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The Impact of Financial Access on Firm Growth: Evidence from Ethiopian Grain Traders and Millers

Wolday Amha[1], Tadele Ferede[2] and Mulat Demeke[3]

Abstract

Although both formal and informal financial institutions exist in developing economies, firms are often constrained by lack of access to financial services. Grain traders and millers in Ethiopia need a lot of finance to pay their suppliers (e.g. farmers) but it is not clear whether or not which sources of credit matter most for their growth and expansion. Using firm survey data collected for the purpose, we assessed access to and the impact of different sources of finance on growth of traders and millers in Ethiopia. Descriptive and econometric methods (e.g. ordered probit) were employed to address the issue. The results indicate that both formal and informal sources of credits are accessed by a small number of firms on a sporadic basis. With credit from commercial banks is mainly channeled to large businesses while microfinance institutions (MFIs) are designed to assist small and micro enterprises as part of a poverty alleviation strategy, medium firms such as most grain traders and millers have limited access to finance. Bank or MFI credit was found to have no impact on growth and expansion in the econometric analysis. Access to informal credit is also limited and largely used to meet short-term emergency cash requirements. Without improved and regular access to finance, grain traders and millers cannot make the necessary investment to provide effective marketing services for the transformation of agriculture.

Key words: finance, financial access, Growth, Grain, Grain traders and millers, Ethiopia

[1] CEO of the Association of Ethiopian Microfinance Institutions (AEMFI) and the Ethiopian Inclusive Finance Training and Research Institute (EIFTRI). Addis Ababa
[2] Addis Ababa University, Department of Economics.
[3] Food and Agricultural Organization (FAO), Rome.

1. Introduction

The grain market liberalization policy in Ethiopia was introduced in March 1990 during the Derg regime, aimed at achieving a mixed economy based on wide private sector participation and greater use of the market mechanism to guide economic decisions. However, the Derg (Military government) was overthrown in May 1991 before it could implement its own reforms. The market liberalization actually removed the major bottlenecks in food grain markets and eliminated quotas, fixing prices and the legal monopoly of the Ethiopian Grain Trading Enterprise (EGTE) (previously the Agricultural Marketing Corporation) and reduced the number of *Kellas* (checkpoints). In November 1991, the economic policy of the Transitional Government of Ethiopia (TGE), (led by the Ethiopian People's Revolutionary Democratic Front, EPRDF), signaled a significant move away from the centrally planned economy towards a market-oriented one and introduced a federal political and economic system. The market liberalization process of the TGE reduced the role of the EGTE to a minor role in grain marketing and, created a large number of private traders, processors, transporters, etc. Moreover, many marketing cooperatives were established in both rural and urban areas. The reform ensured the dominance of market-driven policies in resource allocation decisions that depend on supply, demand and price signals.

The immediate results of the grain market liberalization were vivid. A study by Negassa and Jayne (1997) revealed that the price of cereals in surplus-producing regions increased by 12 to 48 percent, while prices in deficit regions declined by 6 to 36 percent, leading to a decline in cereal price spread. The volatility of wholesale cereal prices also declined immediately after the introduction of the reform process. However, grain prices have become increasingly volatile and unpredictable in recent years. Despite officially withdrawing from market intervention, the Ethiopian government had to intervene at least three times over the last 10 years: in 2002–03 when cereal prices collapsed, in 2007/08 when prices sky-rocketed, and in 2011 when prices soared again. Grain traders and miller have not been able to

cope with supply shortfalls or deficits (Rashid and Negassa, 2011). It appears that the private grain marketing remains weak and unreliable 20 years after the liberalization measures were introduced.

Although the policy reforms had positive impact on grain production, marketing and processing, there have been a number of challenges which constrained the growth and performance in grain traders and millers in Ethiopia. These include: lack of market infrastructure, inadequate market information, lack of training, storage problems, limited access to finance, weak regulatory and legal framework (property rights and contract enforcement), inadequate market facilities (marketing premises, parking places, storage facilities, etc), weak vertical and horizontal integration, low quality products, etc (Wolday Amha and Eleni Gebremadhin 2003).

Grain traders and millers have limited financial access to construct storage facilities, purchase equipment such as cleaning and machines, and obtain working capital to expand their business. The study of Amha and Gebremedhin (2003) indicated that limited access to institutional finance for traders to construct storage facilities, purchase equipment such as cleaning machines, and to obtain working capital to finance grain purchases were among the key problems in expanding grain marketing in Ethiopia. According to Dessalegn *et.al*. (1997), limited access to finance was identified as one of the major constraints of grain marketing in Ethiopia. Traders who did not obtain loan from banks identified lack of collateral, high risk in grain trade and high competition from unlicensed traders as the main reasons constraining access to bank credit. However, it is not clear if the situation has improved in recent years and it is not known if different sources of finance have different impact on the growth and development of grain traders and millers.

Although governments in developing countries try to expand access to formal financial institutions, informal finance remains the main source of credit for majority of firms (Degryse *et al*., 2011; Kan, 2000). However, the

empirical evidence on the impact of informal versus formal credit on firm growth is inconclusive. For instance, while Melzer (2011) indicated that informal credit has not helped firms or poor households, Ayyagari *et al.* (2010) indicated that formal credit is associated with higher firm growth, but informal credit is not. On the other hand, a study by Degryse *et al.* (2012) indicates that informal finance promotes firm growth, especially small firms. There is no consensus on the impact of formal and informal finance on firm growth. This paper aims at assessing the contribution of different sources of finance to firm growth. It assesses the extent to which grain traders and millers access different sources of credit and examines the impact of different sources of finance on firm growth.

The paper is organized as follows. Following the introduction, Section 2 describes the method of data collection. Section 3 discusses the conceptual framework. While Section 4 provides discussions and analysis of results, including the key issues in accessing bank loans by traders and millers, Section 5 provides conclusions and recommendations.

2. Sources of Data

Both secondary and primary data were collected to extract qualitative and quantitative information on the growth and performance of grain trading and processing firms in Ethiopia. Government statistics such as Central Statistical Agency's reports on grain production, consumption, price surveys, government policy documents, and other studies related to grain trading and processing enterprises were reviewed. The study also extensively used secondary information collected from banks, MFIs and cooperatives to assess the supply side constraints. In addition, literature on finance and growth nexus and determinants of firm growth was consulted to put the study in perspective and develop a conceptual framework for the study. Primary data were collected through structured questionnaires designed for

grain traders and processors in early 2011[4]. A total of 200 grain traders and 330 processors were surveyed. Although the main focus of this study was the grain markets in Addis Ababa, nearby towns were also surveyed, especially for millers.[5] In addition, a rapid assessment of traders and processors in selected regions was conducted in order to get better understanding of how firms operate in rural towns. Moreover, a number of discussions were conducted with senior staff of commercial banks, microfinance practitioners, staff of Federal Cooperative Agency (FCA) and regional cooperative promotion bureaus to fill the information gaps of the sample surveys.

