

Gender, Credit Constraints and Performance of SMEs in Cameroon

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Abstract

The role of small and medium enterprises (SMEs) in providing productive employment and earning opportunities has emerged as an important concern among policy makers, donor agencies and researchers. It is estimated that women-owned businesses account for over one-third of all firms, and they are the majority of businesses in the informal sector in African countries. Second, the ability of women to formalize and grow their businesses, to create jobs, and to enhance productivity is hampered where legal and institutional barriers exist that affect men's and women's enterprises differently. Despite the growing body of research on female managed and/or owned firms' under-performance hypothesis, as well as on the difficulties female entrepreneurs faced in applying for and securing loans, there are no studies aimed at analysing the gender discrimination in credit access and its effect on SMEs' performance in an African context.. Secondly, the literature on gender discrimination on the capital market is almost always conducted in the US or in Europe. This study will examine entrepreneurs' gender and financial constraints trying to relate the later to firm performance in Cameroon.

INTRODUCTION

Multi-billion dollar aid portfolios across countries are directed at fostering the growth of SMEs. Until the 1970s most developing country governments paid little attention to small scale enterprises, instead promoting industrialization through policies that favoured large firms which had only moderate success in generating employment growth and alleviating poverty. A woman-owned business has been defined as one in which 50% or more of the equity is owned by a woman or women (Zimmerman and Scott, 2006). Despite the growing body of research on female managed and/or owned firms' under-performance hypothesis, as well as on the difficulties female entrepreneurs faced in applying for and securing loans, there are no studies aimed at analysing the gender discrimination in credit access and its effect on SMEs' performance in an African context. Secondly, the literature on gender discrimination on the capital market is almost always conducted in the US or in Europe.

Entrepreneurship is a determining factor in economic growth of nations. There has been a growing awareness since the early seventies that small enterprises are important for economic growth. They are seen as the engines of employment, alleviating poverty and improving equality. The important role that small businesses and entrepreneurship play in stimulating economic activity, creating jobs, alleviating poverty and uplifting living standards, has been recognised internationally as well as in Africa (Van Vuuren & Groenewald, 2007; Okpukpara 2009). Infact, the link between small and medium enterprises (SMEs), entrepreneurship and

economic wellbeing dates back to the time of Say (1803) and Schumpeter (1934). Schumpeter (1934) established a link between entrepreneurial ventures and economic development. These earlier works set the foundations for later empirical and theoretical development.

An important issue in enterprise development is an appreciation of gender issues when considering strategies to improve Africa's competitiveness in the world and ways to promote private-sector development. There are three main reasons why gender matters. First, women are major players in the private sector, particularly in agriculture and in informal businesses. It is estimated that women-owned businesses account for over one-third of all firms, and they are the majority of businesses in the informal sector in African countries. Second, the ability of women to formalize and grow their businesses, to create jobs, and to enhance productivity is hampered where legal and institutional barriers exist that affect men's and women's enterprises differently. Third, there is evidence—especially at the micro level—to indicate that gender disparities not only disadvantage women but also reduce the growth potential of the region as a whole. The existence of gender-related barriers can thwart the economic potential of women as entrepreneurs and workers, and such barriers have an adverse impact on enterprise development, productivity, and competitiveness in Africa¹. Consequently, addressing gender-specific barriers to entrepreneurship and leveraging the full participation of both men and women in the development of Africa's private sector together represent a significant opportunity to unleash Africa's productive potential and to strengthen economic growth.

PROBLEM STATEMENT

In entrepreneurship and finance literature studies, it is suggested that raising capital is more difficult for women than men (e.g., Evans and Jovanovic, 1989; Fazzari et al., 1988, Muravyev et al, 2009). While access to finance is a challenge common to all medium and small size

¹ According to the World Bank Enterprise Surveys, women participate in the ownership of registered (formal) enterprises to varying degrees in the five African countries; ranging from 41 per cent of the registered enterprises in Rwanda, 26 per cent in Senegal, 20 per cent in Nigeria, 18 per cent in Mali, to 15 per cent in Cameroon. However, it should be noted that most of the female enterprise ownership in these countries is in the informal economy, for which data are either very fragmented or non-existent. Generally, it appears that women's participation in ownership declines in larger size enterprises. In Cameroon, for example, women comprise over 60 per cent of the sole traders, but participate in the ownership of only 3.9 per cent of large enterprises (ILO, 2011).

enterprises (MSEs), the challenge for women business owners is compounded by the multifaceted gender related problems that inhibit their ability to access credit. Securing capital for business start up or business operation is one of the major obstacles of every entrepreneur particularly in the MSE sector but women entrepreneurs face additional constraints to secure financial resources (Muravyev et al, 2009). Moreover; in the developing world, women's access to credit is limited because lending offices usually require tangible collateral from borrowers. The most commonly accepted tangible form of collateral is land. However, many women do not own property that can be exploited as collateral because gender relationships play a central role (Dowuona-Hammond, 2007).

