

The Leverage of Access to Finance on the Performance of Firms: A Study Conducted in Ethiopia

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Abstract

This study conducts an empirical investigation of the effects of access to finance on the performance of firms in Ethiopia. The objective of this study is to indicate the leverage of access to finance on performance of firms in Ethiopia. The study used regression analysis between the access to finance indicators and firm performance. This study finds that access to finance measured by the share of working capital granted and the percentage of bank loan becomes significant and robust with all firm performance indicators in the study. The contribution of bank loan found to be very strong to sales growth and profitability. The availability of a credit or overdraft line facility boosts up sales, profitability, employment and investment growth. In the business environment where there is narrow financial system and financial resources constrained, an exposure to finance makes difference on firms' growth and performance in Ethiopia.

Keywords: Access to finance, Firm performance, Profitability, Ethiopia.

Introduction

Well-developed financial markets provide payment services, mobilize deposits, and facilitate funding for the purchase of fixed assets – such as buildings, land, machinery, and equipment – as well as working capital. Efficient financial markets reduce the reliance on internal funds or informal sources such as family and friends by connecting firms that are creditworthy to a broad range of lenders and investors. As it was explored by Levine, (1997) a well-developed financial system reduces information and transaction costs, allocates resources, mobilizes savings and facilitates the trading, hedging, diversifies risk for businesses and also positively affect a country's economic development. Finance influences growth through many channels. Finance helps growth by raising and pooling funds, allowing more risky investments to be undertaken; by allocating resources to their most productive use; by monitoring the use of funds; and by providing instruments for risk mitigation (Claessens, 2006).

According to Beck and Demurguc, (2006) access to finance opens an opportunity to individuals or enterprises access financial services, including credit, insurance, and other risk management services. Access comprises of four key dimensions: physical accessibility, affordability, inclusiveness (do not exclude potential users) and utility (providing features that meet the users' needs). It is the ability of a firm to get and use financial services that are affordable, usable and meet their financial needs (Claessens 2006). Clarke, Xu, and Zou (2003) confirmed that finance help in decreasing the level of inequality and as the more concentrated income is, the higher poverty becomes and, finance thus alleviates poverty. The economic growth is more influenced by creating conducive overall business environment for easy firm entry and exit, sound property rights, and proper contract enforcement. Finance, however, accelerates growth by removing constraints that impede small firms more than large firms. However, in many developing countries the allocation of finance is privileged to only few and excluded the vast majority. It is meant that finance is allocated on the basis of connections and nonmarket criteria, acting as an entry barrier to small business (Rajan and Zingales 2003). According to Beck *et al.*, (2009) measures of access fall into two broad categories, those based on the providers' information, such as banks and other service providers, and those based on users' information – individuals, households or firms. Payments services, savings or loans and credits provided by banks, insurance services, or microfinance institutions can measure access to finance an access to the finance institutions. Another aspect would be the uses of specific financial products, such as debit cards, credit cards, life insurance, home mortgages, among others. Hence, the objective of this study is to identify the relation between access to finance and performance of firms in Ethiopia.

Related literature

Efficient financial markets reduce the reliance on internal funds. Excessive reliance on internal funds may indicate potentially inefficient financial intermediation. Increasing the access to external finance has positive impacts. According to Hallwark-Driemeier, 2003, a one standard deviation increase in their index came with a 4.6 percent increase in sales, a 1.8 percent increase in investment, and a 10 percent increase in TFP. A poor

financial market leads to a tight borrowing constraint. This leads to a smaller scale of operation and smaller firms being operated, hence to lower aggregate capital to output ratio and lower TFP (Bah and Fang, 2011). Love (2003), employing a sample of 36 countries, verifies that financial development affects firms' investment by increasing the availability of external finance. Where there is a weak financial development the effect of financial constraint is very stronger to firms. Wurgler, (2000) shows that the rate at which resources are allocated to productive industries depends on the development of the financial system. Industries that are dependent on external finance grow faster in countries with better developed financial systems (Rajan and Zingales, 1998). Where undersized financial sectors, usually bank-led with little or no financial markets development, play very little in lifting economic growth, and corporate growth and productivity (Henderson, Papageorgiou, and Parmeter, 2013). Previous literature also commented more indicators of poor financial development in developing countries, such as poor institutions (Demetriades and Hook Law, 2006), insufficient financial competition due to political deadlock (Rajan and Zingales, 2003) high inflation (Rousseau and Wachtel, 2002) may reduce the finance-growth relationship.