3. Conceptual and Theoretical Framework

The main functions of financial system include: (a) pooling savings from disparate depositors allowing producers, processors and traders to access finance that would otherwise be limited to inefficient scale; (b) allocate resources through information acquisition about investment projects and selection of most promising ones, allowing capital to flow to its highest value use; (c) manage liquidity and idiosyncratic risks through aggregation and by transferring these risks to those who are willing and able to bear it; (d) contribute to the monitoring of mangers, so that funds allocated are spent as envisaged, which facilitates the separation of management and ownership, and helps harden budget constraints. Thus, financial systems and institutions can affect growth by promoting capital accumulation and/or by exerting a positive impact on the pace of productivity growth (Levine 1997). However, the financial sector is growth-supportive only if financial institutions are subject to proper governance structure resulting, in particular, in a behavior of banks that is incentive-compatible with that of depositors or borrowers.

[4] The authors would like to thank European Commission –Food and Agriculture Organization (FAO) Global Governance Programme for Hunger Reduction Project and Association of the Ethiopian Microfinance Institutions for funding the survey. The Regional Strategic Analysis and Knowledge Support System for Southern Africa (ReSAKSS-EA) also provided valuable technical support to the research.

[5] See Demeke and Ferede (2005) on the importance of the Addis Ababa grain market.

The reason thereof is that, under asymmetric information, banks are subject to moral hazard and adverse selection problems, which are at the core of "poor" banking practices. This applies in particular to the granting of bad loans, which themselves are conducive to resource misallocation, inflationary finance, bank failure, financial crisis and ultimately significant output losses (Mehi *et al* 2005).

A well functioning financial system is necessary for several reasons: enhancing the efficiency of intermediation, which is achieved by reducing information, transaction, and monitoring costs; promoting productive investment by identifying and funding good business opportunities; monitoring performance of businesses; enabling the trading, hedging, and diversification of risk; and facilitating the exchange of goods and services (Husain, 2004). These functions results in allocating resources to the most efficient sectors, more rapid accumulation of physical and human capital, and faster technological progress, which in turn lead to higher economic growth. However, financial repression such as high inflation, high reserve requirement of central banks, subsidized credit, credit rationing, ceiling of deposit and lending interest rates can hinder the development of financial sector and undermine economic growth. Financial sector reforms (promoting healthy competition, reduction in borrowing cost, broadening access to finance and easing regulatory constraints) that remove these distortions will have direct impact on improving financial access and promote firm growth.

Access to finance plays a very important role in both firm entry and growth stages of enterprises. Firms use internal and external sources to finance their operations and growth. However, firms in different stages of growth can access financial services from different sources. The main sources of finance for firms at start-up stage include: personal savings, loans or equity from friends and relatives, credit from suppliers and venture capital (usually reserved for high-profit start-ups). Firms in the startup period, when initial investments have not matured yet or whose investment projects are substantially larger than their current earnings, will not have enough

financial means from retained earnings and will face a constraint to their growth project (Hermelo and Vassolo 2007). However, capital constraints could extend beyond the formation stage and limit subsequent firm growth (Variyam and Krabill 1994). Once firms start growing (initial growth) by expanding sales and develop a base of reliable customers, they require more capital which is financed through earned income (reinvest profits from operations) and external finance from local banks, and equity capital by selling shares to local investors, asset-based loans or lease and venture capital.

When firms reach beyond the first phase of growth, a confidence-inspiring record, they can pledge collateral and can be listed as public companies, initial public offering (IPO), and can have access to a broader spectrum of financing opportunities such as selling debt (commercial paper, bonds or stock), banks, etc. But this is not always the case for many small firms. Schiffer and Weder (2002) indicated that even after overcoming the start-up hurdle, a lack of credit frequently hinders the growth of smaller firms during their early years. Once they reach maturity, firms are involved in mergers, acquisitions, restructuring or other activities. Even at this stage, however, firms require external financing and can access it through commercial paper, bonds or stock markets, banks and asset-based loans or lease. The mature firms, which are creditworthy, use their existing assets and cash flow as collateral to lower the cost of loans. However, access to finance alone does not create a viable business opportunity. Access to finance may be necessary but it is not a sufficient condition for firm growth (Nichter and Goldmark 2009).

In the last two decades, there has been a large body of theoretical and empirical literature which shows that the development of the financial sector is crucial for economic growth. Goldsmith's work (1969) provided the first evidence that financial sector development accelerates economic growth. King and Levine (1993) found a strong positive relationship between the financial development indicators with economic growth. Levine and Zervos

(1996, 1998) found out that stock market liquidity and bank development are robustly correlated with economic growth. The study of Rajan and Zingales also supported the hypothesis that the causality runs from financial development to economic growth. Leahy *et al*. (2001) identified a positive and generally significant relationship between financial development and the level of investment. The findings of Koivu (2002) support the view that financial sector development accelerates economic growth. Rousseau and Wachtel (1998) found strong evidence of one-way causality from finance to growth.

There are also research findings which question the one way causality from finance to economic growth. Demetriades and Hussein (1996) found two-way effects between economic growth and financial sector and in some cases the relationship ran from economic growth to financial development. Demetriades (1997) found out that the long-run causality between financial sector and economic growth may vary across countries. Neusser and Kugler (1998) could not find strong evidence that development in financial sector would affect economic growth. In general, when the sample countries of the studies are quite similar in their income level, there is hardly causality running from financial sector to economic growth, and the size of the financial sector does not seem to affect economic growth. Evidence from China reveals that though financial sector and growth in the real sector are cointegrated, the causality runs from growth to finance (Liang and Teng, 2006) which validates the view of Lucas (1998) and Robinson (1952) that financial development follows growth, rather than the finance-growth nexus. In spite of numerous studies, the question of causality between financial sector development and economic growth and identifying the variables to measure financial sector development is not yet settled.

The comparative study of Das and Guha-Khasnobis (2007) on the role of financial sector in the growth process for China and India revealed two different results. The result of the study indicated that India is in a better situation than China so far as the growth potential is concerned due to a more efficient financial system that is likely to suit the changing global scenario.

In order to attain profitability and efficiency, the banks of India have shied away from lending to industry, avoiding risky business projects, and this has affected small and medium (SME) firms more than the large enterprises. The SMEs and new business ventures have virtually no access to capital market, while the corporate sector faces limited constraints of external finance as listed large firms take the path of equity financing, which is also cheaper and with a larger asset base they enjoy a better credit worthy status. The banks may be interested to lend them more but they have alternative cheaper source of finance through the capital market. On the other hand, in China, direct credit program is still a general rule of banks. Often, the government has been issuing directives to the public sector banks to lend to SMEs and state owned enterprises so that they are not forced to close down in the face of loss. This intervention aims at expanding employment opportunities. This has a positive impact on the growth of income, demand and savings, which plays a crucial role for the growth process by accelerating investment. As a result, China's rate of saving and investment has consistently been higher than India and has given it an edge. However, this might result in high non-performing loans (NPLs) of banks in China.

