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ABSTRACT

Networks, Start-Up Capital and Women's Entrepreneurial Performance in Africa: Evidence from Eswatini

This paper analyzes the role of networks in access of women entrepreneurs to start-up capital and firm performance in Eswatini, a country with one of the highest female unemployment rates in Africa. The paper first shows that higher initial capital is associated with better sales performance for both men and women entrepreneurs. Women entrepreneurs start their firms with smaller start-up capital than men and are more likely to fund it from their own sources, which reduces the size of their firm and sales level. However, women with higher education start their firms with more capital than their less educated counterparts. Moreover, women who receive support from professional networks have higher initial capital, while those trained in financial literacy more often access external funding sources, including through their networks.

JEL Classification: L53, O12

Keywords: networks, start-up capital, multivariate analysis, Africa

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1. Introduction[1]

Despite recognition of the potential role of entrepreneurship as an engine of inclusive growth, women's entrepreneurship in developing countries remains an under-researched topic in social sciences in general, and in economics in particular. While no unified theory of entrepreneurship exists, social science research on entrepreneurship has typically centered around three dimensions: (i) the institutional environment; (ii) sociological factors; and (iii) personal characteristics of the entrepreneurs (Djankov, 2005). This paper focuses on the first two dimensions, namely the credit constraints as well as professional and social networks as important determinants of entrepreneurial behavior and performance. Given the lower rates of opportunity entrepreneurship among women than men, professional networking is important for women entrepreneurs who are not able to rely on peers as much as their men counterparts.

Considerable research has been undertaken on limited access to credit as a key constraint to entrepreneurship for the poor (Banerjee and Newman, 1993; De Soto, 2000), but research on the role of networks in the performance of women entrepreneurs in Africa has been limited. This paper addresses this knowledge gap by exploring the networks-initial capital-firm performance nexus among women entrepreneurs in Eswatini, a small landlocked country in Southern Africa where female unemployment approaches 30 percent of the labor force.[2] The novelty of this research is two-fold: first, the paper empirically explores the role of networks as a success factor for women entrepreneurs both at the inception and operation phases of their firms; second, it provides the first systematic evidence on Eswatini, where high unemployment rates are coupled with very low growth rates and limited trade opportunities, making the case relevant for other lower middle-income countries.

More broadly, interest in entrepreneurship as a source of inclusive growth has risen in emerging and developing countries (Amin, 2010; Hallward-Dremier, 2013; Brixiová and Kangoye, 2016). Entrepreneurship and small and medium enterprises (SMEs) have also received attention in global policy forums such as the G20.[3] In parallel, policy makers and researchers have also become increasingly interested in supporting women's access to credit and to investor networks, training, information services and technical assistance. Women in low- and middle-income countries continue to face challenges in landing jobs in the formal wage sector, making productive entrepreneurship an escape avenue from low-paid jobs. Besides economic benefits and empowerment, entrepreneurship also presents women with opportunity for shaping their identity and further integrating into the society (Blomqvist et al., 2014).

[1] The authors thank Candida Brush, Amanda Bullough, Susumu Imai, Andreas Wörgötter, and two anonymous reviewers for helpful comments and discussions on earlier drafts. The views expressed are those of the authors and do not necessarily reflect those of the African Development Bank.

[2] In April 2018, Swaziland changed its name to Eswatini. While in most places the paper reflects this change, several documents and reports issued prior to this change still refer to 'Swaziland'. Given the high poverty rates in Eswatini, we measure the entrepreneurial performance in terms of sales level, so as to reflect the potential of entrepreneurship to be a sustainable source of livelihood.

[3] China listed entrepreneurship in the top ten priorities emerging from the G20 Hangzhou Sumit in 2016: www.g20.org/English/Dynamic/201606/t20160601_2294.html. The Turkish G20 Presidency in 2015 already prioritized access to finance by small and medium enterprises in the area of financial inclusion: www.gpfi.org/news/key-gpfi-dates-priorities-2015-announced (links were accessed on June 30, 2016). In 2018, the Argentinian G20 Presidency put sustainable and fair development as a center of its agenda and identified empowering women as essential (https://g20.argentina.gob.ar/en/overview-argentinas-g20-presidency-2018).

An extensive literature has discussed gender gaps in entrepreneurship in developed countries (examples include Hisrich and Brush, 1984; Fairlie and Robb, 2009; Minniti, 2009; Brush et al., 2017). Some studies have covered factors such as limited access to finance as a barrier to women starting and growing a business while others have analyzed gender-based impediments such as family and cultural burdens, limited mobility, and education. Yet, only few studies have explored these factors in developing countries, where legal frameworks are weaker and hence softer factors, such as networks, play a critical role (Sabarwal and Terrell, 2008; Bardasi et al., 2009; Brixiová and Kangoye, 2016; Baliamoune-Lutz and Lutz, 2017). At the same time, Sub-Saharan African countries' have the highest share of women's entrepreneurship globally and number of women entrepreneurs in the region has been rising (GEM, 2017). This trend underscores the need for research on constraints to high growth entrepreneurship in the region.