These days, the role of finance has got emphasis and became an international agenda to expand financial inclusion that is the extent to which households or firms have access to financial products and services. In addition to supply-side indicators of access to finance such as branch density, the number of ATM or, more recently, market penetration of mobile phones as a proxy for the market of mobile banking, consensus has been found to measure financial inclusion at the international level by the share of households or firms that have access to financial services (GPFI, 2013) and is now regularly surveyed by international organizations (IMF Financial Access Survey). Chauvet and Jacolin, (2015) contended that financial depth does not affect the growth of firms in developing countries on average, but has a negative impact on firms' growth at low levels of financial inclusion. Financial inclusion alleviates liquidity constraints, promotes investment and has therefore important effects on industrial structure, firm size, competition, and activity in the informal sector vs. the formal, particularly in low income countries (Beck, Demirguc-Kunt, and Maksimovic, 2005). Focusing on Africa Harrison, Lin, and Xu (2014) show that a wide array of firm performance, sales growth, productivity, investment rate and export intensity are affected more affected by financial access as well as weaknesses in business environment and poor infrastructure. Galindo, Schiantarelli, and Weiss (2001) find that financial reform helps increase in the efficiency with which investment funds are allocated.

Finance was asserted to be the most binding constraint across sectors and countries, suggesting that reforms in this area could yield broad benefits, including by helping to address the problem of the missing middle in developing countries. Although reforms in finance take time, and a quicker development strategy could involve identifying the binding constraints in a specific subsector and trying to address them through market-based measures and selected government interventions. Having a loan or overdraft facility increases the growth in the number of permanent employees at a firm by 3.1 percent; being credit constrained reduces a firm's employment growth by 1.9 percent; having sales credit increases a firm's growth by 2.6 percent; and having external investment funds increases growth by 4.2 percent (Dinh, and Clarke, 2012).

1.2. Firm Size, age, Ownership, Type of industry and access to finance

According to Previous literature the size of firm associates with its ability to access finance. For example, Honhyan (2009) found that larger firms tend to be more diversified and fail less often, so size can be an inverse proxy for the probability of bankruptcy. Cassar (2004) argues that it may be relatively more costly for smaller firms to resolve information asymmetries with debt providers. In addition, transaction costs are typically a function of scale and may be higher for smaller firms. It is also possible that small firms have fewer opportunities to raise capital because capital markets are out of reach due to their size. Small firms are often credit constrained and cannot borrow to engage in productive investments, which limits their growth. If lack of access to finance prevents small firms from growing, the allocation of resources will be distorted. Resources will not be able to flow to where they are most productive, and growth will suffer (Dinh and Clarke 2012).

Demsetz (1973) argued that large firms are inherently more efficient than small firms due to superior management. Consequently, overtime, the more efficient firms are rewarded with both growth and profit. Hence, profitable firms have higher access to finance given the assurance it gives to the lenders on financial sustainability.

Dinh, and Clarke, (2012) further evidenced that access to finance is a serious constraint for firms in Africa and is especially serious for small firms. Fafchamps and Quinn, (2012) find that firms in China and Vietnam have better access to credit than firms in Ethiopia, Tanzania, and Zambia Firms in the East Asian countries were more likely to purchase inputs on credit, were more likely to finance investment with bank loans, and were more likely to use bank credit than firms in Africa. Chinese firms were also more likely to have an overdraft facility, pay lower interest rates, and face lower collateral requirements than African firms. Similarly, Dinh, Mavridis, and Nguyen (2012) indicated that trade and bank credit are both associated with firm growth. Small African firms were also far less likely to have access to credit. Using Euler equation methodology, Laeven (2003)

revealed that progress in financial liberalization reduces firms financing constraints, especially for small firms.