Macroeconomic policies, legal and regulatory framework, information and technology infrastructure have also direct impact on access to finance and firm growth. Rousseau and Wachtel (2004) revealed that when inflation exceeds the 15 to 25% range, financial deepening ceases to increase economic growth. Moreover, well-functioning legal and financial institutions affect firms' ability to get external finance and firm's ability to access finance raise firm's growth opportunities and hence, profit (Maksimovic 1998). In countries with weak legal systems, and consequently weak financial systems, firms obtain less external financing and this result in lower growth. The effect of growth obstacles on firm growth is smaller in countries with better-developed financial and legal systems (Beck et al 2005). Ayyagari *et al* (2005) showed that finance, crime and political instability are the only obstacles that have a direct impact on firm growth and finance is the most robust one among those.

Jonson *et al* (2002) found that firms in transitional economies are more likely to reinvest their profits if they feel more secure about property rights protection in their country. Chinese firms are more likely to reinvest their profits if they are confident in the system of property rights protection and have easier access to credit, with this effect being stronger for small firms (Cull and Xu 2005). Beck *et al* (2004) found that better protection of property rights[6] increases external financing of small firms significantly more than it does for large firms, particularly due to the differential impact it has on bank and supplier finance. Jonson, McMillan and Woodruff (2002) pointed out that it is hard to separate the effects of property rights from external financing because external financing is strongly influenced by the security of property rights.

Demirgic-Kuny and Maksimovic (2005) found that the negative impact of reported financing obstacles on firm growth is stronger for small firms than large firms and stronger in countries with under-developed financial systems. Beck *et al.* (2004) found that small firms and firms in countries with poor institutions use less external finance, especially bank finance, and small firms use significantly more informal finance than large firms. The findings to Beck *et al.* (2008) indicates that under-developed financial systems are particularly detrimental to the growth of small firms. Moreover, small-firm industries grow disproportionately faster in economies with well-developed financial systems.

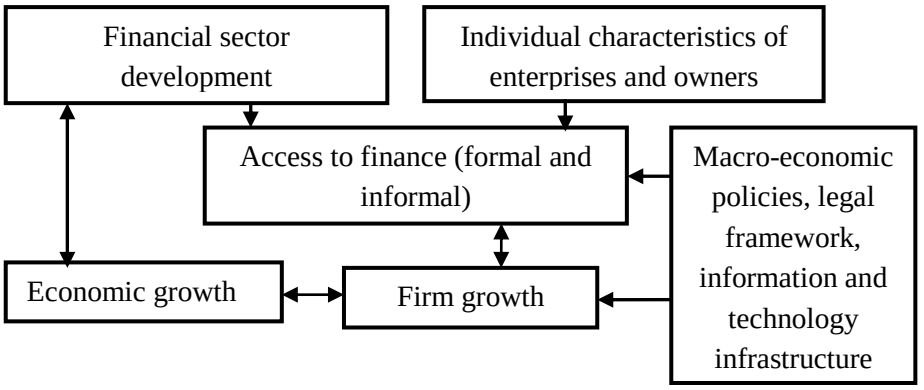
The study of Beck *et al.*(2006) showed that size, age and ownership are the most reliable predictors of firms' financing obstacles. Older, larger and foreign-owned firms reported lower financing obstacles. On the other hand, smaller firms finance a larger share of investment with informal sources of finance, such as moneylenders or family and friends. Moreover, firms in many developing countries get around market failures and lack of formal

[6] The proxies of property rights include the risk of expropriation by the government and those measuring the case and reliability of contract enforcement. Moreover, insecure property rights might compel owners to invest bank funds in their firms and divert internal profits to more secure investment opportunities.

financial institutions by creating private governance systems in the form of long-term business relationships and tight, ethnically-based, business networks (Beck *et al.* 2006). These networks help to overcome the problems of asymmetric information and weak formal contract enforcement systems. However, social networks have a discriminatory effect on non-members who can effectively be excluded from market exchanges.

In Ethiopia, grain traders and millers are expected to generate investable funds from both internal and external sources. Figure 1 indicates that financial sector development, individual characteristics of grain trading and processing enterprises, and personal characteristics of owners such as level of education and social networking influence access to finance in the country. There is also a direct relationship between access to finance and financial sector development and macroeconomic growth. Financial sector can affect economic growth in three ways: (a) it can increase the productivity of investments; (b) more efficient financial sector reduces transaction costs and thus widens the share of savings channeled to productive investments; and (c) the financial sector development can affect saving rates (Pagano, 1999).

Figure 1: Conceptual framework to study the influence of financial access on the growth of traders and millers



Source: Authors' construction

The relationship between firm growth and access to finance is more formally analyzed using econometrics in which firm growth is a dependent variable and the various external financing sources are independent variables. The objective is to test whether or not firm growth is positively associated with access to external financing. Firm growth is measured in terms of changes in employment between time of establishment and survey period (2011). Accordingly, firms are categorized into three groups based on changes in employment. Included in the first category are those experiencing employment contraction between the initial and the survey period, while the second group includes firms that do not show employment expansion or contraction), and the third group includes firms experiencing employment expansion. Among the independent variables hypothesized to explain the employment performance is access to external finance.

Formally, we model firm performance by using an ordered probit approach (see Greene, 1997), and the performance of each firm can be considered as latent variable denoted by y^*. Specifically, the latent variable is related to a battery of observable and unobservable factors of the form:

$$y^* = X'\beta + \varepsilon$$

Where X is a vector of explanatory variables, β is a vector of parameters to be estimated and ε is error term with zero mean and constant variance. We then relate the latent variable to the observable variable y as:

$$y = \begin{cases} 1 & if \quad y^* \leq \gamma_1 \\ 2 & if \quad \gamma_1 \leq y^* \leq \gamma_2 \\ 3 & if \quad y^* \geq \gamma_2 \end{cases}$$

Where γ is a threshold parameter which can be estimated together with other parameters in the model. In terms of probabilities, the empirical model assumes the following:

$$P(y = j / X) = \begin{cases} \Phi(\gamma_1 - X'\beta), \; if \quad j = 1 \\ \Phi(\gamma_2 - X'\beta) - \Phi(\gamma_1 - X'\beta), \; if \quad j = 2 \\ 1 - \Phi(\gamma_2 - X'\beta), if \quad j = 3 \end{cases}$$

where Φ is the cumulative normal density function and j is the number of categories (three in our case). Hence we estimate $P(y = j / X)$ model by including a set of explanatory variables which include firms' characteristics, financial variables and other owner-specific attributes. It should be noted that the coefficients estimated by these models cannot be interpreted as the marginal effect of the independent variable on the dependent variable. However, the coefficients can be interpreted by computing the marginal effects.[7]