Against this background, this paper focuses on factors, including networks that contribute to easing financial constraints on female start-up capital and their links with entrepreneurial performance in a middle-income African country, a topic which has received limited attention. Regarding conceptual underpinning, similar to the GEM (2017), the definition of entrepreneurship in this paper emphasizes nascent entrepreneurship, and it focuses on firms that have been running for 60 months or less. Further, as Bardasi et al. (2009) posit, gender barriers to entrepreneurship are likely to be more pronounced during the entry stage of the entrepreneurial process. We center on start-up capital, since its availability, and access to finance more broadly, is considered critical for a firm's creation, size and performance.

Based on the empirical analysis, we also discuss resources other than start-up capital that are associated with well-performing women's firms. We are especially interested in the effects of networks that women access on generating the initial capital and on the firm performance in the start-up phase. We include both social network (friends and family) and professional networks (namely career advisors, teachers and other entrepreneurs). Since this paper focuses on the role of networks against other limited resources of women entrepreneurs, our research also contributes to the literature on the entrepreneurial bricolage (Senyard et al., 2009; Fisher, 2012). This topic is particularly unexplored in the African context.

The empirical analysis in this paper confirms the importance of start-up capital for entrepreneurial performance, measured in sales, for both men and women. Moreover, gender gaps in start-up capital are associated with gender gaps in performance. In line with other studies, we found that women entrepreneurs in Eswatini have smaller start-up capital and are less likely to fund it from the formal financial sector than men.[4] Ties with professional support also matter for female entrepreneurial success, as women who receive such support are more likely to finance their start-up capital from the formal financial sector. Finally, women entrepreneurs with college education and adult women on average start their firms with higher amounts of start-up capital than their less educated and younger counterparts.

The rest of the paper is organized as follows. Section 2 reviews the literature. Section 3 discusses data sources and some stylized facts, while Section 4 presents the empirical strategy and results. Section 5 concludes.

[4] For example, Chaudhuri et al. (2019) find significant underperformance in the size, growth, and efficiency of firms owned by women, utilizing 2006-07 dataset of registered and unregistered firms in India. They also illustrate that women-led businesses are less likely to obtain finance than men-led firms.

2. Review of literature

Social scientists typically put forward three perspectives about the reasons for gender differences in entrepreneurial performance: (i) differences in entrepreneurs' personal characteristics, including different skills and attitudes towards risk (Lazaer, 2005); (ii) social factors such as cultural values and social networks (Renzulli et al., 2000; Kristiansen, 2004; Witt, 2004), and (iii) the institutional and business environment (Aidis and Estrin, 2014). Among social factors, links between demographic trends and entrepreneurship have been gaining increased attention. For example. Dutta and Mallick (2018) found that the impact of higher fertility rates on women's entrepreneurship is negative, but can be mitigated by factors such as women's inceased tertiary enrollment and female labor force participation rates.

On the business environment side, access to credit as a barrier to entry and expansion of existing firms is a topic of continued interest, reflecting the lack of conclusive answers and effective policy solutions. Earlier research on the topic includes Aghion et al. (2007) for selected Organization for Economic Cooperation and Development (OECD) advanced and emerging markets and Baliamoune et al. (2011) for African countries. More recently, Fowowe (2017) examined subjective measures of financing access in 30 African countries and found that financing is key for firm growth. Quartey et al. (2017) showed that the SME access to finance in West Africa is impacted by firm size, formality, ownership, strength of legal rights, depth of credit information, managerial experience and firm's export orientation.

Research on gender gaps in access to start-up capital in Africa has been sparse. Exceptions include Asiedu et al. (2013), who examined empirically gender gaps in access to finance of firms in Africa and across developing regions. According to the authors, the gender of the firm's owner is an important determinant of financing constraints for SMEs, especially in Sub-Saharan Africa (SSA). Drawing on cross-sectional financial data from firms in the Middle East and Africa during 2006-14, Baliamoune-Lutz and Lutz (2017) found that (i) the availability of equity and/or debt capital and higher leverage have significant positive effects on firm performance, and (ii) women-owned firms have lower levels of equity and debt capital and a lower leverage. However, when female-owned firms acquire more financing, their performance improvement exceeds that of other firms, pointing to access to finance as a binding constraint.

