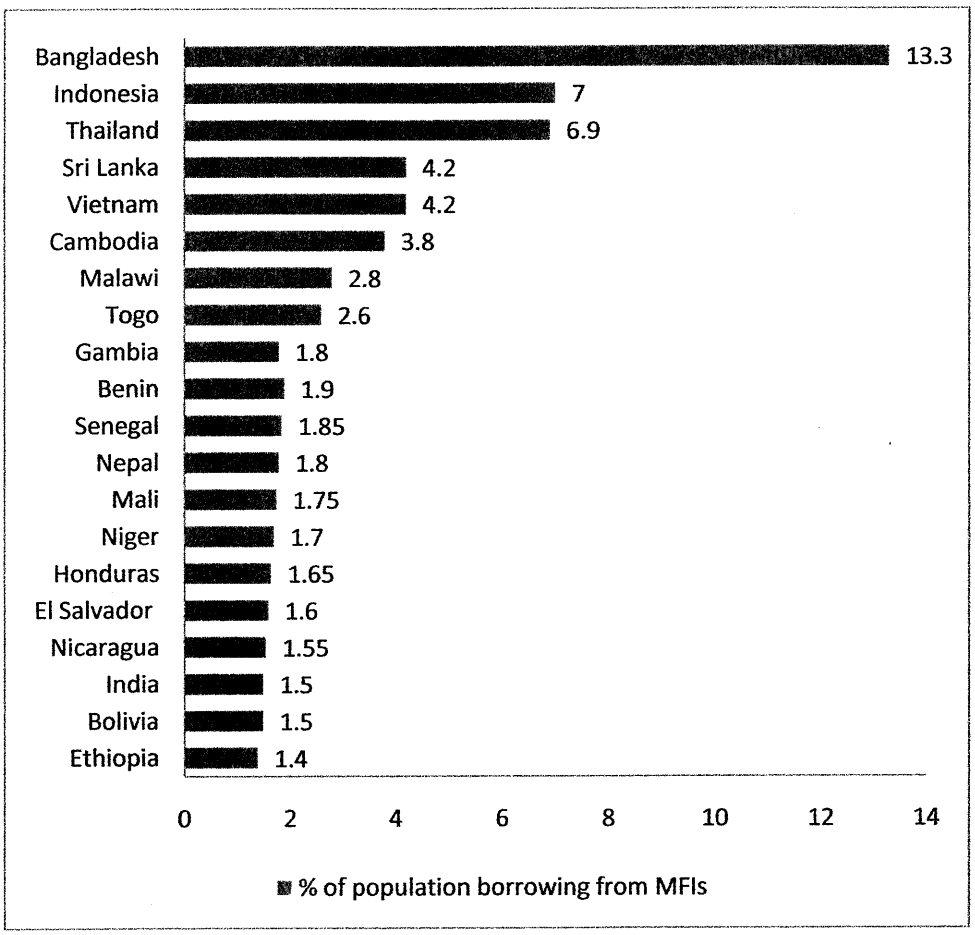
Appendix 4

Microfinance Penetration across Countries

Microfinance across the globe is said to have limited coverage and outreach despite being an important tool for poverty reduction. Although the number of MFIs has been increasing geometrically over the last three or two decades, it has been observed that they have still not been able to fill the huge financing gap left by the mainstream formal financial institutions. The Figure G below, which shows the ratio of borrowing clients to total population for the 20 countries with the highest microfinance penetration, indicates that MFI outreach in most developing countries is very low. Most MFIs lack scale or are with limited coverage to the extent that the Figure below shows that only eight countries do microfinance borrowers account for more than 2 percent of the population. Although Ghana is not represented in the figure

below, Basu *et al* (2004) reports that the total outreach in Ghana is limited to about 60,000 clients. This implies that if the country's population at the time was say 20 million, then MFI's penetration or ratio of clients to total population, was paltry (about 0.003).

Figure G MFIs Penetration across Countries



Note: This figure shows the ratio of borrowing clients to total population for the 20 countries with the highest microfinance penetration.

Source: World Bank (2008); Honohan (2004)