Experienced firms provide reliability to lenders regarding their credit worthiness. Ngoc *et al.* (2009) asserted that it is often difficult and expensive for new entrants and SMEs to access bank financing, due to information asymmetry between the banks and firms. Bougheas *et al.* (2005) argue that young firms are more susceptible to failure than older ones. In contrast, younger firms may lack the necessary connections on the providers of finance and also the historical performance of the firm may be lacking.

There are several types of firm ownership. For example sole proprietorship, partnership and share companies with or without publically traded. Dietmar *et al.* (1998) demonstrated that incorporated firms under limited liability, have higher growth than unincorporated firms. The association between incorporated firms and growth could explained by factors: First, corporations have the ability to issue stock and the stockholders are free to resell the stock. This ability facilitates the process of accessing finance for growth. The ownership structure was found to affect firms' access to capital. Firms incorporated have more access to finance than their unincorporated counterparts. Reason attributed to this is that incorporated firms have inherent characteristics such as unlike unincorporated firms which are likely to dissolve in the event of death or withdrawal. Continuous existence therefore is an important feature to lenders because it promises the fulfillment of obligations in an event of uncertainty in the owners of the business (Musamali, and Tarus, 2013). Dinh and Clarke (2012), further interested to signify which source of finance is most comfortable to what size. Hence, their results show that access to finance in the form of a loan, sales credit, or external finance helps microforms the most. Sales credit is important only to micro and small firms, probably because it substitutes for bank loans. Having a loan or overdraft facility and receiving external finance for investment help growth among firms of all sizes across regions. Their analysis shows that firm size and age are significantly correlated with firm growth. Distinguishing across different types of ownership, they find that firms enjoy greater growth if they are exporters, are part of entities with multiple establishments, are foreign owned, or are privately owned.

Some industries are characterized by higher risk and thus, lenders assess risk levels of the industry. Risk exposed sectors may not access as much finance as compared to other less risky sectors. Similarly, some sectors are more profitable than others. Because profitability is a yardstick used by lenders, then it means that some sectors may be favored in access to finance. Because of its asset tangibility for collateral manufacturing firms have more access to finance. It is also noteworthy that the risks in each industry vary and that service industry is relatively volatile as compared with manufacturing firms (Musamali, and Tarus, (2013). According to Christy *et al.* (2000), access to finance is one of the key constraints to agro-industrial development and success. Firms in the agricultural sector often have difficulty in accessing capital for either new ventures or expansion of existing business as they are perceived to be high-risk businesses with low returns. As a result, an agribusiness portfolio is not an attractive option for investors who tend to have an appetite for high returns if high risk (and a narrow inter-temporal investment horizon) is involved. Importantly, the risk profile of agribusinesses differs from that of other sectors in that the former are faced with both inter- and intra- marketing year price and production risks. These risks have further been propelled by the increased globalization of the free trade in agricultural commodities. The agribusiness credit crunch is further exacerbated by most bankers' ignorance of the sector, which increases the chance of loan applications being dismissed entirely on the perception of *low profitability*. To this end, there exists a higher need to create an enabling environment for the provision of financial services to the sector. Dinh and Clarke (2012) pronounced that different sectors confront different obstacles. For example, in the manufacturing sector, access to finance, informal sector competition, tax rates, and labor regulations matter the most, while in the sales and services sectors, only access to finance and informal sector competition are negatively and significantly correlated with firm growth .

Research Methodology

This study used quantitative research approach which addresses research objectives through empirical assessments that involve numerical measurement and analysis approaches. It considers three different methods to assess the effect of access to finance on performance of firms. Firstly, it takes firm-level data analysis by considering only access to finance indicators and the key minimum control factors to minimize the multicollinearity among indicators. Secondly, it takes the industry-level indicator for access to finance to ensure the exogeneity among indicators. Finally, the study included the additional business environment indicators to minimize the effect of missed factors in the model estimate. The study employs regression analysis to find out the relation between different indicators. The current study included 1492 firms for its analysis.