Several earlier studies on developing and emerging market countries also found gender differences in the amount and composition of start-up capital, with women facing greater constraints than men (Malapit, 2012). Women entrepreneurs face challenges in accessing formal sources of funding during the start-up phase and end up drawing on their personal sources or borrowing in the informal financial sector. In contrast, in their study on the Netherlands, Verheul and Thurik (2001) found the gender gaps in the amount of start-up capital, but not in its composition (debt-to-equity ratios).

Regarding differences in attitudes of entrepreneurs towards risk, an influential stream of literature on entrepreneurship builds on the observation that relative to wage-workers, entrepreneurs tend to have lower risk aversion (Kanbur et al., 1982; Khilstrom and Laffont, 1979). This stream suggests that in small firms the level and structure of start-up capital reflects the owners' attitudes towards risk. In this vein, Sing and Belwal (2008) underscored that gender differences in start-up capital are linked to variances in the risk appetite. In contrast, Baumol, 1990) stressed that the risk attitude is not the key determinant of entrepreneurship. Rather, the important factor is that only some segments of the population have entrepreneurial inclinations

and are able to seize effectively business opportunities. Recent evidence has suggested that gender differences in risk attitudes are smaller than previously thought (Nelson, 2015).

Another stream of literature links entrepreneurial networking with firm performance, where performance indicators can include the level or growth of sales, profits, survival, etc. (Witt, 2004). Within this literature, an influential paper by Renzulli et al. (2000) posited that the extent to which networks have a positive effect on performance depends positively on their heterogeneity and negatively on the share of friends and relatives they contain. A more recent view on the network success hypothesis posits that social and professional networks constitute a mechanism that helps create and pursue new opportunities (Leyden et al., 2014). The hypothesis assumes that networks allow the entrepreneurs to obtain resources at lower cost or gain access to resources they could not reach otherwise. Along these lines, Markussen and Roed (2014) posited that gendered peer effects contribute to persistent gaps between male and female entrepreneurship rates that persist in most industrialized countries. They found that peer effects operate through both role models as well as learning opportunities and access to important networks. Shahriar (2018) found, in a simulated environemnt, that gender gaps in entrepreneurial propensity are outcomes of socialization, with men in patriarchal and women in matrilineal societies investing more in new venture creation.

Several researchers explored the role of networks in entrepreneurs' access to finance and performance. Baron and Markman (2000) provided evidence that entrepreneurs' ability to build or be part of networks plays an important role in securing venture capital and increasing sales performance. In connection with gender-related gaps in access to start-up capital for entrepreneurs, the findings of Kuada (2009) suggest that women entrepreneurs rely more on their relationships and social capital than men to offset the limited access to bank financing. This paper advances this research stream by seeking answers to the following questions: Are women entrepreneurs who gather support outside of their social network (friends and relatives) starting their firms with higher initial capital? Do they post better sales performance than women entrepreneurs who rely mostly on strength of close ties such as friends and family?[5]

3. Data sources and descriptive statistics

The analysis utilizes the 2012 UN Eswatini survey of 640 small and medium-sized enterprises (SMEs) in the urban areas of the country. Sampling frame consisted of all SMEs listed in the 2011 SME directory of the Ministry of Commerce, Industry and Trade (provided by the Ministry's SME Unit). Using this frame, all firms listed in the major six cities that provided their full addresses were contacted for interviews. Among 640 business persons interviewed, 246 were firm owners, 169 directors, 121 managers, and the rest (104) were employees.

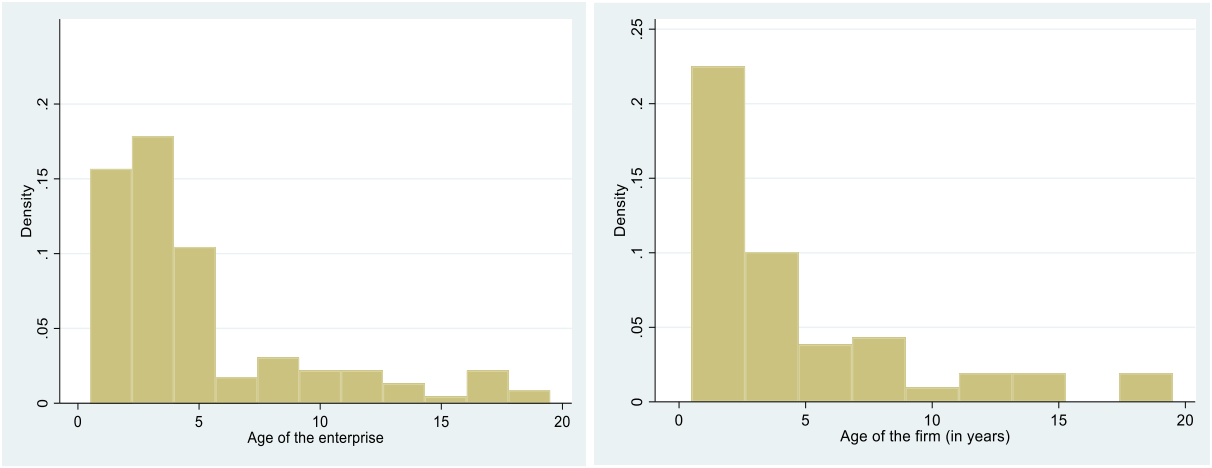
This paper focuses on start-up capital. In that vein, it defines a start-up firm as a venture that is 60 months old or younger. Among 246 firm owners interviewed, 161 enterprises met this criterion, of which 93 had a female owner and 68 a male owner. Figure 1 illustrates distribution of these respondent-owned enterprises by age for enterprises that were younger than 25 years. It shows that the majority of these fall into our definition of start-ups, that is they are five years old or younger. Nevertheless, for robustness of the empirical analysis, we also examine links between networks, start-up capital and firm performance (sales) of all interviewed firm owners.

