Informality and Financing of Small and Medium Enterprises in Eswatini

Ajetomobi Joshua Olusegun,
Dlamini Sotja Graham,
Dlamini Daniel Vusanani
and
Dlamini Bongiwe Porrie

Working Paper IF-003

AFRICAN ECONOMIC RESEARCH CONSORTIUM
CONSORTIUM POUR LA RECHERCHE ÉCONOMIQUE EN AFRIQUE

Bringing Rigour and Evidence to Economic Policy Making in Africa

Informality and Financing of Small and Medium Enterprises in Eswatini

By

Ajetomobi Joshua Olusegun
Department of Agricultural Economics and Management
Faculty of Agriculture, University of Eswatini, Eswatini

Dlamini Sotja Graham
Department of Agricultural Economics and Management
Faculty of Agriculture, University of Eswatini, Eswatini

Dlamini Daniel Vusanani
Department of Agricultural Economics and Management
Faculty of Agriculture, University of Eswatini, Eswatini

and
Dlamini Bongiwe Porrie
Department of Agricultural Economics and Management
Faculty of Agriculture, University of Eswatini, Eswatini

AERC Working Paper IF-003
African Economic Research Consortium, Nairobi
October 2022

THIS RESEARCH STUDY was supported by a grant from the African Economic Research Consortium. The findings, opinions and recommendations are those of the author, however, and do not necessarily reflect the views of the Consortium, its individual members or the AERC Secretariat.

Published by: The African Economic Research Consortium
P.O. Box 62882 - City Square
Nairobi 00200, Kenya

Contents

List of tables

List of figures

List of abbreviations and acronyms

ATMs	Automated Teller Machines
COVID-19	Corona Virus Disease 2019
DSTV	Digital Satellite Television
FGDs	Focus Group Discussions
FNB	First National Bank
FSPs	Financial Services Providers
GDP	Gross Domestic Product
IFC	International Finance Corporation
LDCs	Least Developed Countries
NBFI	Non-Bank Financial Institution
NFIS	National Financial Inclusion Strategy for Swaziland
SMEs	Small and Medium Scale Enterprises
TFP	Total Factor Productivity

Abstract

Access to finance by small and medium-scale firms is essential for their growth, development, and innovation. In many developing nations, policy makers are worried because many of the small and medium-scale firms are financed through informal financial institutions. In addition, informality of the firms seems to impose some restriction on the nation's institutional, legal and financial frameworks for the growth of the firms. This country case study, therefore, is an attempt to investigate how informality of small and medium-scale firms in Eswatini affects their productivity and access to finance. Specifically, the study used firm-level data from World Bank Enterprise database to: (1) investigate the link between informality of small and medium firms and their productivity, and (2) analyse the relationship between their informality and access to finance. The results show that informality of the small and medium-scale firms in Eswatini reduces their labour productivity irrespective of their gender differences. Women operating formal firms are more productive than their male counterparts, on the average. Their average labour productivity is 1.33 and 1.07, respectively. Female-owned firms are more financially constrained and rely more on non-bank and informal credit than male-owned firms. The relationship between informality of the small and medium firms and their reliance on bank financing is negative and statistically significant at 5% level regardless of gender differences. In contrast, the probability of relying on informal credit (money lender, friends, and relatives) increases by about 19.5% for informal firms compared to formal firms. The results suggest that bank and informal credit are likely substitutes in the kingdom of Eswatini. Tax administration problem, bribery, and lack of title-deed to land reduce the probability of using bank credit in the country, and female-owned firms are worse off.

1. Background and motivation for the study

Globally, Small and Medium-Scale Enterprises (SMEs) are essential to economic growth, employment generation, innovation, and poverty reduction. The sector is contributing about half of the global GDP and employs about 80% of the population (Stouraitis et al., 2017). In developed world, the contribution of the sector to economic growth is slightly higher (55%) than the world average. Like other less developed and emerging economies, the sector contribution to economic growth in South African region ranges between 40% and 60% and employs slightly above 80% of the population (International Finance Corporation [IFC], 2012; Deijl et al., 2013; Irene, 2017). However, few major concerns in less developed and emerging economies include: (1) the proportion of the sector that are operating informally, (2) financial limitations of the sector, particularly firms owned by women, and (3) regulatory frameworks to enhance financial inclusion of the SME stakeholders and create a level playground for male and female small and medium-scale entrepreneurs.