Definition of variables

1. **Access to finance:** even though there are many aspects of measuring the access to finance, this study used the amount of credit/loan approved during the period and the share of working capital borrowed from a bank and non-bank institutions.
2. **Firm Age** is determined as the difference between the year that the plant started operations and current

- year. Further, it is classified into three categories as 0 to 5 years old (young firms), 6 to 10 years old (matured age group), and more than ten years old (oldest firms).
3. **Managers experience:** disclosed by the number of years managers served a business.
 4. **Firm Size (dummies):** Firm size is measured by the firm's average number of employees over the previous three years.
Small and micro are defined as firms with fewer than 20 employees, medium as those with between 20 and 99 employees, and large as those with 100 or more employees.
 5. **The share of foreign and domestic ownership:** firms with a percentage of foreign ownership will have more exposure to technology, finance and market access than local firms do. Hence, the current study controls the ownership in the regression model taking into account of the percentage of foreign ownership.
 6. **Industry dummies:** The following industry dummies are defined and set as control variable namely, food, garments, textiles, chemicals, plastic and rubber, Non-metal & minerals and other manufacturing, wholesales & retail services.
 7. **Competition** refers to the number of competitors in the target market of a firm. If a firm has many competitors and if it exports some of its goods to foreign market, it faces a higher level of competition than firm limited to only local market. A dummy value of (1) was assigned to firms reporting more than three competitors and (0) for others.
 8. **Capacity utilization** is the production level compared to the full production capacity, which is the maximum level of production that could reasonably be expected under normal conditions fully utilizing the machinery, equipment, and employees in place (World Bank, 2015). It is measured by the average percentage of capacity used during the previous period.
 9. **The share of output produced for export:** firms that have access to international market and integration possibly acquainted with varied experience and opportunities than locally limited companies. It can be measured by the proportion of sales accounted for direct and indirect exports.
 10. **Foreign technology License Certified-** A firm takes a dummy value of 1 if it has any alien technology certification which enables firms to innovate and become more efficient.
 11. **Firm performance:** refers to both financial and non-financial metrics designed to measure the achievement of organization goals. The current study considers both objective financial and non-financial performance indicators. The financial indicators sales return, value-added (profitability) and annual investment growth, and objective non-financial socio-economic indicator employment growth as dependent performance are included. In addition, non-financial market performance indicators namely improvement in product quality and growth in market share are regressed with market indicators. Hence, the detail discussion of market-related indicators is given under section of market environment analysis.
 - 11.1. **Sales:** Sales revenue earned during the study period.
 - 11.2. **Value-added:** is determined as the difference between sales revenue and the total cost of goods sold during the survey period.
 - 11.3. **Employment growth:** Annual growth in employment calculated as the increase in employment divided by the average employment over the period. The log difference between the current number of permanent employees and the number of permanent employees three years before the survey year, divided by the difference between the survey years.
 - 11.4. **The rate of investment** is measured in the logarithm of investment made during the last fiscal year.

Model Specification

The model Specified for this study is of the form:

$$1. \text{ Firm performance} = \alpha + \beta_1 (\text{Firm Size}) + \beta_2 (\text{Firm Age}) + \beta_3 (\text{Ownership Structure}) + \beta_4 (\text{Firm city}) + \beta_5 (\text{Business sector}) + \beta_6 (\text{Finance}) + \varepsilon$$

Where: $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 is partial slope coefficients and ε , is the error term.

Model estimation with additional business environment indicators

$$2. \text{ Firm performance} = \alpha + \beta_1 (\text{Firm Size}) + \beta_2 (\text{Firm Age}) + \beta_3 (\text{Ownership Structure}) + \beta_4 (\text{firm city}) + \beta_5 (\text{Business sector}) + \beta_6 (\text{finance}) + \beta_7 (\text{infra}) + \beta_8 (\text{Gov.reg}) + \beta_9 (\text{taxation}) + \beta_{10} (\text{technology}) + \beta_{11} (\text{training}) + \varepsilon$$

Where: $\beta_1, \beta_2, \beta_3,$ and β_4 is partial slope coefficients and ε , is the error term.

