Gender inequality in entrepreneurship beneath the frontier: myths and facts

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Abstract

We compare the structure and performance of firms owned by women with those of men. Our empirical evidence relies on representative survey data on about 500 Ghanaian micro, small and medium-sized manufacturing firms, 37% of which is female-owned. Compared to firms owned by men, women's firms are relatively younger, smaller and more likely to be informal. The empirical notion that women-owned firms are typically less productive finds support in our sample. However, we find no evidence of less growth potentials among women-owned firms. On the one hand, there is no significant gender difference in growth of assets, turnover and productivity. On the other hand, while men's firms declined, firms owned by female entrepreneurs expanded in terms of employment size between 2011 and 2013.

Keywords: gender, productivity, growth, MSMEs, Ghana, sub-Saharan Africa

1. Introduction

This paper analyses the nature and relative performance of micro, small and medium enterprises (MSMEs) owned and/or managed by women in sub-Saharan Africa (SSA). A focus on female entrepreneurship is economically important given the sheer population of women in SSA and their unique role in the household (Horrell and Krishnan, 2007; Nichter and Goldmark, 2009). Women account for about half of the population in SSA but gender inequality and the discrimination that they face in education, access to finance, information and social network, hinder not only their social and human development, but also participation and success in economic activities (Branisa et al, 2013). As a result, women entrepreneurs face specific disadvantages and their firms show a negative performance differential when compared to those of their male counterparts (Hisrich and Brush, 1983; Loscocco et al, 1991). However, some authors oppose this view, presenting results that offer no support for the female underperformance hypothesis (Johnson and Storey, 1993; Du Reitz and Henrekson, 2000).

This paper enters the ongoing debate on the male-female differential in entrepreneurial performance. We present fresh evidence from the SSA context where we know very little about the relative performance of female-owned firms. Specifically, we ask, *how do firms*

owned and/or managed by women differ from those of men in terms of size, age, formality, productivity and growth? In the face of recent global efforts at creating and maintaining an inclusive society, these issues are of particular interest. We use data from a recent representative survey of about 500 Ghanaian manufacturing firms, of which about a third is owned by a woman and a quarter is from the informal sector. Our results suggest that compared to firms owned by men, women's firms are relatively younger, smaller and more likely to be informal. The empirical notion that women-owned firms do not perform as well as those of men finds partial support in our sample. Female-owned firms are less productive but do not necessarily show lower growth potentials.

2. Data

The dataset used in this paper is derived from an innovation survey of 496 manufacturing firms in Ghana.[1] The survey, guided partly by the Oslo Manual (OECD, 2005), gathered between November 2013 and January 2014 detailed information from both formal and informal firms on manager characteristics, revenue, value of fixed assets, number of employees, age, location and manager characteristics, among other things. The firms in the survey were selected by stratified random sampling. Overall, 37% of the firms in our sample have a female owner-manager.

3. Results and Discussion

3.1. Leadership roles of female entrepreneurs

We start the discussion by analysing the role of women in firm-level leadership. Women do not necessarily lag men in terms of leadership roles within the firm. Excluding those who are largest shareholders, significantly more women entrepreneurs (99%) than men (88%) actually manage their own firms. Moreover, we find no statistically significant difference in the share of male and female entrepreneurs who single-handedly take strategic decisions for their firm. While this reflects the fact most of the firms in the sample have fewer than ten employees and therefore possess simple management structures[2], it also suggests that, other things being equal, female entrepreneurs are not more averse to firm-level leadership than their male

[1] The original survey, which includes an additional 27 service firms, falls under the umbrella of the *Diffusion of Innovation in Low Income Countries* (DILIC) project led out of the University of Oxford, UK. Further details on the survey methodology, including sampling, are available in the descriptive report of the survey at http://www.tmd-oxford.org/sites/www.tmd-oxford.org/files/attachments/DILIC_Report_2.pdf.

[2] Very few of the medium-sized firms in the sample have a manager who is the sole strategist and of the few large firms in the sample, none has a manager who is the sole decision maker.

counterparts. They are also not necessarily less experienced in leadership than their male counterparts (Figure 1).