Generally, there are large informal sector in Least Developed Countries (LDCs) with low productive firms and poorly remunerated workers (La Porta & Shleifer, 2014). There are various reasons why firms operate informally. These include (i) the possibility of reducing or eliminating tax payments, (ii) avoidance of burdensome and complex administrative procedures such as tax and regulatory compliance and bureaucratic corruption, (iii) the relatively small and manageable start-up capital, and (iv) it is relatively cheaper and less cumbersome for an informal firm to hire or fire workers than formal firms (Dabla-Norris et al., 2008; La Porta & Shleifer, 2014). Nevertheless, by operating informally, firms may limit their access to bank financing because (i) banks are often unwilling to grant credit to enterprises that lack proper documentation (such as government registration and licensing, tax compliance certificates, and audited financial statements); (ii) informal firms often face problems of providing dependable collateral for bank loans; and (iii) many of them lack financial soundness and economic prospects in their financial statements (World Bank, 2007a). In addition, deficiencies in the legal and institutional environment can discourage firms to seek bank financing (Demirgüç-Kunt & Maksimovich, 1998; Beck et al., 2005; Savafian & Wimpey, 2007). Such deficiencies can make it difficult for banks to enforce contracts as well as to sort and monitor borrowers. Often, the aftermath is credit rationing by lenders. Based on the pro and con of a firm's informality, any meaningful strategy to formalize an informal firm would have to address the distributional as well as the aggregate effects.

There are several empirical evidences on gender differences in firm-level performance and financial constraints (Klapper et al., 2006; Claessans & Leavan, 2003; Aiyagari et al., 2010; Amin, 2010). Though the studies show that access to bank finance has a significant and positive effect on firm performance, by encouraging new firm entry, growth, and innovation, many of them neglect informality and centre on formal firms and merely include sex dummy to capture gender effects. There are few studies on the subject matter of informality and firm-level credit constraints in low income and developing countries and none is yet to be carried out in Eswatini despite clear evidence of informality and gender differences in firm-level characteristics, finance, and performance. Therefore, this study investigates these two research questions across gender, namely, (i) does informality matters to firm-level productivity and (ii) does informality matters to firm-level access to credit? These questions were addressed using regression models constructed from 2016 World Bank Enterprise data on Eswatini.

The rest of this paper is organized as follows. The rest of Section 1 covers the background information (characteristics, informality, and financial inclusion of the firms). Section 2 contains the literature review; while Section 3 focuses on the methodology. In the Section 4, the results are reported and discussed. The conclusion and policy recommendations are presented in Section 5.

Gender and characteristics of firms in Eswatini

Gender and firm ownership

Table 1 presents the distribution of firm ownership by gender according to the legal status (informality) of the firms. Most of the firms in Eswatini (79 (59.8%)) are formal. Table 1 shows that there exist more formal female-owned firms (43 (65.2%)) than male-owned (36 (54.5%)). Yang & Aldrich (2014)[found that women, in general, are more likely to be law-abiding citizens than men (53 (40.2%)). Twenty-three (34.8%) and 30 (45.5%) of the female and male-owned firms are informal, respectively. Most of the firms in Eswatini (38 (28.8%)) are in the retail industry. Ambos and Schlegelmilch (2008) shows that retail firms are now everywhere, and the number keeps growing. The growth in recent years can be traced to a rise in online trade which provides flexibility. The study also adds that many people, especially those with family commitments, have the retail sector as an ideal environment in which to work because of the flexibility of the hours and shift patterns. Further, Table 1 shows that 37.9% of the formal male-owned firms belong to the retail industry. For female-owned firms, the proportion is seven (16.3%). The degree of informality is higher in male-owned retail firms (33.3%) than female owned (26.1%).