In addition, women entrepreneurs are often prevented from running competitive businesses by their relatively low education and skill levels, which generally limit their access to the various support and credit services (Cutura, 2007). Even when they have access to information on the financial services and market opportunities available to them, women may be less equipped to comprehend it due to low levels of literacy (UNDP, 2007). A number of studies have raised the issue of financial constraints faced women-owned firms (see, Muravyev et al, 2009) for details. This interest was largely motivated by the well-documented importance of access to finance for the creation and subsequent performance of firms and by evidence of noticeable differences between men and women in self-employment, business ownership rates, start-up sizes, and financing patterns of their businesses. However, none of these studies have addressed issues of financial discrimination and firm performance.

Similar studies have been done to find out the importance of providing lending to female business owners. Accordingly, standard models of investment predict that credit-constrained firms should grow rapidly when given additional capital, and that how this capital is provided should not affect decisions to invest in the business or consume the capital. Evidence from four recent randomized controlled trials has cast doubt on the ability of capital alone to grow female-operated microenterprises (de Mel et al. 2009, Banerjee et al 2010, Karlan and Zinman 2010 and Fafchamps et al. 2011). Three of the experiments were all ran in South and Southeast Asian countries: Sri Lanka, India and the Philippines and the fourth in Ghana. Contrary to initial expectations, the grants provided as part of field experiments to randomly selected microenterprise owners resulted in large, sustained increases in income for male owners, but no

increase in income for female owners. The expectation was that women would experience larger increases in income because women are generally seen as being more credit constrained than men in low income countries (de Mel et al 2009). One possible interpretation is that female-owned microenterprises in the first three countries are already operating at their efficient level of capital, which just happens to be very low for most firms. Emran et al. (2007), for instance, argue that many of the women drawn into self-employment have low efficient scale and are only self-employed because of labor market imperfections. Labor market imperfections for women may be particularly strong in societies like those in South Asia, as evidenced by low labor force participation rates among women. This raises the question of whether capital might be more successful in growing female-owned microenterprises in other areas of the world. In much of Africa, for example, female labor force participation rates are higher than in Asia, and women are more integral to household income generation. It is therefore possible that the scope for female firm growth from more capital is higher in Africa (Fafchamps et al. 2011). Nevertheless, the experiment in Ghana (Fafchamps et al. 2011) confirms some of the findings from the Asian experiments, but adds considerable nuance to the understanding of the role of access to additional capital in determining the growth of female-owned enterprises.

Our study provides a new line of inquiry by testing the effect of financial discrimination on entrepreneurial performance. Barriers to female entrepreneurship can arise from existing institutional structures, both formal and informal. It has been hypothesized that observed differences in entrepreneurial performance by gender may be due to discrimination against female entrepreneurs in accessing finance.

With the above problems, we test three questions related to the business credit markets. First, are women-owned businesses less likely to apply for bank loans than businesses owned by men? Second are women-owned businesses less likely to be turned down in their most recent loan application? Third if approved on their most recent loan application, are women-owned businesses able to secure loans of comparable size and at lower interest rates? And lastly, what are the effects of these forms of credit constraints on firm performance.

OBJECTIVES OF THIS STUDY

The main objective of the study is to investigate women entrepreneurship and credit markets in Cameroon and to make practical recommendations to stimulate the growth and success of women entrepreneurs in the country.

To achieve the main objective of the study, the following secondary objectives were formulated:

- To identify the presence of gender discrimination in the credit market at the firm level.
- To examine the ability of women managers and or firm owners to access credit markets.
- To examine the relationship between discrimination and gender differences in firm performance.
- To suggest practical recommendations to enhance women entrepreneurship in Cameroon.

GENDER, DISCRIMINATION IN ACCESS TO BUSINESS CREDIT AND PERFORMANCE

A large portion of entrepreneurship research in economics has tended to focus exclusively on male entrepreneurs (Brush 1992) thereby completely ignoring the non-negligible phenomenon of female business-ownership. The studies that have included female entrepreneurs are mostly confined to developed countries. Studies asking whether the gender of the entrepreneur affects the performance of the enterprise yield mixed results. Some studies provide evidence of female under performance (Brush 1992, Rosa et al. 1996), while others do not find gender based differentials in entrepreneurial performance (Du Rietz and Henrekson 2000, Bardasi 2007).