[5] Conversely, reliance mainly on social networks for work resources, a practice which is more common among women, would be associated with reduced firm performance.

The initial sampling frame for the survey were all small and medium-sized (SMEs) listed in the 2011 SME directory of the Ministry of Commerce, Industry and Trade (provided by the SME unit). Using this frame, all firms listed in the six cities that provided their full addresses were selected for interviews. This choice implied that new and small firms as well as those that outgrew the 'SME status' or were not listed in the directory and operated more informally were not represented. To partly correct for this and also to replace firms that were no longer operating, about 100 enterprises that were not listed in the directory were interviewed. Overall, a large number of enterprises were interviewed relative to the population in selected areas.

Figure 1. Distribution of enterprises by age, since the establishment (in years)

1a. Women **1b.** Men



Source: Authors' calculations based on 2012 UN Eswatini survey.

The survey was conducted via the face-to-face interviews. It was undertaken in Mbabane (capital) and other cities (Manzini, Ezulwini, Matsapha, Nhlangano and Siteki) in the Hhoho and Manzini regions. These regions were selected because of: (i) high entrepreneurial activity, and (ii) the potential to become a growth corridor of Eswatini, i.e. because of the potential to generate positive spillovers to the rest of the economy. With the exception of two, all SMEs employed less than 20 employees. Among sectors, services were the main area of activity.

The survey included questions that explored three perspectives on entrepreneurship that social scientists typically focus on: (i) the institutional environment; (ii) social and family networks; and (iii) personal characteristics of the entrepreneurs. The interviews aimed at obtaining information on the background of the entrepreneurs, objectives of the firms they run (profit or other motive) and the constraints they most frequently encountered. Gender was measured with a dichotomous variable, taking value 1 for female and value 0 for male respondents.

The survey also collected data on the main characteristics of the enterprise (sector, size, sales) as well as family background and network support for the entrepreneurs. Utilizing descriptive statistics and kernel density estimates, paragraphs below examine the main demographic characteristics of men and women entrepreneurs. As Table 1 shows, men were on average slightly older, had higher education attainment, and were more likely than women entrepreneurs to have a nationality other than Eswatini. Men also spent on average several hours a week more than women in their firms and ran their business on full capacity for one month longer than women. Importantly, their average start-up capital was on average more than triple that of women while their firms were larger. Monthly sales of men-owned firms were more than double

and more likely to grow than those of women. Men entrepreneurs were also more likely to be single and have more entrepreneurial and work experience than their female counterparts.

Table 1. Demographic characteristics of interviewed male and female entrepreneurs (in 2012, in % unless otherwise indicated)

Characteristics	Men (N=68)	Women (N = 93)
	(in % unless otherwise indicated)	
Education		
High school or less	63.2	65.6
Tertiary	36.8	34.4
Age		
Youth (35 years or less)	54.4	49.5
Adult (above 35 years)	45.6	50.5
Marital status		
In traditional marriage	20.6	29.0
Modern marriage	27.9	26.9
Unmarried	51.5	44.1
Work efforts		
Weekly hours at work	44.1	42.6
Searching for job	30.9	14.6
Months last year at full capacity	10.6	9.7
Nationality		
Eswatini	77.9	91.4
Other	22.1	8.6
Start-up capital and sales		
Initial capital (mln. E)	74.6	23.2
Monthly sales (mln. E)	28.1	11.6
Sales stable or growing	53.4	48.2
Firm size (employees)	2.09	0.84
Work history		
First-time business owner	88.6	95.5
Previous work in the formal sector	58.5	47.8

Source: Authors' calculations based on 2012 UN Eswatini survey. Note: E stands for Emalangeni (local currency). *, **, and *** denote 10%, 5%, and 1% significance levels.