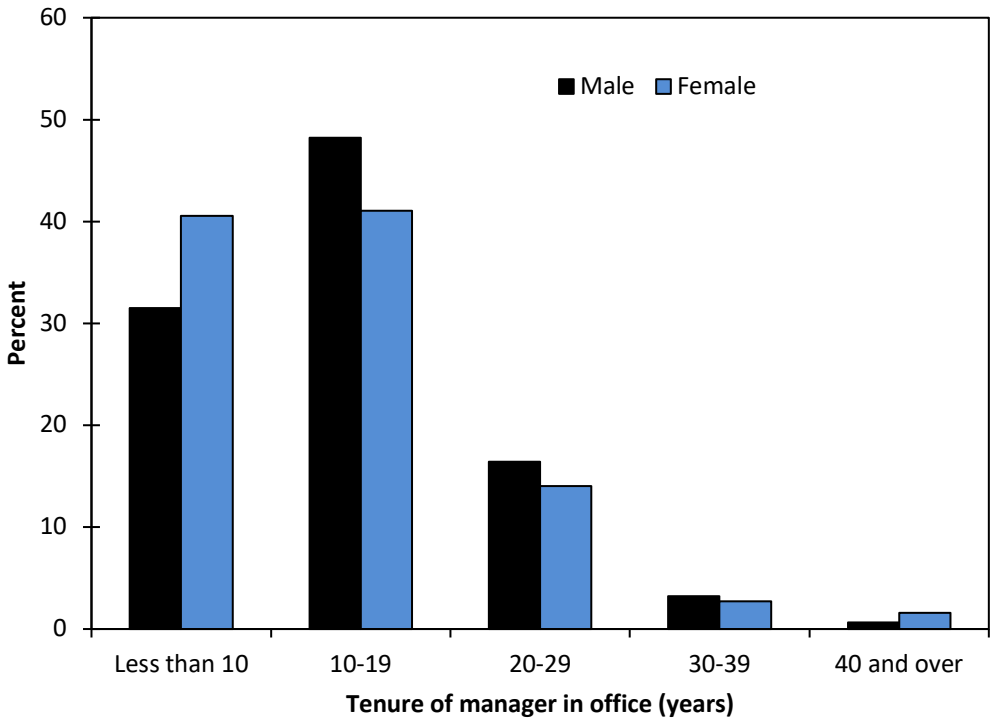

Figure 1: Managers' work experience by sex

3.2. Characteristics of female entrepreneurs

Who are the female entrepreneurs? We find weak evidence that they are somewhat more risk averse than their male counterparts. Compared to about 74% of men, 61% of the women either strongly agree or agree that risk-taking can lead to pecuniary rewards. Moreover, women entrepreneurs tend to start their businesses later in life than their male counterparts. The youngest female entrepreneurs are at least 26 years old but over 3% of the male entrepreneurs are younger than that. In addition, 3% more male entrepreneurs than female are between 26 and 35 years old while women outnumber men in the 36-50 years age bracket by about 5%. These differences are not statistically significant but if persistent, they may have an important implication for the future demographics of the Ghanaian entrepreneurship landscape. There are at least two reasons why, on aggregate, females may enter the entrepreneurial space less often and later than males in the context that we study here. First,

entrepreneurship takes time and attention which younger women may be less able to afford in the face of socio-cultural pressures. Second, relative to men, women typically lack human capital especially in the form of education and work experience (Mbaya and Estapé-Dubreuil, 2016). Hence, they may feel less prepared to start a business until they might have acquired some experience through, for instance, paid employment or apprenticeship. This second point becomes more obvious upon looking at the qualification of the entrepreneurs. Significantly more male entrepreneurs possess a university degree ($z=3.565$; $p<0.05$) or secondary school certificate ($z=2.292$; $p<0.05$). The share of entrepreneurs with only basic education is not significantly different across both sexes but substantially more females are uneducated ($z=-5.299$; $p<0.05$).