4. Analysis and Discussion of Results

(a) Sources of external finance

The potential sources of external finance for grain traders and millers in Ethiopia include: the formal, semi-formal and informal finance providers. The formal finance includes the provision of financial services through banks which fall under the banking law and regulation and supervision of National Bank Ethiopia (NBE), and MFIs which falls under the microfinance law. Semi-formal sub-sector financing includes the delivery of financial services through the cooperatives which are guided by the general

[7] The marginal effects can be computed as: $\frac{\partial P(y = 1/X)}{\partial X_l} = -\beta_l \left[f(\gamma_{j-1} - X'\beta) - f(\gamma_j - X'\beta) \right]$ where f is the derivative of the cumulative normal distribution function and X_l is the l-th element in X.

cooperative law and are supervised by Federal Cooperative Agency (FCA) and regional cooperatives bureaus/agencies. The informal financing includes credit delivered through Iqub[8], relatives and friends, supplier credit, traders, moneylenders, etc.

The results of the sample survey indicate that about 82% of the grain traders and millers had checking and/or saving accounts and are familiar with banking transactions. Nonetheless, accessing finance from formal and semi-formal financial institutions is very limited: less than 6% of the respondents borrowed money to finance working or investment capital needs in 2011 (Table 1). By contrast, own savings or retained earnings accounted for nearly 80% of the working or investment needs of respondents. About 9.8% and 4.3% of the respondents met their working and investment capital needs by accessing supplier credit.

Table 1: Main sources of financing working and investment capital of grain traders and processors (2011)

Sources of finance	Working capital		Investment capital	
	No.	%	No.	%
Own savings and retained earnings	417	78.1	423	79.8
Borrowing from formal and semi-formal financial institutions	23	4.3	29	5.5
Borrowing from informal sources	90	16.9	78	14.7
Total	530	100	530	100

Source: Sample surveys of grain traders and processors, 2011

Table 2 indicates that out of the 530 sample respondents, 451 (about 85%) have accessed finance from formal or informal sources over the course of their operation as grain trader or miller. But the share of formal and informal institutions in providing external finance to grain traders and millers is very

[8] *Iqub* is a rotating savings and credit association (ROSCA) in which a group of individuals agree to meet for a defined period with the objective of saving and borrowing together.

small: only about 10% have taken loan from commercial banks, 7% from MFIs and 3% from Saving and Credit Cooperatives (SACCOs). On the other hand, more than half of the respondents (51%) have received loans from relatives and friends. Although about 51% of the respondents belong to Iqub, only 18% had accessed loans from Iqub. Contrary to the general perception that moneylenders play an important role in situations where the role of formal and semi-formal institutions, only one person reported to have accessed finance from such source. It is not clear if this low rate of use is related to underreporting due to the negative connotations associated with moneylenders or recent government crackdown on moneylenders, or the high interest rate charged by the group.

Supplier credit has an attractive feature of not being guaranteed by morgageable assets which is advantageous for enterprises lacking collateralizable loans (Fafchamps 1997). However, only about 9.1% of the respondents reported that they have ever purchased products on credit (i.e. received supplier credit).

Table 2: Ever received credit from external sources (%)

Sources loans	Number of	Percentage
Formal banks	45	10.0
Microfinance institutions	28	6.6
NGOs	4	0.9
Iqub	83	18.4
Suppliers	41	9.1
Moneylenders	1	0.2
Saving and credit cooperatives	14	3.1
Friends and relatives	232	51.4
Other	3	0.7
Total	451	100

Source: Sample surveys of grain traders and processors, 2011

In response to a question that asked most important growth obstacles, grain traders and millers identified financial constraints as the most important

problem. Limited access to finance was perceived as the most binding constraint by 48% of the respondents. By contrast, illegal traders, price instability and lack of adequate business (demand) were viewed as the most important problem by 25, 7 and 7% of the respondents, respectively (Table 3). Access to credit is believed to overcome the problem of premise and to some extent the competition from illegal traders (through making use of scale economies and better services). The discussion below provides the major challenges of accessing external finance.

Table 3: Most important obstacle to the growth/expansion of this business

	Percent of respondents
Financial constraints	47.8
The presence of illegal traders/brokers	24.7
Lack of premise/working place	6.5
Price instability	6.9
Lack of demand	4.0
Lack of business support services	2.4
Others	7.6
Total	100.0

Source: Traders Survey, 2011

(i) Commercial banks

The Ethiopian banking sector consists of one state-owned development bank (Development Bank of Ethiopia, DBE), two state-owned commercial banks (Commercial Bank of Ethiopia - CBE, Construction and Business Bank - CBB), and 13 private commercial banks, about 5 additional new private banks are under formation. There are no foreign banks in Ethiopia because of the policy that restricts bank and insurance ownership to nationals only. The total number of bank branches increased from 389 (232 public and 157 private) in

2005 to 681 (273 public and 408 private) in 2010[9]. Despite the impressive increase in the number of bank branches and capital, grain traders and millers continue to have limited access to finance from the commercial banks.

Table 4: Reasons for not applying to banks to access loans (multiple responses)

Reason for not applying	Yes	No
No demand because:		
Did not need any credit	32.2	67.8
Did not want to incur debt	9.9	90.1
Of religious reasons	4.9	95.1
Had need but:		
No adequate collateral	44.9	55.5
Did not meet all requirements	9.9	90.1
Felt borrowing process is too difficult	29.3	70.7
Believed interest rates and other costs are very high	29.1	70.9
Worried I cannot pay back the loan	21.0	79.0
Did not know where to look for	9.9	90.1
Other	2.1	97.9

Source: Sample surveys of grain traders and processors, 2011

Theoretically, a trader or a miller may have never received a bank loan for either of two reasons: they had no need or they had the need but were discouraged by different factors. The response of the 90% who never benefited from bank borrowing is summarized in Table 4. The proportion of those with no demand for credit is significant: Nearly a third of the respondents indicated that they did not require credit, 10% did not want to incur any debt, and about 5% did not need credit because of religious factors. On the other hand, a number of respondents had interest in credit but were discouraged by several constraints: about 45% were discouraged by high collateral requirements, 29% by high interest rates and other costs, and 29% by the difficult borrowing process, 21% by fear that they cannot pay back the

[9] National Bank of Ethiopia, Annual Report, 2004/05 and 2009/10.

loan, and 10% by the belief that they did not meet all the requirements. In general, both lack of effective demand and unfavorable terms of borrowing have negatively affected access to formal credit.