In general, it is found that women and men owned enterprises differ in terms of size. Recent evidence from the U.S. suggests that on average men owned businesses are twice as large as women owned businesses in terms of both sales and assets (Coleman, 2007). It has also been shown that on average employer-firms owned by women generate only 78 percent of the profits generated by comparable male owned businesses (Robb and Wolken 2002). Also, women have been found to generate less sales turnover relative to men, even in same industry comparisons (Loscocco and Robinson 1991, Chagnati and Parsuraman 1996). Recent report on a field experiment randomly providing capital as grants to microenterprise owners (de Mel et al. 2009,

Banerjee et al. 2010, Karlan and Zinman 2010, and Fafchamps et al. 2011) indicate that the grants generated large profit increases for male owners but not for female owners.

However, the female under-performance hypothesis in entrepreneurship literature is not universally corroborated. In a study from Australia, Watson (2002) show that women business owners earn similar rates of return on equity and assets as male business owners, but have less start-up capital, which explains their lower incomes and profits compared to men. Using World Bank Enterprise Surveys (2002-2006), Bardasi et al (2007) find that in Africa, female owned businesses are at least as productive as those of male entrepreneurs when measured by value added per worker and total factor productivity. Similarly, Kepler and Shane (2007) show that there are no significant gender differences in terms of performance outcomes of nascent entrepreneurs. Other studies show that female owned enterprises do not under-perform in terms of employment creation (Fischer et al 1993, Chagnati and Parsuraman 1996) or survival rates (Kalleberg and Leicht 1991, Bruderl and Preisendorfer 1998).

The empirical literature on explanations for gender-based gaps in entrepreneurial performance are discussed under the three main heads mentioned above, namely, constraint-driven gaps, human-capital driven gaps, and preference-driven gaps. Our focus here is to deepen our understanding on credit constraints drive gap. In this paper, we define gender discrimination in lending as the economically unjustified awarding of inferior credit conditions to female borrowers. This narrow definition corresponds to the intuition of a double-standard lending practice, and is close in spirit to Becker's definition of "taste-based" discrimination (Gary S. Becker, 1971). In the classical model of discrimination by Becker (1971), discrimination arises due to the taste-based preferences of the lender who is willing to pay a price in order not to be associated with certain groups of borrowers. Becker also notes that such discrimination tends to vanish with competition among lenders as they are no longer able to bear the cost of the non-economically motivated choices. The alternative statistical model of discrimination suggests that, as long as borrowers' demographic characteristics are correlated with their creditworthiness, lenders may use the former as a proxy for the risk factor associated with loans. This is the case when lenders cannot observe the risk factors or do not collect relevant information due to the cost involved (Phelps, 1972; Arrow, 1973). Importantly, the economic effects of the two types of discrimination need not be the same: statistical discrimination of minorities, for example, may be

consistent with profit maximization by lenders while Becker-type discrimination is not. Nevertheless, both are considered to be socially unacceptable and, as a result, are banned by law (Muravyev et al.2009).

Empirical studies that aim at detecting the existence of discrimination by banks usually rely on a “legalistic definition,” which embraces both taste-based and statistical discrimination (Blanchflower et al., 2003). Cavalluzzo et al. (2002) is one of the few papers that provides an indirect test for Becker-type discrimination by looking at the effect of concentration in the local lender market on loan approval rates for female-owned firms. These and most other similar studies make use of a multivariate regression framework with dependent variables that characterize access to, or cost of, loans and independent variables that describe borrowers’ characteristics, including demographics. In this setup, evidence of discrimination is found if the coefficients on the gender, race or ethnicity variables remain statistically significant after controlling for applicants’ solvency and creditworthiness.

Mayoux (1995) documents some of the most common obstacles faced by women entrepreneurs which include obstacles in access to bank credit. It has been hypothesized that observed differences in entrepreneurial performance by gender may be due to discrimination against female entrepreneurs in accessing finance. In their study from Europe, using the cross-country Business Environment and Enterprise Performance Survey (BEEPS), Muravyev et al. (2009) find some evidence that, compared to male-managed counterparts, female-managed firms are less likely to obtain a bank loan. In addition, the analysis suggests that female entrepreneurs are charged higher interest rates when loan applications are approved. Both these factors suggest discrimination against female entrepreneurs and the authors suggest that this discrimination is found to be higher in the least financially developed countries in the region. This is corroborated by Aidis et al (2007), who using original survey data from Lithuania and Ukraine, show that access to funds is a more important barrier for female business owners than their male counterparts.

Zimmerman and Scott (2006) tested three questions related to the success of women-owned businesses in accessing commercial bank financing. And they found gender to be related to the application for bank loans as well as the size of the loans but not to the frequency of turndowns. Another important issue raised by Zimmerman and Scott (2006) is that women-owned businesses

are typically smaller than those owned by men and more arguments state that although gender is not a determinant of the credit terms, it is highly correlated with the size of the business—women-owned businesses are typically smaller, have less capacity, less capital, a narrower range of collateral, and an unproven track record/character relative to businesses owned by men. This may have an adverse effect on the perceived capacity of women to service or to repay their loans, and so they may face greater difficulty in obtaining credit.