3.3. Differences in the characteristics of male- and female-owned firms

One of the standard results in the literature is that especially in developing countries, firms owned by female entrepreneurs typically reside in the informal and less sophisticated sectors (Morris et al, 2006; Bardasi et al, 2011; Davis and Adbiyeva, 2012). Against this background, we compare the sectoral distribution and formality of the firms in our sample across owner's gender. To consider sectoral sophistication, we use a seminal classification scheme in the evolutionary economics literature, the Pavitt taxonomy (Pavitt, 1984), which has been widely used in the literature. In increasing order of technological sophistication, the taxonomy categorises firms into four: supplier-dominated; scale-intensive; specialized suppliers and science-based. The distribution of male-owned and female-owned firms across these categories is remarkably similar, thus refuting the conventional argument that women's firms are typically less technologically sophisticated than those of men. However, we find strong evidence that women's firms are more likely to be informal. Figure 2 plots the formality of the firms in our sample across entrepreneur's gender. The plot shows that significantly more male-owned firms are formal ($z=4.919$; $p<0.05$) while more female-owned firms are informal ($z=-3.186$; $p<0.05$). Both sexes appear to be equally likely to own semi-formal enterprises. The pattern suggests that male entrepreneurs are more likely to start formal firms and that female entrepreneurs are more likely to start informal firms.

Also, on aggregate, male-owned firms are systematically larger than female-owned firms (Figure 3). In 2011, male-owned firms had an average of 38 employees, in contrast to about

seven for female-owned firms. Average size of a male-owned firm was 39 employees in 2013, compared to about eight for a female-owned firm. Women are more active than men in the micro sized enterprise (81% vs 69% in 2011 and 87% vs 71% in 2013) sector whereas men are more active in the medium and large enterprise sector where the women are virtually absent. This is consistent with previous studies which argue that women's firms are typically smaller (Morris et al, 2006; Coleman, 2007; Thébaud, 2015).

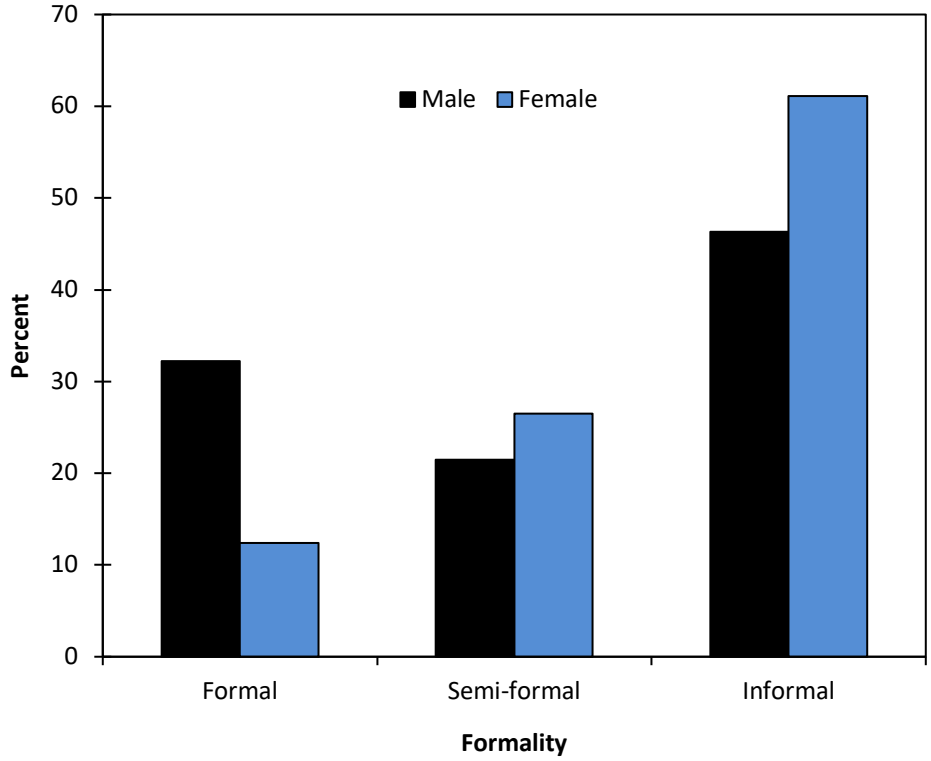

Figure 2: Distribution of formality by manager's sex (N=496)