(ii) MFIs and SACCOs

Introduced in its regulated form in 1996, the MFIs in Ethiopia registered a remarkable growth in terms of outreach and performance. So far, 31 registered deposit-taking MFIs have been operational. As of March 2011, they had a total of 2.4 million active clients with an outstanding loan portfolio of about Birr 6.2 billion (367 million USD). The MFIs mobilized about 3.0 billion Birr (176 million USD) of savings. About 50 percent of the clients are females (AEMFI, 2010). Many of the MFIs provide similar financial products and use predominantly group lending methodology.

The survey results confirm that despite the recent rapid expansion of MFI activities in the last ten years, MFIs in Ethiopia have yet to cater to the needs of grain traders and millers. As explained in Table 2, only about 7 percent of the respondents who sought external finance have ever used MFI loans. Among the most frequently mentioned factors constraining borrowing from MFIs are: lack of awareness about MFI loan facilities (24.5%); difficulties to form groups (22.5%); small loan size (16.0%); and short-term nature of MFI credit (4.5%). Some respondents claimed that they did not need any credit (about 22%) while a few (6%) reported religion as a reason for no interest in credit (Table 5). Lack of information is a major problem but MFIs are unlikely to meet the credit requirements of grain traders and millers who need larger loan sizes over a longer period of time. The average loan size of MFIs in 2011 were about 2,583 Birr (153 USD), which is too small for grain traders or millers. Recently, larger MFIs have expanded the provision of individual loans to MSE operators in urban areas that need relatively larger loans (above 5,000 Birr or US$296) (Amha 2008), but the loan size of MFIs is still too small as it can only buy about 0.5 ton of *teff*.

There has been a significant increase in the number of financial cooperatives or SACCOs, particularly in rural areas, in the last seven years. In 2010, out of the 35,000 primary cooperatives and 212 cooperative unions, about 8,623 were primary SACCOs (4,286 urban and 4,337 rural SACCOs). Out of the 393,658 member of urban SACCOs, about 42 percent (163,756) were women (AEMFI, 2010). However, the cooperatives seem to have limited contribution in improving credit access by grain traders and millers, as only 3% of the respondents reported to have ever borrowed from SACCOs (Table 2).

Table 5: Factors constraining borrowing from MFIs

Reasons for not borrowing	No. of respondents	%
Have need but		
No MFI operates in this area	8	1.6
Not aware of MFI loan facilities	121	24.5
MFI loans are only short term	24	4.5
MFI loan are too small	79	16.0
Difficulties to form a group (for group lending)	111	22.5
MFIs give priority to rural borrowers	9	1.8
Religious reasons	30	6.1
Others (mainly did not require credit)	112	22.7
Total	494	100

Source: Sample surveys of grain traders and processors, 2011

(iii) Informal sources

As shown above, informal sources have played a more important role than other sources in supplying of external finance to grain traders and millers. There are a number of reasons for this but most respondents agree three main attributes of informal finance providers: little or no formalities (59.3%), little or no collateral (17.2%), and a flexible repayment arrangement (15.1%). The ease with which loans are accessed is by far the most important consideration. Formal and semi-formal financial institutions need to realize that their bureaucratic loan administration is a more important constraint than even collateral requirements.

Informal sector loans are coping strategies to meet urgent cash needs. The amount borrowed is often small and of short duration, hence can rarely be used for investment or expansion purposes. The cost of borrowing can also be very high if all associated expenses, including the time and indirect costs required maintaining ties with providers of informal credit, are taken into account.

Table 6: Main reasons for borrowing from informal sources

Reasons for borrowing	Number of respondents	Percentage
More favorable interest rate	23	6.8
Little process (little or no formalities) or easily available	200	59.3
Little or no collateral requirement	58	17.2
Flexible repayment arrangement	51	15.1
Other	5	1.5
Total	337	100

Source: Sample surveys of grain traders and processors, 2011

Although moneylenders are rarely reported as source of informal loans, they are known for their high interest rate among the business community. Discussions with key informants have indicated that moneylenders often provide loans at 10% interest rate per month or 120% per annum. Some of the prominent moneylenders had even nicknames such as ”World Bank” and “IMF’ in view of their dominance and strict and harsh enforcement mechanism. Since any interest rate above 12% is prohibited by the Civil Code (Article 2479 of the Civil Code), the moneylenders would use an agreement in such a way that a person who actually borrowed 100,000 Birr for one year will sign as if he/she borrowed 220,000 Birr, without mentioning the loan amount and interest rate in the agreement. Recognizing the problem, the government started anti-moneylenders campaign in 2010 and many of prominent ones were brought to court. The cases were televised on national TV and the bank accounts and other properties of the suspects

were frozen until the final verdict, and the most known were sentenced to 25 years of imprisonment along with a large sum of fines. It is not clear if the measure has reduced or simply pushed the practice underground. The prison sentences and fines have also panicked microfinance institutions that charge more than 12% interest rate (per year). Informal lending and borrowing between friends and relatives could also be discouraged. A different approach may be required and one way to protect the business community against usury is to regulate the sector and expand access to formal financial institutions. In the absence of developed inclusive finance sector, such as South Africa, Malawi, Lesotho and others, moneylenders are regulated to establish money lending companies. In China, for instance, informal loan contracts can be protected by law if the interest rates charged are four times the official rate (central bank) or less (Degryse, et al., 2012). Moreover, the 12% cap on interest rates in Ethiopia does not help even the financial sector, given the high rates of inflation (exceeding 30% in 2008 and 2011, for instance) in the country. It should also be noted that average lending rates of commercial banks were 12.25% (above the limit) in 2008/09 and 2009/10 (National Bank of Ethiopia).

(b) Firm growth and access to finance

The growth and expansion of firms is a precondition for economies to grow and generate employment and wealth. Through growth and expansion, firms are able to benefit from scale economies and become efficient and competitive. Firm growth is a way to introduce innovations, increase competitiveness and ensure survival in the market. Nonetheless, growth and expansion is very limited among the grain traders and millers surveyed for this study. As shown in Table 7 below, the majority of the firms have maintained the same level of employment and storage capacity since their establishment: 52% of the sample firms reported no change in their employment. Similarly, 88 and 43% of grain traders and processors reported no change in their warehouse and milling capacity, respectively. Level of employment and capacity of store increased in only 29 and 12% of the cases, respectively. Employment and milling capacity contracted in about 10 and

18% of the respondents, respectively. Overall - it appears that there seems to be growth stagnation, at best, as reflected by indicators of firm growth: close to 61 percent of respondents indicated that employment has either deteriorated or stagnated.

