



Female entrepreneurship, access to credit and firms' performance in Senegal

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In 2012, with support of the UK Department for international Development (DfID or UK Aid) and the International Development Research Centre (IDRC) of Canada, PEP launched a new program to support and build capacities in "Policy Analyses on Growth and Employment" (PAGE) in developing countries.

This brief summarizes the main features and outcomes of one of the projects supported under the 2nd round of the PAGE initiative (2014-2015).

In this study, local researchers aim to assess whether female entrepreneurs face discrimination in credit access in Senegal, and how it may affect firms' performance

Female entrepreneurship in Senegal

There has been a noticeable improvement in female entrepreneurship in Senegal. From 2007 to 2014, the total share of female-owned firms in the country has grown from 23.8% to 32.1%. The share of female entrepreneurs in new start-ups, in particular, has increased from 25% in 2000 to 38.1% in 2010.

In addition, because female-owned firms tend to employ 16.2% more workers (especially women) than their male-owned counterparts, promoting female entrepreneurship can contribute to expanding the productive base of the economy, reducing unemployment and alleviating poverty.

Despite such potential economic and social benefits, there is still a wide belief that female entrepreneurs are discriminated against in Senegal, especially when it comes to access to credit. This belief has prompted several governments to design policies aimed at improving female entrepreneurship, which has gone as far as to set up a Ministry in charge of female entrepreneurship, as well as a National Fund to provide loans to female entrepreneurs at below-the-market rates, thereby improving access to credit and the performance of female-led firms.

As it is very often the case, a lack of evidence from detailed country-specific studies has plagued the success of these various public policies, especially in the context of a general literature that tends to be, at best, inconclusive.



To help inform the policy process, a country-specific study shall address the following questions:

- (i) To what extent, if any, are female entrepreneurs constrained in the credit market in Senegal, compared to males?
- (ii) What are the specific factors (other than preferences over the types of firms, social and cultural characteristics) that generate such disparities in the credit market?
- (iii) To what extent is any gender-based differential in the credit market translated into differences in firms' performance? Are the answers to these questions different across types of business activity and across the different regions of the country?

These are the questions that this study aims to provide answers for. More specifically, the researchers conduct an empirical investigation to assess whether there is gender-based discrimination when it comes to firms' access to credit in Senegal, and how it may be translated into any performance differential.

Data and methodology

The data used in this study was collected in 2013 through a survey of 606 firms across 4 regions (Dakar, Kaolack, Thies and Saint-Louis). The results provide detailed information, ranging from firms' general characteristics, to the production activity and finance, among others. The summary statistics provided in Table 1 suggests that about a third of the surveyed firms are female-owned, and slightly more likely to both apply for credit and be successful in their application than their male-owned counterparts.

This statistical data is further "empirically" tested, with the application of a series of analytical techniques, i.e. data envelopment (to produce efficiency scores), an endogenous switching regression model (to relate these scores to credit access, gender and other control variables) and, as credit access can be viewed as a treatment process that generates efficiency outcome, a propensity score matching technique is used to assess the potential impact of credit access on firms' efficiency.

Table 1: Summary statistics of the data

	Female-owned	Male-owned	Total sample
	Mean	Mean	Mean
Distribution (%)	34.8	65.2	100.0
Credit application in 2011 (%yes)	20.0	18.1	18.7
Reasons for non-application			
High interest rates	29.9	16.6	21.2
Procedure	14.1	16.0	15.3
Collaterals	6.2	9.0	8.1
Number of applications	1.8	2.0	2.0
Number of rejections	1.2	1.0	1.1
Rejection rates (%)	57.4	39.9	46.4
Reasons for rejection			
Inadequate guarantees (%)	56.0	61.5	0.6
Incomplete applications (%)	21.2	27.7	24.8
Access to credit - loans (%)	17.5	15.0	15.9
Interest rates	11.1	9.6	10.3
Duration (months)	29.3	31.8	31.4
Amount (mln Franc CFA)	58.3	112.8	88.4
Share of credit in financing need (%)	5.0	4.3	4.5
Share of self-financing (%)	73.5	82.6	79.3

Source: Authors' calculations, based on survey data

Key findings

Discrimination in credit access

Overall, results from the analysis do not support the common wisdom that women are discriminated against in the credit market in Senegal. The evidence rather suggests that female entrepreneurs are no more or less likely to obtain credit than their male counterparts.

At first glance, the result are not in line with those of previous studies – including one that found that female entrepreneurs are discriminated against in Africa (but not in other parts of the developing world), and another which found that

women are rather less credit-constrained than men in Africa. As a more country-specific estimate, this study's results are more telling of the specific functioning of the Senegalese credit market, and a possible indication of its relative maturity.

The factors that seem to matter most for credit access are the manager's level of education (i.e. knowledge of the credit application process), the sectorial distribution (capital-intensive firms, with higher demand for credit, are more likely to be constrained), and whether the firms have benefitted from banks' overdraft facilities (indicating some level of financial trust).