Additional business environment indicators include infrastructure development (infra), Government regulation, tax administration, use of technology and R&D, and employees' training.

We focus on firms of different sizes (small, medium, and large), age, ownership (percentage of foreign ownership), and type of business sector which includes food, garment & textiles, chemicals, metal & nonmetal, construction, electronics and others-trade & services. The dependent variable access to credit is measured by the log of firm's outstanding loan.

Access to finance effect analysis by firm-level

Access to finance allows firms to finance more projects, leads to an increased productivity through higher capital intensity and technological progress leveraged by the new equipment. The highest gain could also be derived from the developed financial system by mobilizing and allocating resources to the projects that will generate more products.

The table 1 discloses the access to finance captured by share of working capital granted to firms and amount of bank loan approved in the recent year. Both indicators are significantly and positively associated with the firms' total value added, sales returns and employment growth. Since working capital is usually granted to run the operating business activities, the study deliberately ignored it to link with the level of investment, but the bank loan is significantly inclined with investment. Both the share of working capital financed by credit and amount of loan approved are associated with value-added and sales growth, but employment growth is related only to loan for working capital. Besides, one percent change in bank loan results in 0.65 percent changes level of investment. Hence, this outcome is steady with earlier studies such as Fajnzylber, et al., (2009), Hallward-Driemeier, (2003), and Bah et al., (2015) that access for credit found to be strongly and positively associated with sales, productivity and increase in investment across firms. Dinh and Clarke, (2012) also disclosed that having a loan or overdraft facility increases the growth in the number of permanent employees and firm's growth. Better access to finance is a fundamental factor that leads to higher growth across all the size spectrum of firms. The availability of efficient financial markets reduces the reliance on internal funds or informal sources such as family and friends by connecting firms that are creditworthy to lenders and investors. On the other hand, poor financial market results in a tight borrowing constraint. The underdeveloped financial system leads to a smaller scale of operation by smaller firms and thereby results into lower capital to output ratio and lower Productivity (Bah and Fang, 2015).

Table 1 Access to finance and firm performance

VARIABLES	(1)	(2)	(3)	(4)
wkborr	0.142** (0.0126)	0.167*** (0)	0.0182** (0.0121)	
Inloan	1.770*** (0.0058)	1.776** (0.0281)	0.0489* (0.063)	0.657*** (0.00168)
largsize	-1.705 (0.525)	-2.340 (0.243)	0.354 (0.457)	1.062* (0.0564)
logage	1.157 (0.600)	-3.793** (0.0206)	-0.113 (0.709)	0.0945 (0.536)
Frn	0.0621 (0.158)	0.0418** (0.0363)	0.00499 (0.653)	0.0138 (0.116)
mgrexp	-0.0264 (0.757)	0.152* (0.0830)	-0.0287** (0.0325)	-0.206 (0.266)
Capacity utilization(%)	0.0296 (0.505)	0.0684 (0.222)	-0.00222 (0.815)	-0.901* (0.0585)
expo	-0.0835 (0.983)	2.959 (0.376)		1.687** (0.0186)
compt	-1.206 (0.630)	3.562 (0.193)	0.984** (0.0469)	0.178 (0.712)
Constant	-19.06* (0.0841)	-17.90 (0.106)	0.314 (0.835)	7.049*** (0.000257)
Observations	130	153	171	94
R-squared	0.143	0.223	0.158	0.317
sector dummy	yes	yes	yes	yes
city dummy	yes	yes	yes	yes

Note : The firm's characteristics foreign owned (Frn), Age (logage), size, management experience(mgrexp) and competition(compt) are included along with access to finance indicators: percent of working capital borrowed(wkborr), bank loan approved(Inloan) are used to regress with the dependent variables(all in log form) sales, value added, employment growth and rate of investment. Sector and city effects are also controlled. Robust p-val in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The effect of finance on performance based on the Industry-location level information