Table 7: Change in employment and storage capacity between start-up and 2011

	Percent of respondents
Change in employment levels (both traders and processors)	
Reduced workers	9.80
No change	51.51
Increased	28.68
Change in storage capacity: traders	
Reduced	0.40
No change	88.00
Increased	11..60
Change in daily milling capacity: processors	
Reduced	18.0
No change	43.2
Increased	38.8

Source: Sample surveys of grain traders and processors, 2011

Table 8 provides the regression results of determinants of firm growth under different sources of finance: credit from formal banks, microfinance institutions (MFIs) including saving and credit associations, and informal sources (see annex for description of variables). The distinction between banks (e.g. commercial banks) and MFIs is due to differences in terms of their focus. While MFIs focus mainly on poverty alleviation, banks are more business oriented and credit allocation is entirely collateral-based. In addition, MFIs and informal lenders may have comparative advantage over banks because they engage in lending relationship that relies on soft information acquired through personalized direct contacts.

To test the nexus between access to external finance and firm growth, we made a distinction between three sources of finance: firms that accessed credit from (i) banks, (ii) MFIs, and (iii) informal sources. Since a small number of firms reported accessing credit in any one year (e.g. the year the survey was conducted (2011)), response to 'Have you ever accessed credit' was used for the analysis. The coefficient for formal banks is negative but insignificant. Credit from MFIs has a positive but statistically insignificant coefficient. The evidence does not support that access to banks or MFIs is strongly and positively correlated with firm growth performance. This could be attributed to lack of regular access to credit from these sources. Irregular access to meet occasional or urgent needs is unlikely to contribute to growth or expansion activities.

Credit from informal sources has a negative and statistically significant, suggesting that informal sources of finance retards the probability of growth. Contrary to the previous studies (e.g. Du and Girma, 2009), credit from informal channels is negatively associated with firm growth.This result is consistent with that of Ayyagari *et al*. (2010) that showed credit from informal sources does not support firm growth or neither offers an alternative substitute to formal financing institutions in terms of the size of loan and of loan period. Degryse *et al*. (2012) also found that informal credit reduces firm growth, especially large firms. On the other hand, only desperate and severely finance-constrained firms may borrow from relatives and friends. Borrowers often need to convince their friends or relatives that they have no other sources and are in a difficult situation, a possible reason for the negative coefficient of informal credit. Hence, prior poor conditions rather that accessing informal credit could be the reason for observed negative and significant coefficient.

Firm-specific attributes such as age of the business, firm size, etc. and owner characteristics such as human capital are factors influencing the growth of traders and millers. Age of owner is positively associated with probability of firm growth. The impact of owner's age on firm growth is characterized by

inverted-U curve, indicating that on average firm growth tends to decline at higher age level. The education variables suggest that firms owned and managed by people with a high school education level experience better growth compared with those with less than primary level of education, suggesting the crucial role of human capital in fostering firm growth. By contrast, the evidence does not support that membership in association or social capital has a positive impact on growth. Weak associations with limited capacity and empowerment to protect the interest of their members or provide valuable services do not contribute to growth.

Initial size as proxied by initial working capital does not matter for firm growth. However, small grain traders and millers grow significantly less compared with large scale processors. For instance, the coefficient for traders is negative and statistically significant, suggesting that small grain traders grow less compared with large scale processors. The latter are likely to take advantage of their economies of scale in terms of both human and physical capital for growth.

The way firms have been established or acquired does matter for firm growth. Specifically, firms that have been established by the owner or purchased tended to grow relatively faster than those inherited (the estimated coefficients are statistically significant). It is likely that mainly entrepreneurial-oriented and proactive people may establish their own or purchase businesses with the intention and investment plan for firm growth (Wiklund, 1998; Zahra and Covin, 1995). Other variables such as perception about risk, and policy uncertainty do not seem to have significant impact on growth. Notice that coefficient on perception about corruption is negative and statistically significant, indicating that corruption seems to hinder firm growth regardless of different finance indicators. This is consistent with other studies elsewhere (e.g. Aseidu and Freeman, 2009; Kimuyu, 2007; Fisman and Svensson, 2001). Firms were asked the following question regarding their perception about corruption: *In your opinion, how true is the following statement: "It is common for enterprises in this line of business to*

pay some irregular additional payments to various government bodies to get things done". Only six responses were allowed: always, mostly, frequently, sometimes, seldom and never. Taking the first four responses together, about half of respondents reported that they needed to pay bribes to government officials to get things moving. This seems to suggest that corruption discourages the incentive for firms to expand their business activities.

Table 8: Determinants of firm growth

Variables	1		2		3	
	Coef.	Z	Coef.	Z	Coef.	Z
Gender (=1 if male)	0.2624*	1.89	0.2448*	1.76	0.278*	1.93
Age of owner	0.0455**	2.36	0.0416**	2.13	0.043**	2.26
Age of owner squared/ 100	-0. 0450**	-2.46	-0. 0417**	-2.24	-0.0428**	-2.33
Age of business	-0.0001	-0.04	-0. 00025	-0.01	-0.0004	-0.02
Age of business squared/100	0. 0108	0.21	0.0066	0.13	0.0003	0.01
Logarithm of initial working capital	0.0372	0.65	0. 0411	0.71	0.033	0.56
Dummy for primary education	0.2632	1.31	0.2469	1.24	0.319	1.58
Dummy for high school	0.4484**	2.08	0.4345**	2.03	0.484**	2.25
Dummy for technical and above	0.4705*	1.71	0. 4670*	1.71	0.507**	1.85
Dummy for grain millers	-1.1237**	-2.34	-0.9394*	-1.90	-0.913*	-1.85
Dummy for grain traders	-1.2993**	-2.67	-1.1160**	-2.24	-1.079**	-2.16
Dummy for innovation	0. 1117	0.69	0.0815	0.51	0.118	0.73
Dummy for membership in trader association	0.0972	0.79	0.0917	0.75	0.121	0. 97
Dummy for risk (high risk taker=1)	-0.0681	-0.45	-0.0733	-0.48	-0.096	-0.63
Dummy for corruption	-0.2274**	-2.11	-0.2071*	-1.94	-0.223**	-2.06
Dummy for policy uncertainty (=1 if unpredictable)	-0.0444	-0.43	-0.0285	-0.27	-0.027	-0.26
Dummy for how business started-self	0. 2764**	2.16	0.2727**	2.15	0.276**	2.16
Dummy for how business started-purchased	0. 5594**	2.75	0.5564***	2.72	0.593***	2.86
Dummy for credit-banks	-0.3373	-1.50				
Dummy for credit-MFIs			0.1504	0.0615		
Dummy for credit-informal					-0.228**	-1.99
/cut1	-0.4920	0.9567	-0.2934	-0.3758	-0.4239	
/cut2	1.1952	0.9557	1.3840	1.3063	1.266	
Number of observations	520		520		520	
Wald chi2(19)	54.08***		47.69***		50.16***	
Pseudo R-squared	0.0616		0.0592		0.0608	

** p<0.1, ** p<0.05, *** p<0.001*

5. Conclusions and Recommendations

The findings of this study indicate that own savings/retain earnings and informal credit account for a significant proportion of the working and investment capital of grain traders and millers. The sample survey results reveal that the contribution of formal financial institutions such as banks, MFIs, and Saving and Credit Cooperatives (SACCOs) is very limited. Relatively more number of firms have accessed credit from friends and relatives (informal credit) but the nature of such loans is likely to be very useful: they are often small with short period of repayment. Purchasing and selling grain on credit is not common among grain traders and millers. Cash flow or liquidity challenges have limited the activities of traders to instant buying and selling with little or no stocking and value additions. Moreover, the requirement of property collateral is the main factor constraining access to bank loans. Respondents have also complained about the bureaucratic and long borrowing processes and high interest rates. Lack of trust, limited awareness, and religious beliefs have also prevented respondents from applying to bank loans.