Cavalluzzo et al. (2002) also find evidence of a credit access gap between firms owned by white males and while females with female denial rates increasing with lender concentration. In contrast, Cavalluzzo and Cavalluzzo (1998), Blanchflower et al. (2003), Storey (2004), and Cavalluzzo and Wolken (2005) find no statistically significant effect of gender. With the exception of Storey (2004), all the above-mentioned papers present evidence for the U.S.; moreover, they use the same dataset, the National Survey of Small Business Finances (SSBF), though not necessarily the same waves. Alternatively, significant differences in male and female access to finance may be accounted for by differences in other characteristics affecting their credit worthiness including human capital factors, personal wealth etc. For instance, women may have more difficulties in securing a loan than males because they tend to start smaller businesses and concentrate in the services sector and are more likely to work part time in the business (Verheul and Thurik 2001). Aside from overt gender differentials in access to credit, gender gaps might also exist in terms of other dimensions of business finance. For instance, there is some evidence to suggest that men re-invest a larger share of profits generated back into their business (Grasmuck and Espinal 2000).

It should finally be understood that following the above discussions, there is a scarcity of evidence concerning gender-based discrimination against entrepreneurs in an African context. Most of the previous research has been done using U.S. data and has not found much support for gender discrimination in the credit market. The result may have been driven by institutional and market factors specific to the U.S., for example strong competition in the banking sector and strong anti-discriminatory policies (Muravyev et al. (2009). In this paper, we attempt to find out the existence and consequences of such gap on business performance in an African context.

METHODOLOGY

Recall that the main purpose of this research is to determine whether financial institutions discriminate against entrepreneurs' gender and to further examine the impact of financial discrimination faced by women-owned firms and women managers. We shall firstly present the procedure of identifying credit constraints.

Gender Discrimination in Access to Credit

Discrimination occurs whenever the terms of a transaction are affected by personal characteristics of the participants that are not relevant to the transaction. In credit markets, gender discrimination would exist if loan approval rates, interest rates charged differed between male and female business owners with equal abilities to repay. Conceptually, this concept is rather straightforward though empirically difficult to operationalize.

Differences in loan denial or approval rates and interest rates charged do not, in and of themselves, prove that discrimination exists. Evidence of discrimination would require a finding that these differences exist among firms that have the same risk of default. To this end, we follow in the spirit of the Munnell et al. (1996) and Muravyev et al. (2009) studies and estimate loan denial and interest rate models that include measures of a firm's credit-worthiness, other firm characteristics, and gender of the firm's ownership while distinguishing between formal and informal credit. Within this framework, evidence of discrimination would exist if the coefficient on gender or female ownership is significantly greater than zero. This will be manifested as women's lower likelihood of obtaining credit/loan, as well as in higher interest rates they have to pay if their loan applications are approved.

A common method of detecting gender-based credit discrimination is to focus on loan approvals using sub-samples of firms that actually applied for loans to effectively test the likelihood of women-owned businesses being turned down in their loan application (referring only to the most recent loan or line of credit and or overdraft facility) in comparison to men owned businesses. This leads to a binary regression in which the dependent variable, Y , is either the outcome of the most recent loan application (1=applied and approved; 0=applied and turned down) or a variable measuring the terms of loans, such as interest rate charged. The basic econometric model is given in the following form:

$$Y_i = \alpha + \beta Female_i + X_i \gamma + \varepsilon_i \dots \dots \dots (1)$$

Where *Female* is a dummy variable indicating gender of owner (women-owned, jointly owned, with men-owned the omitted variable); X are other key variables including, size of the business proxied by employment, years in business as measured by firm age, form of business (sole proprietor/partnership, etc), sales indicator or capacity, proportion of invested capital or fixed asset financed through borrowing, geographical dummy and 1-digit SIC industry classification and lastly ε , is an error term. The model can be estimated using either probit or OLS depending on the type of the left-hand side variable (binary or continuous). To avoid the problem of reverse causality, given that firms with larger sales might be more likely to obtain financing from banks, we control for lagged sales (if sales reported are not for the year credit are obtained) in these regressions.

Women-owned businesses are typically smaller than those owned by men (Zimmerman and Scott, 2006) and so gender may not be a determinant of the credit terms rather the size of the firm. Firm size is thus considered as a crucial variable determining the amount and the probability of credit. Given that firms with better access to credit may grow faster, we control for simultaneity bias by replacing firm size by its predicted values from another equation (see, Fafchamps, 2000). The age and age squared of the firm are used and served as identifying restrictions including the other independent variables of equation 1.