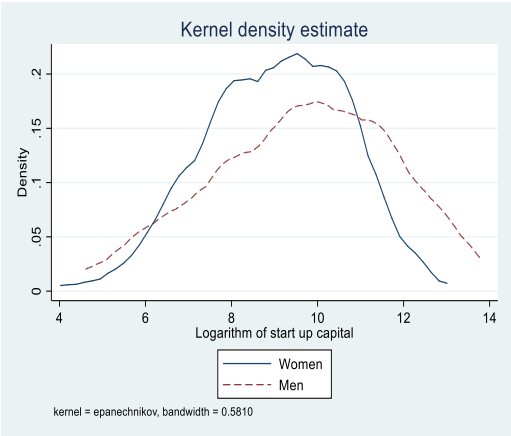
The kernel density estimates of probability function of (log of) monthly sales (Figure 2a) show that in these nearly uni-modal distributions men outperform women almost throughout the entire sales range. Women entrepreneurs have lower start-up capital than men for the entire range, with some women starting their firms with almost no capital (Figure 2b).

Table 2 illustrates differences in reliance of men and women entrepreneurs (business owners) on their networks for support and start-up capital. This overall picture in Eswatini context does not indicate that women entrepreneurs look more for support and sources of finance to their social network (family, friends) than men. In fact, women entrepreneurs in urban Eswatini reported having received relatively more encouragement to pursue entrepreneurship from their professional networks (advisers, other entrepreneurs) and less discouragement from their social

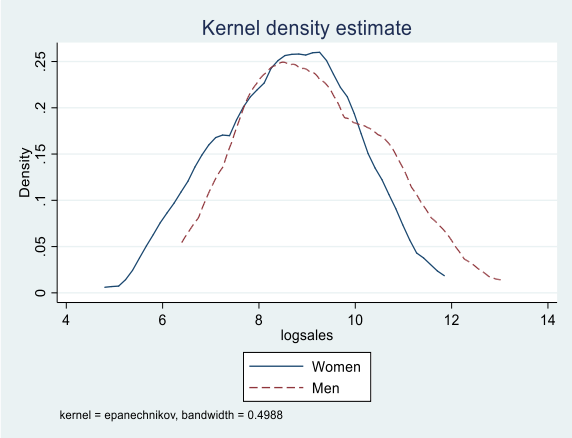
networks (family, friends) than their men counterparts. Women relied on social networks as sources of initial capital only marginally less than men, but provided it more often from their own sources, which was also reflected in lower levels of the initial capital. Overall, sources of financing for start-up capital in terms of debt and equity ratio are similar for men and women, as also found in Verheul and Thurik (2001), with women relying marginally more on equity from a combination of their own savings and social networks. While the higher share of women entrepreneurs contributed to start-up capital from personal sources, the amounts of such contributions were much smaller than among men. Finally, a larger share of women than men applied for credit from the informal sector and no women in the sample received bank credit.

Figure 2. Kernel density estimate of sales and start-up capital among new business owners

2a. Start-up capital (log), by gender



2b. Sales performance (log), by gender



Source: Authors' calculations based on 2012 UN Eswatini survey. **Note:** Sales are for a typical month.

Table 2. Sources of entrepreneurial support and start-up capital

	Men	Women		Men	Women
			(%)		
Sources of encouragement			*Sources of discouragement*		
No one	35.3	31.5	No one	44.1	53.9
Social network	47.1	43.8	Social network	51.5	37.1
Professional network	5.9	14.6	Professional network	2.9	3.4
Other (e.g., media)	11.8	10.1	Other (e.g., media)	1.5	5.6
Sources of start-up capital			*Sources of influence*		
Own savings	55.9	61.8	No one	18.5	16.8
Social network	22.1	19.1	Social network	46.7	46.3
Bank	8.8	0.0	Professional network	31.9	33.6
Informal lenders	13.2	19.1	Other (e.g., media)	3.0	3.4

Source: Authors' calculations based on 2012 UN Eswatini survey. Note: Social networks comprise family and friends while professional networks consist of career advisers, teachers and other entrepreneurs.