Impact of credit access on firms' performance

The results also indicate that access to credit has a positive impact on firms' efficiency. Efficiency is gained for both firms that already benefit from credit, and for those that were initially credit-constrained. More specifically, for credit-beneficiary firms, the actual return to credit access is a 5.7% increase in efficiency, and for non-beneficiaries, the gain would be 20.4%. These results are suggestive of the economic potential rightly associated with credit, such as the possibility to invest in new equipment or technology.

To the extent that there is no gender based-discrimination in the credit market, female-owned firms are no more or no less efficient than their male-owned counterparts, neither as a result of credit nor any non-observable, intrinsic, gender-related characteristics.

Implications and recommendations for policy

No discrimination, and yet a gap remains

The fact that the evidence shows that gender is not a significant discriminant to credit access and firms' efficiency may not, however, be an indication that female-oriented public policies - aimed at promoting entrepreneurship - should be called off. Rather, the narrative behind such policies need be adjusted.

Their rationale should come from the large discrepancy between the share of female in the general population (more than 50%) and their rather small contribution to the business world (about one in three firms are female-owned). This may suggest that some elements in the business climate other than the ease of access to credit might have some adverse effects on female entrepreneurship.

The fact that female entrepreneurs are on average more educated than their male counterparts (70% have higher education, versus 48%) is indicative that social and cultural norms still require greater skills for women to equally succeed in business.

Further research may be needed to identify how these institutional norms manifest themselves into specific elements of the business climate. Such evidence would guide policies in the design of

As mentioned above, and in addition to credit, the drivers that affect firms' performance are the manager's education level, firms' ownership, as well as sectorial and regional distribution.

In effect, most efficient firms tend to be operated by more educated managers, who are more likely to make the most out of business opportunities. Foreign-owned firms tend to be more efficient, as a result of their well-documented technological advance. Firms operating outside Dakar tend to be more efficient, and this is suggestive of some resilience in the face of less favorable business infrastructure, and a great deal of clustering in the trade sector. Finally, the latter appears to be the most efficient sector, given its lower input requirements and shorter operating cycle than sectors such as construction or manufacturing.

their gender component and contribute to expand the productive base of the economy.

The potential of improving credit access

The credit market is not delivering its full economic potential in terms of firms' efficiency. Not only the access rate is relatively low (15.9%), but also credit beneficiaries still recourse greatly to self-financing, with credit contributing to a meager 4.5% of their financial needs. Therefore, considering the potential positive effect on efficiency, there is still considerable room to improve access to credit and thus expand firms' efficiency for both male and female owners alike.

The first set of policies would focus on improving access to credit. Familiarizing entrepreneurs with loan application procedures would bring more firms into the credit market, as well as helping with collaterals. A clear emphasis shall also be put on the type of firm-led activities, favoring those with intense use of capital. The heavy reliance of these firms on external make them more responsive to credit constraint than firms operating for instance in the trade sector with lower capital intensity, thereby harming their potential to expand more than any other sector.

The Senegalese government has already initiated policies in line with these objectives, and even created public agencies mandated to help firms familiarize with best business practices. Even more, a National Fund was created through which the government acts as co-signee in the firms' loan applications.

However, the fact that firms still invoke inadequate collaterals, incomplete credit application and burdensome procedures as reasons not to apply for loans, suggests that there is still room for further improving credit access conditions.

Improving the efficiency of public institutions in reducing constraints on the credit market would also require adding a sectorial component, to focus on those most likely to bear such constraints - such as firms operating in the construction sector. These agencies may also gain further efficiency by convincing low-educated managers that the services they provide can help improve their potential access to credit. However, as the credit constraints play out similarly across the various geographical locations, these agencies and policies need not include a regional component.

Improving firms' efficiency

When it comes to improving firms' efficiency, the same public institutions can also play an important role.

According to the analysis' results, efficiency seems to be originated mostly in the organization and management of firms. By providing (free or

low-fee) training programs that strengthen business practices of entrepreneurs, the intervention of public agencies could make a difference.

This is particularly the case as formal basic education seems to generally fail managers; indeed, in terms of firms' efficiency, less-educated managers appear to perform less than highly-educated ones. The training programs could, for instance, target young entrepreneurs who graduate from the ever-expanding business school landscape, and focus on regions such as Dakar and Saint-Louis, and on sectors other than trade.

In addition, since Senegalese-owned firms appear to lag behind their foreign-owned counterparts, and to the extent that the latter are a great source of technology transfer, public policies need to encourage foreign investments, while improving the channels through which technology diffuses to the rest of the economy - thereby narrowing the gap with Senegalese firms.

Therefore, in addition to facilitating access to credit, policies shall also aim to improve the diffusion of technology through relevant channels, such as greater mobility of the labor force from one sector (foreign) to another (Senegalese).

Exploring these various policy options, while improving the efficiency of public agencies mandated to assist firms, would most likely contribute to improving and promoting both male and female entrepreneurship in Senegal.



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To find out more about the research methods and findings, read the [working paper 2015-14](#)