Another important issue is idea of non-cooperative model of decision making in business management. The influence of owner management to firms run by a professional manager may be different. Following Fletschner (2008), a non-cooperative model of decision making could be estimated. According to this approach, it is expected that women with a larger decision-making power will invest a larger share of the loan in working capital. In other words, depending on the situation, the same amount of credit can result in different outcomes in terms of firm performance; this means that, even if gender discrimination in credit access were eliminated, other conditions may hamper a positive impact on profit (Fafchamps et al., 2011). If one has to differentiate between owner-management and non-owner management in family business, agency theory would predict a positive effect on value of firms, because owner-management aligns the interests of owners and managers (Jensen and Mechling, 1976). Yet, this effect may be offset by the costs of self-management. A female manager who also owns her business may not be a seasoned or professional manager and in the presence of a loan is received; this situation

could lead to a lower quality among owner-managers than professional managers and may reduce a firm's productivity/performance. The case where a female manager takes decision alone in matters of control and is also guided by her husband is possible. The variable in the model is a dummy for a female owner-manager.

Finally, it is often argued that women entrepreneurs are frequently discriminated against formal credit and so have limited access. Consequently, they cannot discharge their socio-economic roles and responsibilities effectively (Ledgerwood, 1999). We shall endeavour to modify slightly the estimations of Muravyev et al. (2009) by distinguishing between formal and informal sources of credit and to run the credit equation separately and by sectors of activity.

The main model presented above may suffer from the sample selection and omitted variable biases, the problems commonly identified in the literature on discrimination against minority entrepreneurs by financial institutions. We will follow the prescription as given in Muravyev et al. (2009). The problem of sample selection may arise because some entrepreneurs may have chosen not to apply for credit in anticipation of their applications being rejected or of them being offered unfavorable contractual conditions due to discrimination. In the survey data we may observe such non-applicants among both discouraged borrowers (firms acknowledging a need in credit financing, but not applying) and non-borrowers (firms claiming that a loan is not needed).

Muravyev et al. 2009 discussed methods of dealing with the above problem as indicated in the following paragraph. "In dealing with the above problem, most studies exclude non-borrowers, that is, firms claiming that they did not need a loan, from the estimation sample and model selection into loan application (e.g., Cavalluzzo et al., 2002; Blanchard et al., 2008). In such a setup, the main equation models the outcome of actual applications for loans, that is, whether they were approved or rejected by banks. A formal model which leads to the Heckman-type estimation was introduced in Bloom et al. (1983) and has been replicated in several studies. Alternatively, one may consider selection into the pool of firms reporting a need for bank financing. In such a setup, the dependent variable in the main equation differentiates between successful loan applicants on the one hand and firms with unmet credit needs (discouraged and unsuccessful borrowers) on the other hand" (Muravyev et al. 2009, p.281). The two approaches

are natural extensions of the models considered in equation (1). This is a selection problem and we have to take into consideration this potential selection bias.

Theoretically, the sex of the entrepreneur could affect both the demand for credit and also the supply of credit. It is necessary to carry out a comprehensive analysis of access to credit, including both demand and supply dimensions by simultaneously examining different states of access to credit, specified in the model as: a) not needing a loan; b) needing a loan but not applying; c) needing a loan and applying. Those who apply for a loan (category c) can then have two different outcomes: c1) having loan application approved, c2) having loan application rejected and this is captured in equation (1). Thus, in dealing with the question of access to credit, issues of selection bias become immediately apparent. The probability of obtaining credit and its relationship to entrepreneurial gender, however, has is a population that does not apply for credit because it does not need external financing. Further, data also reveals that there is also a population that needs a loan but did not apply for a number of reasons. For these two populations we do not observe the probability of obtaining a loan. So, clearly the observed sample that *applies for loans* is a self-selected, non-random sub-sample of the total population, and for obtaining the true relationship between entrepreneurial gender and probability of obtaining credit we need to correct for this selection.

This method is proposed by Heckman (1979), and it employs the full information maximum likelihood estimation procedure. The main equation is the same as in (1). The selection equation is as follows:

$$Pr ob(observed_i = 1 = \Phi(\tilde{\alpha} + \tilde{\beta}Female_i + X_i\tilde{\gamma} + \rho Instrument_i)).....(2)$$

Where *Observed* equals 1 if a firm applies for (or reports needing) a loan and 0 otherwise, and *Instrument* denotes the variable that identifies the selection equation. The full model, comprising the main equation (1) and the selection equation (2), also assumes the joint normality of the error terms and non-zero correlation, ρ between them. If $\rho \neq 0$, then the standard probit model without selection produces biased and inconsistent estimates (Muravyev et al. 2009:282).

As in Muravyev et al (2009), we also consider sample selection models in which the dependent variable is either interest rate charged on the most recent loan. Discrimination may be apparent if credit institutions approve loans to equally credit-worthy men-owned firms, but charge the female-owned firms a higher rate of interest. Therefore we estimated model

specifications analogous to those reported previously for loan approval, but now the dependent variable represents the interest rate charged for firms whose loans were approved.