The quantitative evidence indicates that neither formal nor informal credit has a strong positive influence on growth of grain traders and millers. With no regular and/or long-term access to credit, the opportunity to finance investment is severely constrained. The use of credit appears to be limited to financing emergency cash requirements.

Without a well-functioning financial sector, grain traders and millers cannot invest in storage, marketing and processing facilities, or transport vehicles and machines (for cleaning, milling, etc.). Access to credit is essential in keeping adequate stocks that can smooth out fluctuations in grain prices. It is essential to design a holistic framework to have a deeper financial system, thereby enhancing availability and lowering the cost of credit. First, banking regulations and government policies need to support credit availability to businesses that link smallholders to market and achieve the goal of

commercializing agriculture, which is one of the twin targets of the Agricultural Transformation Agency (the other being raising productivity of smallholders). High reserve and government bond purchase requirements as well as the implicit categorization of grain trading and milling as non-priority sectors need to be reconsidered. Government support in the form of credit guarantee to improve availability and lower the risk of credit should be given particular attention. It should also be noted that a stock market can significantly reduce the demand of large corporate businesses for bank loans. Equity financing is cheaper source of finance for listed large companies. Establishing a stock market in Ethiopia could thus be viewed as an important instrument to increase credit availability for medium and small enterprises such as grain traders and millers.

Second, an enabling environment must be created with the objective of ensuring that property rights are clearly defined and enforceable, reducing information asymmetry, improving the predictability and stability of government policies, and ensuring grain market and price stability. The impacts of the new urban land proclamation on financial sector development needs to be evaluated and amended. Commercial laws that effectively assign and protect property rights and their efficient enforcement are crucial for financial transactions. These include laws, regulations and institutions to create, register and enforce collateral, and establish an effective bankruptcy system. Consultative approaches (with stakeholders) in the formulation of policies and regulations or intervention in grain markets would ensure policy predictability and stability. The government and the banking sector also need to work together in institutionalizing credit registries (to give reliable access to clients' credit history) and ensuring that businesses benefiting or aspiring to benefit from bank loans provide transparent financial statements.

Third, the banking sector needs to develop innovative financial products. Traditional supply-driven financial instruments have failed to meet the cash flows and investment needs of grain traders and millers. Inventory credit, for instance, can be a very important instrument in financing commercial stocks

of grain. The system is often implemented through a three way arrangement between a bank, a borrower (e.g. grain trader or miller) and warehouse operator. Leasing is a good alternative to both debt financing and lack of proper collateral/ guarantee. Leasing overcomes collateral constraints as it requires no collateral or less collateral than commonly required by loans. Finance providers should invest in capacity building to improve and modernize their services.

Fourth, value chain financing approach needs to be adopted in identifying variety of integrated interventions. Such approach strengthens linkages between producers, grain traders, processors, input suppliers and finance providers through a dedicated transaction platform and a fully integrated finance, production, delivery and payment process. This would also assist finance providers to increase outreach, reduce risks and develop innovative products.

Finally, the role of the informal sector needs to be recognized. Eliminating informal finance on the ground that interest rate charges are high when a well-functioning formal finance is not in place may not be a good strategy. A regulated informal finance can compensate for the limitations of the formal sector in serving small and medium firms such as grain traders and millers. Policies need to recognize the information advantage of informal credit and ensure that informal sources complement formal sources. Addressing the problem of high risk and the associated excess interest charges through regulation and licensing can be a step in the right direction.

References

Abubakr, S. (2009). Does nature of financial institutions matter to firm growth in transitional economies? *Eurasian Journal of Business and Economics*, 2(3), 73-90

Aseidu, E. & Freeman, J. (2009). The effect of corruption on investment growth: Evidence from firms in Latin America, Sub-Saharan Africa, and Transition Countries. *Review of Development Economics*, 13(2). 1467-9361.

Asfaw Negassa, & Jayne, T. (1998). Vertical and spatial integration of grain markets in Ethiopia. GMRP/MEDaC. Working Paper 9. Addis Ababa.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2005). How Important Are Financing Constraints? The Role of Finance in the Business Environment. World Bank Policy Research Working Paper 3820 06-01.

_____. (2010). Formal versus Informal Finance: Evidence from China. *The Review of Financial Studies*, 23(8), 3048-3097.

Beck. T & Demirguc-Kunt A (2006). Small and medium-size enterprises: Access to finance as a growth constraints. *Journal of Banking and Finance* 30(32), 2931-2943.

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

_____. (2004). Financing patterns around the world: Are small firms different? World Bank memo.

Beck. T., Demirguc-Kunt, A., Laeven, L. & Levine, R. (2008). Finance, firm size and growth. *Journal of Money, Credit, and Banking*, 40(7),1379-1405.

Bigsten, A., Collier, P., Dercon, S., Fafchmps, M., Gauthier, B., & Gunning, J. (2003). Credit constraints in manufacturing enterprises in Africa. *Journal of African Economics*, 12(1), 104-125.

Chant, E., & Walker, D. (1988). Small business demand for trade credit. *Applied Economics*. 1(20), 861-876.

Cull, R. & Xu, L. (2005). Institutions, ownership, and finance: The determinants of profit reinvestment among Chinese firms. *Journal of Financial Economics*. 77, 117-146.

Das, P., & Guha-Khasnobis, B. (2007). Financial sector development and growth in China and India: Some speculations.

Degryse. H., Lu, L. & Ongena, S. (2012). Formal, Informal or co-funding? Evidence on the financing of Chinese firms. memo., Department of Finance, Tilburg University.

Demetriades, P. & Hussien, K. (1996). Does financial development cause economic growth? *Journal of Development Economics*, 51, 387-411.

Demirgue-Kurt, A., & Maksimovic, V. (1998.) Law, finance and firm growth. *Journal of finance*. 53, 2107-2137.

Du, L. & Girma, S. (2009). Sources of finance, growth and firm size-evidence from China. Research Paper No.03, UNU WIDER, Finland.

Fafchamps, M. (1997). Trade credit in Zimbabwean manufacturing. *World development*. 25(5),795-815.

Fazzari, S., Hubbard, R., & Petersen B. (1988). Financing constraints and corporate investment. Brookings Papers on Economic Activity. 142-195.