Once again, this study proved that access to credit is significantly related to all the firm performance dimensions in the sector-location level average as well. However, the proportion of working capital borrowed by the firms

does not bear its significance, and it was dropped from the model estimate and instead, replaced with corporate governance represented by external audit dummy. Accordingly, it implied a significantly positive association with only sales performance. Similarly, Ferrari and Dhingra, (2009) claimed that the productivity of firms is inflicted by whether the firms have been given credit, or have had an external audit done. Firms with improved access to finance and overall corporate governance had higher employment than do not. Mostly in Ethiopia, lenders require firms to make external audit to qualify for the credit. Hence, external audit and governance help firms to get finance from banks in Ethiopia.

Access to finance is positively associated with both firm level and sector-city average estimates with all the performance measures. Even though its level of significance varies in both approaches, finance is the most critical element with the firm value-added indicator in Ethiopia.

Table 2 Industry-sector level finance effect on firm performance

VARIABLES	(1)	(2)	(3)	(1)
Inloan	0.744***	1.546**	0.118***	0.741***
	(0)	(0.0269)	(0.00985)	(0.0003)
Cogov(1)	0.609*	0.180	-0.0245	0.487
	(0.0688)	(0.937)	(0.909)	(0.494)
largsize	0.734***	-1.458	0.376	0.630
	(0.00280)	(0.587)	(0.122)	(0.210)
logage	0.121	0.802	-0.124	0.155
	(0.528)	(0.678)	(0.254)	(0.323)
Inmgexp	0.0759	0.313	-0.389***	-0.0339
	(0.624)	(0.824)	(0.00140)	(0.118)
Capacity utilization(%)	0.189	1.713		-0.0213*
	(0.466)	(0.481)		(0.0551)
Constant	3.297**	-20.93	0.258	3.460***
	(0.0352)	(0.188)	(0.696)	(0.00906)
Observations	167	130	376	97
R-squared	0.617	0.080	0.068	0.303
sector dummy	yes	yes	yes	yes
city dummy	yes	yes	yes	yes

Note : The firm's characteristics foreign owned (Frn), Age (logage), size, management experience(mgexp) and competition(compst) are included along with access to finance indicators: sector-city average working capital borrowed(%)(wkborr) and sector-city average bank loan approved(Inloan) are used to regress with the dependent variables sales, value added, employment growth and rate of investment. Sector and city effects are also controlled. Robust p-val in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Analysis with additional business environment indicators

The Table 3 executed a regression with all-inclusive business environment indicators and other control variables, to check the robustness of the result of each business factor. It summarizes the results of business environment indicators with respect to business performance, in which most of the variables take the expected sign. Further, the estimate embraces the outcome with both sector and location as a control variable for each performance indicator.

Firms that use information communication technology are more likely to increase their sales and productivity than those do not use. A one standard deviation increase in the email usage could bring an increase of 0.75 percent in sales revenue, and 3.66 percent in value added.

The availability of a credit or overdraft line facility boosts up sales growth. Firms having overdraft facilities have 0.68 percent more sales than those do not.

Government inspection is more prevalent in productive firms, but senior manager's interaction adversely affects productivity. A unit management time spent dealing with regulation decreases 3.47% of value added to the operation. Further, a one standard deviation delay to get foreign exchange decreases firms' value-added and employment growth by 7% and 1%, respectively. In addition, a percentage foreign exchange permit increases about 2.5 % and 0.34% in profitability and sales correspondingly.

The existing tax rate is perceived as less obstacle by profitable firms. However, firms challenged with tax administration are characterized by superior profitability. On the other hand, firms with increasing sales return and employees perceive even the tax administration as less impediment to their operations. It is found that tax administration is inversely related to employment growth and sales volume.