4. Empirical strategy and results

This section tests whether start-up capital and social factors (e.g. networks) are significant for firm performance in terms of the level of sales. It examines gender differences in (i) entrepreneurial performance (proxied by sales), accounting for entrepreneurs' start-up capital, networks and other factors as well as (ii) access to and composition of the initial capital. Differently put, the section analyzes if women entrepreneurs have on average lower start-up capital and sales than men and if they seek support from different types of network than men. Our main hypothesis is that women entrepreneurs who gather support outside of their social network (friends and relatives) will start their firms with higher initial capital and will post better sales performance than women entrepreneurs who rely mostly on friends and family.[6]

The main findings for both male and female entrepreneurs are that higher levels of initial capital are associated with higher sales. In contrast to their men counterparts, women entrepreneurs start their firms with lower levels of start-up capital, which they fund mostly from their own savings. On a positive side, women with higher education tend to start their firms with more capital than their less educated counterparts. Specifically,, women with tertiary education have higher initial capital than women who have lower educational attainment. Similarly, women who receive support from professional networks start their firms with higher initial capital than those who rely for support on social networks or no one. Moreover, women trained in financial literacy more often access external funding sources (including from social networks).

Two estimation methods have been applied to reach these findings: Ordinary least square (OLS) regressions and (ii) probit regression (PR). The OLS measures the effects of the explanatory variables (networks, education, personal characteristics) for the (average) sales performance, and assumes a well-shaped distribution around the mean. The PR estimates the effect of the explanatory variables on the probability that women will fund their start-up capital from external sources. We estimate these equations for men and women:

$$log(Sales\_lev_i) = \gamma.Business\ char. + \delta.Networks + v.Entr.Char + \varepsilon_i \quad (1a)$$

$$log(Init.Cap_i) = \alpha + \gamma Fund.Source + \sigma.Networks + v.Entr.Char. + \varepsilon_i \quad (1b)$$

$$Pr(External\ Funds) = \alpha + \sigma.Networks + \pi\ Entr.Char. + \varepsilon_i \quad (1c)$$

where *i* stands for entrepreneurs. In the OLS regressions (1b), the dependent variable (Sales_lev) is a logarithm of the amount of sales in a typical month, in Emalangeni (local currency). In (1b), the dependent variable (InitialCap) is a logarithm of the amount of start-up capital, also in Emalangeni. The probit model estimates the probability that the entrepreneur raises start-up capital from other than their own sources and takes on value 1 if that is the case and 0 otherwise. '*Networks'* category includes the sources of start-up capital, sources of encouragement to become an entrepreneur, and also sources (professional or social networks) that demotivated the entrepreneur. Finally, '*Entrepreneur characteristics'* captures the entrepreneur's age, marital status and type of mariage, education level, etc. The variables are listed in Appendix 2A.1.

[6] Conversely, reliance mainly on social networks for work resources, a practice which is more common among women, would be associated with reduced firm performance.

Table 3. Networks, start-up capital, and sales: OLS regressions, new and all owner samples

	Men	Men	Women	Women	Men	Women
		(new owners)			*(all owners)*	
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
			Networks			
Start-up capital from social networks	-0.261 (0.292)	-0.323 (0.299)	-0.887 (0.304)***	-0.915 (0.341)***	-0.102 (0.299)	-0.523 (0.261)**
Professional influence at start-up	-0.280 (0.260)	-0.396 (0.261)	-0.017 (0.244)	0.012 (0.270)	-0.151 (0.230)	0.015 (0.199)
Based in Manzini	0.121 (0.234)	0.084 (0.235)	-1.037 (0.269)***	-1.060 (0.267)***	0.039 (0.280)	-0.596 (0.238)**
			Business characteristics			
Initial capital (log)	0.424 (0.065)***	0.463 (0.090)***	0.414 (0.084)***	0.413 (0.084)***	0.420 (0.076)***	0.318 (0.068)***
Licensed	0.539 (0.286)*	0.574 (0.316)*	1.003 (0.293)***	1.009 (0.286)***	0.361 (0.282)	0.726 (0.234)***
Firm size	0.101 (0.023)***	0.113 (0.025)***	0.249 (0.120)**	0.244 (0.125)*	0.105 (0.034)***	0.282 (0.076)***
			Entrepreneur characteristics			
Youth (35 years-old or less)	-0.454 (0.241)*	--	-0.076 (0.224)			
Traditional marriage	--	0.214 (0.322)		0.171 (0.253)	-0.057 (0.302)	0.140 (0.187)
			Skills			
Tertiary education	--	-0.100 (0.331)	--	0.073 (0.276)	--	--
Perceive own skill gaps	--	-0.236 (0.595)	--	-0.070 (0.286)	--	--
Intercept	4.884 (0.587)***	4.282 (0.830)***	4.484 (0.773)***	4.401 (0.710)***	4.771 (0.684)***	5.151 (0.570)***
R^2	0.66	0.64	0.56	0.56	0.52	0.44
N	63	63	85	85	98	122

Note : Authors' calculations based on 2012 UN Eswatini survey.: *, **, and *** denote 10%, 5% and 1% significance levels. The dependant variable is the level of sales in a typical month (log). New owners are owners of enterprises that are 5 years old or younger. Heteroskedastic-robust standard errors are in parentheses.