In these particular cases, the dependent variable is observed only for firms that actually obtained loans. In this, the selection equation models the receipt of a loan. The binary dependent variable in the selection equation takes the value of 1 in the case a loan was granted and the value of 0 in the case the loan was rejected or if the firm was discouraged from applying. Since non-borrowers are excluded from the estimation sample, the analysis is conditional on needing a loan. The modeling strategy is the standard Heckman selection model and the selection equation is similar to (2).

Identification of the selection equations requires variables that determine demand for a loan and or interest rate but are irrelevant in the main equation of interest or more precisely, they do not affect the probability of loan approval or interest rate determination. A variable indicating the percentage of the actual workforce a firm reports to authorities was used as instrument in Muravyev et al. (2009) based on the argument that the variable measure of risk aversion/overconfidence. Indeed, reporting less than 100 percent of the actual workforce implies tax evasion and, if detected by the authorities, is subject to fines. Thus, entrepreneurs who under-report should have a high propensity to take risk or should be more overconfident in the sense that they believe detection is unlikely (Muravyev et al., 2009, p.282).

In our paper, the degree of risk experienced by the firm is proxied categorical variables measuring the degree of competition faced by the firm in its local market (range from 0 to 4 indicating that competition firms faced is not an obstacle, minor obstacle, moderate obstacle, major obstacle and lastly severe obstacle) and or to also include measures for the extent of diversification of the firm i.e. the share of firm's sales that come from the main product of business activity. Competition faced by firms with those in the informal sector constitutes a threat to efficiency just like weak diversification and these variables are not known by lenders.

Gender Discrimination in Access to Credit and Firm Performance

Here, we examine the relationship between discrimination in a credit market and gender gap in small business success where business success is measured by gross sales consistent with previous studies on gender and small business economic success (Bird and Sapp, 2004). We use

Labor Productivity (Sales/Worker). Another variable of firm performance or success is determined by fixed assets. Cotler and Woodruff (2008) has considered several variables identifying firm performance including reported profits, reported revenues, inventories, and fixed assets.

However, we believe productivity is a more reliable measure of performance than financial measures, as for instance operating profits, because the accounting profit rates of an enterprise may be manipulated. Of course, measures of productivity also come with errors. Our argument is only that this type of measure is less exposed to manipulation errors than most financial measures. Our primary objective is to understand the relationship between the relationship between gender disparity in credit access and some performance measures.

The log functions of both variables are considered to normalize the distribution and to ensure that the results are not being driven by outliers. We follow two approaches to examine whether female-owned firms out-perform male-owned firms. First, the differences in the average characteristics across female- and male-owned firms, along with their statistical significance are computed. Differences are control for city or region in order to eliminate any possible confounding factors associated with the fact that some areas have a larger share of female entrepreneurs. Precisely, we provide descriptive results for women- and men-owned businesses to show if women-owned businesses were less successful in terms of firm performance alongside variables on the seeking of credit from financial institutions which is coded thus: Did not seek credit coded as 0; loan approved or obtained financing coded as +1 and loan denied coded as -1. The averages of these variables will be compared to indicators of performance.

Secondly, we use as a primary explanatory variable in the performance model, the expected values or predicted probability estimates on conditional on female relative to male entrepreneurs which are determined from the equation based on the Heckman-type selection model. The variable representing the seeking of credit from financial institutions can also be used. Hence we run the following regression:

$$Z = a + F(Xb)_i + V_i + \mu_i \dots \dots \dots (3)$$

Where $F(Xb)$ is the predicted probability of loan approval or the coded variable on seeking of credit, Z represents the mentioned variables of interest measuring firm performances and V takes other firm characteristics such as age and age squared and firm size. We use three dummies

for size – 5-19 employees, 20-99 employees and 100+ employees (reference category). We use three dummies for age – ≤ 2 years, 3-5 years and 6+ years (reference category). Both size and age dummies are constructed in the base year. In addition to year fixed effect, we control for industry fixed effects.

NATURE OF DATA

The analyses in this study are based on secondary data. The sample of secondary data is a detailed survey of non agricultural manufacturing firms across Cameroon collected by the World Bank. The survey contains information to analyze firm behavior and performance. The samples include manufacturing firms of the non-agricultural private sector. A total of 120 micro establishments, 535 SMEs of the formal sector and 122 firms of the informal sector were surveyed in 2006 and 2009 respectively. For the formal sector firms, a panel structure exists with two waves of the survey. The survey was conducted on firms located in the major industrial regions of Cameroon: Littoral (Douala), Centre (Yaoundé), West (Bafoussam), which represents approximately 92 percent of the total number of firms in the country.