Every additional workers' year of education contributes to yield 1.84% in profitability. Moreover, a

percentage increase in skilled workers estimated to yield 0.97%, 4.6%, and 1.1% increase in sales, value added, and employment growth, respectively. Finally, introducing new product and engaging in R&D significantly lifts up sales and value additions. The analysis of all-inclusive business environment indicators with investment growth was dropped out due to a small number of data on investment with respect to many variables.

Table 3 All inclusive BE measures and firm performance dimensions

VARIABLES	(1)	(2)	(3)
	sale	vadd	emgw
Capacity utilization (%)	0.763*** (0.00750)	1.522 (0.201)	0.968** (0.0249)
largsize	0.218 (0.591)	-1.484*** (0.00354)	-0.258 (0.523)
Log(Age)	0.667*** (0)	1.002*** (0.00132)	-0.415* (0.0967)
Competition	0.827*** (0.00649)	-1.670 (0.116)	0.846* (0.0741)
Ln(Power out _mean)	-0.152 (0.632)	-4.918*** (0)	-0.175 (0.693)
Email1	0.755*** (0.000781)	3.662*** (0.00075)	0.291 (0.301)
Credit line1	0.680** (0.0162)	-0.288 (0.648)	-0.168 (0.757)
Gov inspection _mean	0.0499 (0.913)	2.207 (0.245)	0.511 (0.223)
Ln(MgrTime _mean)	-0.506 (0.124)	-3.478*** (0.00566)	-0.261 (0.239)
Ln(Forex dys _mean)	-0.243 (0.465)	-7.034*** (0.007)	-1.015*** (0.00031)
Ln(Forex _mean)	0.346** (0.0183)	2.521*** (0.00950)	0.0444 (0.729)
Taxrate	0.365 (0.242)	-2.150*** (0.00057)	0.577 (0.430)
Taxadministrartion	-0.710** (0.0257)	2.562*** (0.00291)	-1.260* (0.0567)
Educ year _mean	0.977 (0.365)	1.84** (0.0353)	1.253 (0.411)
Ln(skilled _mean)	0.979*** (0)	4.639*** (0)	1.115*** (0)
Newprodct1	0.363* (0.0852)	-0.602 (0.423)	0.946*** (0)
R&d2	0.232 (0.549)	3.681*** (0.00375)	-0.0211 (0.948)
Ln(labor intial)			0.0357 (0.798)
Constant	1.679 (0.591)	-52.80 (0.103)	-7.793** (0.0452)
Observations	176	148	149
R-squared	0.494	0.226	0.273
sector dummy	yes	yes	yes
city dummy	yes	yes	yes

Breusch-Pagan heteroskedasticity Ho: Constant variance

chi2(1) 1.7 9.05 0.24

Prob > chi2 0.191 0.7 0.623

Test of multicollinearity by the variance inflator factor

Mean VIF 2.18 1.38 1.37

Robust pval in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: Author Estimation

Conclusion and Policy implication

Access to finance measured by the share of working capital granted and the percentage of bank loan becomes significant and robust with all firm performance indicators in the study. The contribution of bank loan found to be very strong to sales growth and profitability.

Access to finance is significantly related to firm performance in both firm and industry level. This finding indicates that accessing finance is a key determinant factor for performance of firms in Ethiopia. *The availability of a credit or overdraft line facility boosts up sales, profitability, employment and investment growth.* In the business environment where there is narrow financial system and financial resources constrained, an exposure to finance obviously makes difference on firms' growth and performance.

Majority of literature highlights the positive impact of financial development on growth of firms. In a competitive and strong financial markets, firms may not be finance constrained for their productive projects. If financial system is not inclusive; small, young, unincorporated firms' projects may not be easily financed. Hence, inclusive financial system should be designed to boost sustainable business growth and performance.

To address the access to finance problem, it might not need the government's direct involvement in the form of subsidies, but rather it needs its liberalization of policy and facilitation of the improvement of an enabling financial infrastructure. Besides, alternative financing mechanism such as lease financing facility would also fundamentally support manufacturing firms if it were widely utilized.

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