Regarding factors impacting sales levels, which is our variable for measuring entrepreneurial success, a larger amount of start-up capital (and bigger firms) is associated with better sales performance in enterprises run by both men and women entrepreneurs (Table 3). For entrepreneurs of both genders, having license to operate is also positively linked with sales, but

to a larger extent for women than for men. Relying on social networks (friends and family) for funding of start-up capital has a negative and statistically significant impact on sales levels of women-run firms, and so does the Manzini location, which is the main industrial city of the country. This could, in part, reflect the type of sector that women entrepreneurs are involved in. Specifically, only 14 percent of women operate in manufacturing-related sectors relative to 20 percent of men. Finally, for firms with a male owner, being young (e.g. 35 years old or younger), was associated with lower sales levels; we did not find similar impact for women entrepreneurs.

Table 4. Networks, human capital and the level of start-up capital: OLS regressions

	Men (new owners) (1) Coeff (SE)	Women (new owners) (2) Coeff (SE)	Men (all owners) (3) Coeff (SE)	Women (all owners) (4) Coeff (SE)
Networks				
Professional support at start-up	0.288	0.453	-0.103	0.622
	(0.568)	(0.372)	(0.478)	(0.336)*
Debt funding from formal and informal lenders (outside family & friends)	1.655	0.723	1.909	0.649
	(0.497)***	(0.372)***	(0.452)***	(0.327)*
Working in Manzini	1.459	-0.177	-0.656	-0.167
	(0.546)**	(0.887)	(0.462)	(0.345)
Human capital				
Tertiary education	1.359	1.425	1.736	1.397
	(0.546)**	(0.445)***	(0.474)***	(0.398)***
First business	-1.057	-0.883	-0.613	-1.190
	(0.771)	(0.887)	(0.759	(0.644)*
Personal characteristics				
In traditional marriage	-1.516	-0.451	-0.448	-0.423
	(0.614)**	(0.418)	(0.519)	(0.391)
Age	0.067	0.22	0.025	0.001
	(0.029)**	(0.027)	(0.023)	(0.016)
Intercept	6.65	8.39	7.88	9.10
	(1.460)***	(1.419)***	(1.185)***	(1.016)***
R^2 adjusted	0.51	0.17	0.34	0.14
Number of observations	44	66	77	100

Note: Dependent variable is level of startup capital (log). Regression coefficients reported. Heteroskedastic-robust standard error under brackets. (*), (**) and (***) denote significance at 10%, 5% and 1% respectively.

Given the importance of the amount of start-up capital for firm performance in terms of sales, we now turn to analyzing drivers of the initial capital, including funding sources. We first ran OLS regressions on determinants of the amount of start-up capital for new firm owners (owners of firms that are 60 months old or younger) as well as for full sub-sample of men and women

and summarize results in Table 4. The results show that for both women and men entrepreneurs, funding their start-up capital from external sources, specifically through borrowing from formal and informal lenders, is associated with higher levels of initial capital (Table 4, all columns).

Another interesting finding from policy perspective is that tertiary education (that is completing some or all university schooling) is positively linked with higher amounts of start-up capital for both genders (Table 4, all columns). For all women business owners, running their first business has a negative impact on their sales (Table 4, columns 1 and 4). Manzini location and age are positively associated with sales of male entrepreneurs, pointing to the likely role of clusters and experience in entrepreneurial performance. In sum, while professional supports do not seem to play a direct role in obtaining the initial capital, the access to external sources of funding does.

As a robustness check, we have included entrepreneurial motives in the OLS regression; the qualitative results of Table 4 are unchanged. Interestingly, having a profit motive as the main driver of starting a firm is positively linked with sales levels of both new and all men owners but only all women owners. This is consistent with the view that women are more often than men driven to entrepreneurship by necessity or considerations such as greater time flexibility.

Table 5. Networks and composition of start-up capital (new owners): probit regressions

	Men (new owners) (1) Coeff (SE)	Women (new wners) (2) Coeff (SE)
Networks		
Social network support at start-up	-0.416	0.008
	(0.440)	(0.356)
Working in Manzini	-0.586	0.469
	(0.426)	(0.341)
Human capital		
Received financial literacy training	1.272	0.667
	(0.488)***	(0.392)*
Received business training	0.407	-0.091
	(0.592)	(0.383)
Personal characteristics		
Own contribution to start-up capital	-1.013	-0.778
	(0.438)**	(0.345)**
Intercept	-0.003	-0.771
	(0.452)	(0.341)
Pseudo R^2	0.27	0.16
Number of observations	68	87

Dependent variable is the external funding of start-up capital (=1 if from external sources and =0 if from own savings. Regression coefficients reported (*), (**) and (***) denote significance at 10%, 5%, 1%, respectively. Heteroskedastic-robust standard errors are in parentheses.