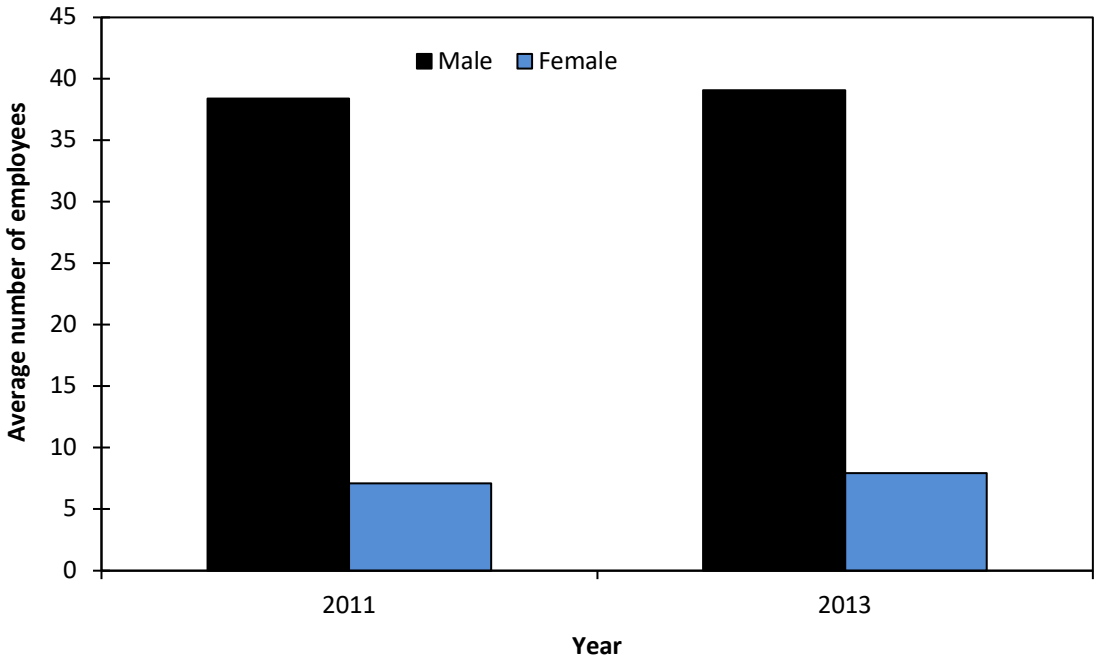

Figure 3: Average size of firms by sex of manager

3.4. Productivity and growth in male- and female-owned firms

We find gender gaps also in terms of productivity and growth. The argument that women-owned firms are typically less productive finds support in our sample (Figure 4). Although the productivity distributions for male-owned and female-owned firms are both right-skewed, the distribution for male-owned firms has a lower peak with a much fatter and longer right tail. In contrast, the productivity growth distributions are similar for both sexes. In sum, male-owned firms show higher productivity but not necessarily higher productivity growth. To examine this observation in a multivariate setting, we estimated separate OLS equations of the logarithm of productivity in 2013 and productivity growth from 2011 to 2013 as a function of manager's gender and several other manager and firm characteristics. Figure 5 illustrates our regression results. The results suggest that even when controlling for other firm and manager characteristics, female-owned firms are indeed less productive though their productivity does not necessarily grow slower than for men-owned firms.