However, the sample of 535 SMEs of the formal sector contains maximum information and appears more useful for the study. It comprises of manufacturing firms employing at least 2 permanent workers, and covers the following industries, food processing, textile and garments, chemicals and pharmaceuticals, non-metallic, machinery and equipment, electronics, retail and wholesale trade and other manufacturing. The survey was based on face-to-face interviews with a person who normally represented the firm for official purposes, that is, who normally dealt with banks or government agencies/institutions. Respondents provided key figures about the firms, such as ownership, competition, performance and management. In addition, they were asked a restricted set of retrospective questions, including questions about their most recent borrowing experience before the survey. The survey also collected information about the gender of the principal owner of the firm and whether the principal manager was also a female.

EXPECTED OUTCOMES AND POLICY INFLEUNCE

The creation of new enterprises and the development and upgrading of existing SMEs, and their formalization, are seen as being the key contributors to job creation, poverty reduction, and competitiveness of these economies. However, an appreciation of gender issues is important when considering strategies to improve to promote private-sector development. It is estimated that women-owned businesses account for over one-third of all firms, and they are the majority of businesses in the informal sector in African countries. Second, the ability of women to formalize and grow their businesses, to create jobs, and to enhance productivity is hampered where legal and institutional barriers exist that affect men's and women's enterprises differently.

In Cameroon, the policy framework for SME development was built into the proclamations of the new SME law in 2010. However, the importance of SMEs to the future economic development of the country had been stressed in governments' National Development Plans, as well as in the growth and employment and poverty reduction strategy (see Cameroon Government, 2009). The SME policy objectives include those to: create a favourable environment for the creation of new enterprises and operation of existing SMEs through simplification of administrative procedures; improve access to information, finance, business support services, land, and premises; facilitate access to technology and markets; upgrade the production quality and technical skills of SME workers; and promote diversification into higher value-added products, particularly from agricultural production in rural areas.

Some Ministries and NGOs have assigned responsibilities for the promotion of SMEs and as such the findings of this paper will be important to them. We have consulted with these potential end-users and evidence gathered indicates that the expected outcomes of this research would in fact respond to actual policy needs and serve to inform policy interventions in Cameroon. We met with officials of the following organs:

- **Ministry of Economy, Planning and Regional Development:** This ministry has different ways of funding SMEs. First, through a project that lends a hand to promoters of SMEs in Cameroon pursuing a project that cannot go ahead due to certain difficulties. An extension of the pilot scheme funding and modernization of the means of production. Secondly, there are other programs with the EU and other international institutions enabling businessmen to acquire loans from banks under certain conditions. Since 2007 an additional support is in place to facilitate access to credit by business women. Further support for business women in Cameroon was initiated in partnership with the African

Development Bank that puts in place which helps to reinforce the capacity of female entrepreneurs as concerns mounting of business projects creation of firms and to encourage them to move to formal activities, funding for this purpose is available in some commercial banks. Information g was provided to us by **Hermann FOTIE II, ingénieur Statisticien Economiste, chef de cellule des analyses sectorielles**, Division des Analyses et des Politiques Economiques ; e-mail: hermanfoty@gmail.com; tel: 99 73 25 75/ 74 73 99 94

- **Ministry of Women's Empowerment and the Family:** According to **ONGOLA Martine, sous-directeur de la promotion économique de la femme**; e-mail: ongolamar@yahoo.fr, tel: 99 95 80 36, the research results will be helpful due to the following reasons: the Ministry runs 52 Centre for the Promotion of Women (CPFF) with one of its goals being to support entrepreneurship and learning promising businesses, to facilitate the insertion or socio-professional reintegration of women. In the centers there is a rotation fund available in Microfinance institutions to help finance poor women. The Ministry has also created a unit in collaboration with the Ministry of Professional and Vocational Training that takes into account at least 30% of financial needs of women's projects. Lastly, the Ministry makes itself available in government structures and NGOs that dispose funds for the financing of female businesses.
- **Minister of Small and Medium Enterprises, Social Economy and Handicrafts:** Despite the implementation of a national strategy for poverty reduction since 2003, the incidence of the latter has not significantly varied and was still around 40.2% in 2007. On the other hand, despite the efforts of the National Employment Fund (FNE), employment is difficult to for the majority of job seekers, including graduates of Higher Education. Many Cameroonians therefore opt increasingly for self-employment through the creation of SMEs / SMIs. However, the majority of them fail to create their SMEs due to the following constraints: the difficulties associated with creating paperwork, long and complex; lack of access to appropriate technologies, food processing and preservation; difficulties in access to finance, banking conditions being unsuitable for building promoters (requirement of collateral values and bankable projects etc ...)
These are the issues and challenges for the ACDP/SMEs in particular and in general the Minsitry. Implemented by the Ministry of Small and Medium Sized Enterprises, Social Economy and Handicraft, the Support Programme for the Creation and Development of Small and Medium Enterprises of processing and preservation of local products consumption mass is part of the objectives of Document Reduction Strategy Paper (PRSP) and the Integrated Program of Support to Sustainable Industrial Development in Cameroon, through which the Government has set out its priorities for development, based on private sector development, creative resources and jobs, and the valuation of the immense agricultural potential of the country. The contact person here is **M. BARGA, who is the Director of SMEs to be met next week.**