Regarding composition of funds, entrepreneurs – both men and women - who received financial literacy training were more likely to finance their start-up capital from sources other than their own savings, that is from funding from social networks and borrowing from either the formal or the informal financial sector than entrepreneurs without such training. However, the impact is stronger for men entrepreneurs. Making personal contributions to the start-up capital is associated with lower probability to receive funding from external sources for both men and women entrepreneurs. Finally, regional differences in access to external funds for start-up capital are not statistically significant for either women or men entrepreneurs (Table 5).

5. Conclusions

This paper contributes to the literature on the role of networks in accessing start-up capital and firm performance among women entrepreneurs in Africa with evidence from Eswatini. By illustrating how other scarce resources impact firm performance, the paper is also related to the emerging literature on entrepreneurial bricolage in developing countries.

The empirical analysis confirmed the critical role of start-up capital for sales performance of both men and women. The results also showed that, on average, women in Eswatini start their business with less capital and are more likely to fund it from their own sources than men. At the same time, education acts as a mitigating factor as women with higher education gather higher start-up capital than their less educated female counterparts. Moreover, women who receive support from professional networks have higher initial capital, while those trained in financial literacy more often access external funding sources, including through their networks. The results are consistent with those of Renzulli et al. (2000) who found that high share or relatives and network homogeneity are key weaknesses of networks of women entrepreneurs in advanced economies. By documenting that women entrepreneurs in Eswatini rely more on their relatives and social capital than men when trying to access capital, the results are also related to those of Kuada (2009) who examined the role of social capital for women's entrepreneurship in Ghana. We add to this literature stream by illustrating that in Eswatini funding the start-up capital by borrowing from the formal or informal lenders is linked positively with the amount of start-up capital and firm performance of both men and women entrepreneurs.

The results suggest that policies towards women's entrepreneurship need to go beyond strengthening the business environment and include proactive steps such as building networks among women entrepreneurs and funders as well as financial literacy trainings. The paper gave evidence on the positive role of networks in obtaining start-up capital and firm performance; further research is needed on the causal links, to identify mechanisms through which the network effects are achieved. For example, it would be useful to explore if gendered peer effects contribute to persistent gaps between men and women entrepreneurs in their choice of sectors of operation and funding sources.

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Appendix __A.1. Description of variables

Variable	Description
Sales_level(log)	Log of the amount of sales (thousands of Emalangeni)
Initial capital (log)	Log of the amount of startup capital (thousands of Emalangeni)
Initial capital from debt	Dummy variable taking the value of 1 if the initial capital was sourced from borrowing and the value of 0 otherwise
Profit motivation	Dummy variable taking the value of 1 if the person was motivated to become an entrepreneur by profits and 0 otherwise
Hours worked weekly	Average number of hours entrepreneur spends working in the establishment during one week
Personal contribution	Dummy variable taking the value of 1 if the entrepreneur made a personal contribution to the business at start-up and the value of 0 otherwise
Social influence	Dummy variable taking the value of 1 if friends influenced the entrepreneur to start-up a business. The dummy takes the value of 0 otherwise
Professional influence	Dummy variable taking the value of 1 if the following influenced the entrepreneur to start-up a business: teachers or lectures, career advisers, entrepreneurs, media. The dummy takes the value of 0 otherwise
Parents provided support	Dummy variable taking the value of 1 if the entrepreneur's parents provided financial support and/or mentoring and the value of 0 otherwise
Parents self-employed	Dummy variable taking the value of 1 if the entrepreneur's parents are self-employed and the value of 0 otherwise
Swazi citizen	Dummy variable taking the value of 1 if the entrepreneur has a Swazi citizenship and the value of 0 otherwise
From Manzini	Dummy variable taking the value of 1 if the entrepreneur is from Manzini and the value of 0 otherwise
Financial literacy training	Dummy variable taking the value of 1 if the entrepreneur received training in financial literacy and 0 otherwise
Business training	Dummy variable taking the value of 1 if the entrepreneur received any business training (including informal business training, introduction to business, formal business training and advanced business training) and 0 otherwise
Education	Dummy variable taking the value of 1 if the respondent obtained university education and 0 otherwise
Size	Number of employees
Age of business	Age of business (years)
First business	Dummy variable taking the value of 1 if the entrepreneur never owned/ran business before and the value of 0 otherwise
Licensed	Dummy variable taking the value of 1 if the business has formal license and the value of 0 otherwise