Figure 4: Distribution of log-normalised productivity and productivity growth (with normal density plot superimposed)

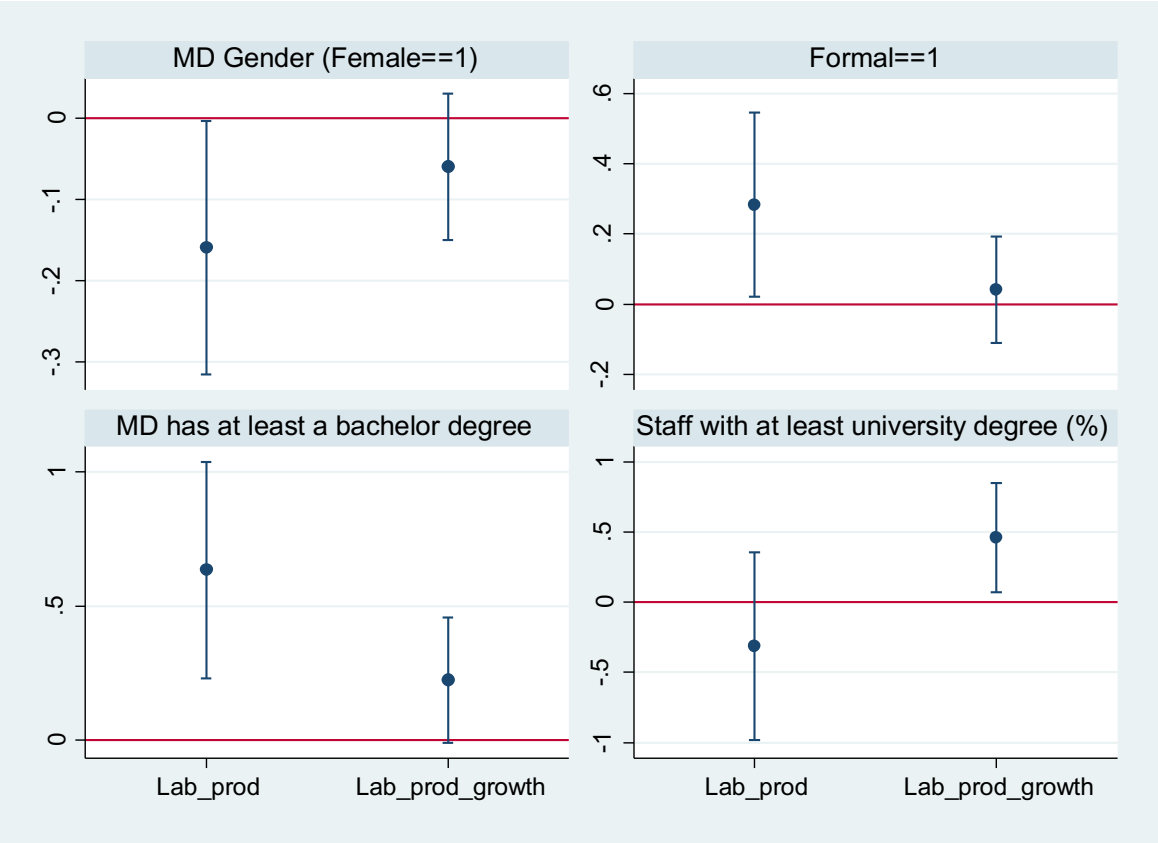

Figure 5: Effect of some owner-manager's and firm's characteristics on productivity (N=495)

Note: OLS estimates for labour productivity in 2013 (Lab_prod) and labour productivity growth between 2011 and 2013 (Lab_prod_growth). The F-statistic is significant for both equations; adjusted R-squared is 0.14 for the labour productivity equation and 0.12 for the labour productivity growth equation. The estimations include as controls some manager's attributes (like risk aversion, other levels of educational attainment (post basic and basic), age and number of years since becoming manager) and firm characteristics (size, age, percent staff with university education, on-the-job training for staff, and whether the firm is located in an export processing zone, located within a cluster, is part of a group, has a written strategic plan, is semi-formal or the manager is the sole decision maker) . Sector dummies are also included.