- Our last potential user is a Stakeholder that represents most enterprises in Cameroon, **GICAM/ Yaoundé** Mme AMOUGOU, chargée de l'entreprenariat féminine; Tel: 22 23 12 24/22 23 12 25. She made us to understand that the headquarter of GICAM in Douala is better suited for the contact. Thus we have booked for an audience with the Executive Secretary who was not on seat in Douala. gicam@legicam.org Tél : (+237) 33 42 31 41/ 33 42 64 99. Founded in 1957, the Groupement Inter-Patronal Cameroon (GICAM) has nearly 250 members (companies, associations and unions) for an economic weight about 68% of GDP in Cameroon. It is now a major employer organization, representative of Cameroonian companies, whatever their size or nationality of their capital. The missions are GICAM service to members, representation and defense of companies, the promotion of free enterprise and economic area of Cameroon. Member companies that operate in GICAM main sectors of activity are, among others, agribusiness, transportation, transit, tourism, textiles and leather, telecommunications, paper and plastics, forestry, food, water and energy, trade and distribution, cement and metallurgy, chemistry, construction, beverages and tobacco, banks, insurance companies, consulting firms (legal, tax, accounting, communication) and services.

DISSEMINATION STRATEGY

We shall organize a policy dissemination workshop in the presence of the above mentioned users, academic and civil society to present the results. Policy briefs will be made available to policy-makers and development partners in Cameroon and also to the public. The final report of the study will produce a PEP working paper, which will be made available to the various institution and Ministries mentioned above. However, we shall keep close contact with them as we proceed in the work to incorporate their inputs. We have experience in this direction.

For instance, the principal researcher was involved in a PEP sponsored project in 2005 which culminated to an organized PEP national PEP in Yaoundé in March 2008, in which four projects were presented. I was involved in another project as the principal researcher of four African Economic Research Consortium collaborative projects on the theme, "Health, Institutions, growth and poverty reduction, conducted on Cameroon. Recently, on January 10, 2013 we organized a policy seminar sponsored by AERC. The presentations were followed by questions and discussions over their content, to which also actively participated some key policy makers. A related research work to the current one we are competing for was supported by a grant from the Investment Climate and Business Environment Research Fund, jointly funded by TrustAfrica and IDRC has been concluded. It is titled 'Comparative Productivity Performance of

Family and Non-family Owned Firms: Perceptions and Poverty Reduction Effects in Cameroon’, and is one of a total of seven projects in Cameroon by financed by TrustAfrica. The dissemination conference is planned for May 21 2012 in Yaounde and arrangements to have representatives in the mentioned institutions are being made.

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EXPECTED CAPACITY BUILDING

Tabi Atemnkeng has been teaching in the University since September 1999. At Present, Johannes is a Senior Lecturer at the University of Bamenda where he was appointed by Ministerial Decision in December 2011 as Head of Division in charge of Internship and Relations with Enterprises in the Higher Institute of Commerce and Management. Johannes holds a PhD in Economics from the University of Yaounde II Soa. Being a senior Researcher, he has experience and capacity building in research in the domain of poverty and inequality analysis. In addition, this project will enhance and broaden his skill in private sector development to suit his present position.

Mrs Makoudem Tene is currently preparing her PhD research project in the University of Dschang. Further, she is presently working in the Ministry of Scientific Research in Yaounde. This project will help her in acquiring knowledge and building her capacity on entrepreneurship issues. This project will also enable her to learn new analytic techniques.

Mr. Ndam Romanus is also a PhD student in the University of Dschang and already at the thesis writing phase. Presently, he is teaching in the University of Douala. The fact that his thesis is on entrepreneurship and Development represents a credit to him. Lastly Tchouapi Meyet Rosy is also a PhD student in the University of Dschang

The task will be partitioned as follows:

Tabi Atemnkeng will be the overall supervisor of the team. Given his vast experience in the fields of research and policy paper writing, he will oversee the other team members in all the domains and will supervise the various analytical processes and ensure quality control.

Romanus will effectuate empirical analysis on the regression and the analysis relating to the problem of sample selection. He will be assisted by Mrs. Makoudem Tene and Mrs. Tchouapi Meyet Rosy who will principally be in charge of managing the data (data treatment).