Fisman, R. & Svensson, J. (2001). *Are corruption and taxation really harmful to growth*? IIES, Stockholm University, Processed.

Gebrehiwot Ageba and Wolday Amha (2004). Micro and small enterprise development in Ethiopia: Survey report. EDRI. Research Report II. Addis Ababa

Gebremeskel Dessalegn, Asfaw Negassa, & Jayne, T. (1997). Grain market performance in Ethiopia: Major findings and implications for policy. GMRP/MEDaC/MSU. A paper presented at agricultural marketing in Ethiopia: Constraints and opportunities seminar, World Bank.

Greene, W. (1997). *Econometric Analysis.* Prentice –Hall, Inc. NJ, USA.

Hermelo, F. & Vassolo, R. (2007).The Determinants of Firm's Growth: An Empirical Examination. *Revista ABANTE*, 10 (1): 3-20.

Husain, I. (2004). Financial sector reform and pro-poor growth: Case study of Pakistan. Presidential address at the annual general meeting of the Institute of Bankers Pakistan. Karachi. February 21, 2004.

Johnson, S., McMillan, J., & Woodruff, C. (2002). Property rights and finance. *American Economic Review*. 93(5), 1335-1356.

Kan, K. (2000). Informal capital sources and household investment: Evidence from Taiwan. *Journal of Development Economics*, 62:209-232.

King, R. & Levine, R. (1993). Finance, entrepreneurship and growth. *Journal of Monetary Economics*, 32, 513-542.

Kimuyu, P. (2007). Corruption, firm growth and export propensity in Kenya. *International Journal of Social Economics*, 34 (3): 197-217.

Koivu, T. (2002). Does financial sector development affect economic growth in transition countries? Presented at the BOFIT seminar.

Leahy, M., Schich, S., Wehinger, G., Pelgrin, F. & Thorgeirsson, T. (2001). Contributions of financial systems to growth in OECD countries. OECD Economic Development Working Paper No. 280.

Levine, R. (2005). Finance and growth: Theory and evidence. NBER Working Paper 10687. Published in *Handbook of Economic Growth* 05-01.

Levine, R. & Zervos, S. (1996). Stock market development and long-run growth. *World Bank Economic Review*, 10, 323-339.

_____. (1998). Stock markets, banks and economic growth. *American Economic Review*, 88, 537-558.

Lucas, R. (1988). On the mechanics of economic development. *Journal of Monetary Economics*. 22 (1), 3-42.

Mehi, A., Vespro, C., & Winkler, A. (2005). The finance – growth nexus and financial sector environment: New evidence from Southern Europe.

Melzer, B. (2011). The real cost of credit access: evidence from the payday lending market. *The Quarterly Journal of Economics*, 126,517-555.

Mwagore, D., Gasana, E., & Cherogony, M. (2009). Value chain financing: Opportunities and challenges. Joint rural finance regional thematic workshop 16-18 September 2009. Kigali.

Neusser, K. & Kugler, M. (1998). Manufacturing growth and financial development: evidence from OECD countries. *Review of economics and statistics*, 80, 638-646.

Nichter, S., & Goldmark, L. (2009). Small firm growth in developing countries. *World Development*. 37(9), 1453-1464.

Nisanke, M. & Aryeetey, E. (1995). Financial integration and development in Sub-Saharan Africa. Report prepared for the African Technology Department. World Bank. Washington D.C

Oi, L., O., & Teng, J. (2006). Financial sector development and economic growth: Evidence from China. *China Economic Review*. 17(4), 395-411.

Pagano, M. (1993). Financial markets and growth: An overview, *European Economic Review*, 37, 426-434.

Rajan, R. & Zingales, L. (1998). Financial dependence and growth. *American economic Review*, 88, 559 -586.

Robinson, J. (1952). *The rate of interest and other essays*. Macmillan, London.

Rousseau, P. & Wachtel, P. (1998). Financial dependence and growth. *American Economic Review*, 88,559-586.

Schiffer, M., & Weder, B. (2001). Firm size and the business environment: Worldwide survey results. IFC working paper number 43. Washington, DC: International Finance Corporation.

Terrafina (2009). *Reader on value chain finance: A compilation of international documentation on value chain finance*. The Netherlands.

Variyam, J., & Kraybill, D (1992). Empirical evidence on determinants of firm growth. Economics Letters, 38(1),31-36.

Wachtel, P. (2001). Growth and finance—what do we know and how do we know it? *International Finance*, 4,335-362.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing*, 20(1), 71-91.

Wolday Amha (2008). A decade of microfinance institutions (MFIs) development in Ethiopia: Growth, performance, impact and prospect (2008-2017). Occasional Paper No. 21. AEMFI. Addis Ababa

Wolday Amha. & Eleni Gebremadhin, E. (2003). Getting the grain market right in Ethiopia. Addis Ababa.

Wolday Amha & Peck, D. (2010). Agricultural finance in Ethiopia: Diagnostic and recommendation. A draft report submitted to Bill and Melinda Gates Foundation (BMGF).

World Bank. (2005). Rural finance innovations: Topics and case studies. Report No. 32726-GLB. Washington DC.

Zahra, S. & Covin, J. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: a longitudinal analysis. *Journal of Business Venturing*, 10(1),43-58.

Annex

Description of variables used in the regression

Description of variables	Mean	Std. Dev.	Min	Max
Owner and business attributes				
Dummy for gender (=1 if male)	.890566	.3124778	0	1
Age of owner (years)	39.7656	13.52543	18	99
Age of business (years)	10.05245	8.621629	.4	50
Logarithm of initial working capital	9.864842	1.660706	5.703783	17.72753
Education (ref: unskilled)				
Dummy for primary education	.4415094	.4970362	0	1
Dummy for high school	.3509434	.4777161	0	1
Dummy for technical and above	.1226415	.3283352	0	1
Business size (ref: Processors)				
Dummy for grain millers	.4716981	.49967	0	1
Dummy for grain traders	.4716981	.49967	0	1
Policies, innovation and networking				
Dummy for innovation	.1916509	.3939738	0	1
Dummy for membership in trader association (=1 if member)	.3358491	.4727326	0	1
Dummy for risk (high risk taker=1)	.8377358	.3690413	0	1
Dummy for corruption (=1 if paid irregular additional payments to get things done)	.4914286	.5004033	0	1
Dummy for policy uncertainty (=1 if unpredictable)	.5716981	.4953002	0	1
How the business started (ref: inherited)				
Dummy for how business started-self	.6566038	.475291	0	1
Dummy for how business started-purchased	.1018868	.3027852	0	1
Finance indicators				
Dummy for credit-banks	.140625	.3481788	0	1
Dummy for credit-MFIs	.0528302	.2239057	0	1
Dummy for credit-informal	.5056604	.5004403	0	1