What could explain the difference in labour productivity between men's and women's firms? There are three possible explanations. First, the literature suggests that women's firms are typically situated within less efficient sectors and hence show lower performance than men's firms (Loscocco et al, 1991). However, we find in our sample similar sectoral distribution of men's and women's firms. Thus, the observed productivity differential in our sample cannot be due to sectoral distribution. Secondly, the literature suggests that smaller firms are less productive than medium-sized and large ones, and that informal firms are typically stagnant and unproductive especially in developing countries (La Porta and Shleifer, 2008; 2014). Indeed, relative to men's firms, we find that women's firms are systematically smaller and significantly more likely to be informal. We believe that on average, this will cause them to lag behind men's firms in terms of performance. Finally, it has been suggested that when compared to firms owned by men, women's firms hire more women (Nichter and Goldmark, 2009). Given that women tend to face more intense work-family conflicts than men (Thébaud, 2015), especially in the cultural context of SSA, their individual productivity may be lower. This could translate to a lower aggregate productivity among female-owned firms relative to their male-owned counterparts.

4. Conclusion

Our focus in this paper has been to compare firms owned by women with those owned by men in the context of sub-Saharan Africa. We started by comparing the aggregate characteristics of firms owned by women with those owned by men in a sample of Ghanaian manufacturing firms. We find that the women's firms are significantly smaller, mainly because they are more predominantly informal than men's firms. On average, women's firms are also younger because, compared to their male counterparts, female entrepreneurs tend to start their businesses at an older age and they are more likely to exit. With this fresh evidence from the sub-Saharan Africa context, this paper enters the ongoing debate on the male-female differential in entrepreneurial performance. A strand of the entrepreneurship literature maintains that firms owned by women perform less well in comparison to those owned by men (Hisrich and Brush, 1983; Loscocco et al, 1991). This is because they are smaller, typically informal and less sophisticated. Another strand of the literature argues that women's firms do not under-perform or grow less than men's firms (Johnson and Storey, 1993; Du Reitz and Henrekson, 2000).

Our results lie between the two extremes represented by the mixed literature. In our sample, firms owned by women have, on average, lower labour productivity. This gives partial support to the female underperformance hypothesis. However, the revenue and assets of female-owned firms are not significantly lower than for firms owned by men. In addition, their labour productivity, assets and revenue do not grow slower than in male-owned firms. This is in keeping with the literature that finds no performance difference between men's and women's firms. Strikingly, we find that firms led by female entrepreneurs outperform those led by male entrepreneurs in terms of employment growth. From a dialectic point of view, our results lend themselves to an objective interpretation. Rather than always profile women's firms relative to men's, perhaps it is more functional for policy and practical purposes to acknowledge them as unique. This is important because, as we have shown, they show lower performance in some aspects but also perform as well as – or even better than – men's firms in other aspects.

This perspective will facilitate effective policymaking and management practices. For instance, considering that women's businesses may contribute better to employment generation, policies aimed at increasing the sheer number of female-owned business, rather than their share in the population of businesses, are desirable. This can be achieved by removing barriers to women entrepreneurial practice including access to finance and lack of human capital. Furthermore, institutions for mitigating work-family conflicts are highly necessary, as this will allow women business owners to devote more time to their businesses.

Our study suffers from a number of limitations. First, we limited by data availability to a cross-section approach. We are only able to make univariate intertemporal comparisons for a few variables. In this, our analyses assume that the processes underlying the similarities and differences between men's and women's firms do not differ too much across firms. With longitudinal data, it would be possible to track patterns over time, taking due account of firm-specific differences. Second, we have used data from a single country in sub-Saharan Africa. Our basis for taking the results of this paper as indicative is that countries in the sub-continent are generally at similar levels of development and institutional sophistication. Yet, we cannot exclude the effects of contextual peculiarities that may be present across countries. Cross-country analyses may pick up such dissimilarities. Despite these limitations, we believe that the consistency of our results with existing literature and their novelty, especially in relation to the sub-Saharan Africa context, make an important contribution to the literature. If multi-

country and longitudinal data were to become available, further research along the lines set out above should provide additional evidence to refine our findings.

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