In the food and beverage industry, the proportion of informal firms is higher among female-owned firms (21%) than male-owned (6.7%). Generally, women are more likely to be the primary shopper for groceries and have the tendency to begin such a

business on a small-scale basis. Argyris (1957) reveals that female-owned firms have a unique perspective on the specific needs of society and the challenges they face in feeding their families but not have enough time to cook three times a day. Hence more females get inspired to start food businesses thinking about all the busy families who needed convenient foods that were as clean and healthy as they were delicious. This view is still valid in our present dispensation.

Table 1: Gender and firm ownership in Eswatini

Industry	Female-Owned		Male-Owned		Overall	
	Formal (N=43)	Informal (N=23)	Formal (N=36)	Informal (N=30)	Formal (N=79)	Informal (N=53)
Food	5 (11.6)	5 (21.7)	5 (13.9)	2 (6.7)	10 (12.7)	7 (13.2)
Garment	5 (11.6)	2 (8.7)	1 (2.8)	0 (0)	6 (7.6)	2 (3.8)
Wood	0 (0)	0 (0)	0 (0)	1 (3.3)	0 (0)	1 (1.9)
Paper	0 (0)	0 (0)	0 (0)	2 (6.7)	0 (0)	2 (3.8)
Publishing & Printing	4 (9.3)	2 (8.7)	0 (0)	1 (3.3)	4 (5.1)	3 (5.7)
Refined Petroleum	1 (2.3)	0 (0)	2 (5.6)	0 (0)	3 (3.8)	0 (0)
Plastic and Rubber	1 (2.3)	1 (4.3)	1 (2.8)	1 (3.3)	2 (2.5)	2 (3.8)
Non-metallic Mineral	3 (7.0)	0 (0)	2 (5.6)	1 (3.3)	5 (6.3)	1 (1.9)
Basic Metals	1 (2.3)	0 (0)	0 (0)	0 (0)	1 (1.3)	0 (0)
Fabricated Metal	0 (0)	0 (0)	1 (2.8)	1 (3.3)	1 (1.3)	1 (1.9)
Machinery & Equipment	1 (2.3)	0 (0)	0 (0)	1 (3.3)	1 (1.3)	1 (1.9)
Furniture	3 (7.0)	1 (4.3)	2 (5.6)	3 (10.0)	5 (6.3)	4 (7.5)
Construction	1 (2.3)	0 (0)	1 (2.8)	1 (3.3)	2 (2.5)	1 (1.9)
Service of Vehicles	1 (2.3)	0 (0)	2 (5.6)	3 (10.0)	3 (3.8)	3 (5.7)
Wholesale	0 (0)	1 (4.3)	0 (0)	1 (3.3)	0 (0)	2 (3.8)
Retail	7 (16.3)	6 (26.1)	15 (41.7)	10 (33.3)	22 (27.8)	16 (30.2)
Hotel & Restaurants	8 (18.6)	2 (8.7)	1 (2.8)	1 (3.3)	9 (11.4)	3 (5.7)
Transport	2 (4.7)	3 (13.0)	1 (2.8)	1 (3.3)	3 (3.8)	4 (7.5)
IT	0 (0)	0 (0)	1 (2.8)	0 (0)	1 (1.3)	0 (0)
Food	0 (0)	0 (0)	1 (2.8)	0 (0)	1 (1.3)	0 (0)

Note: In parentheses are the percentages.

Like food and beverage industry, informality in hotel and restaurants industry is more pronounced among female-owned firms than male-owned. About 3.3% of informal male-owned firms are in this industry while the percentage of the informal female-owned firms in hotels and restaurant industry is 8.7%. The proportion of informal male-owned firms in the furniture industry is 10% while the proportion of female owned-firms in the industry is about 4.3%. All the firms in the wood and paper industries are informal and owned by men while all petroleum and IT firms are formal but mostly owned by men. Melnikas (2008) reports that tremendous technological leaps are being made, but the economic and social benefits remain

geographically concentrated primarily in developed countries. Too often the least developed countries (LDCs) remain far behind, if not excluded entirely. Many have little choice beyond the use of obsolete technologies, such as those used in the garment or agricultural sectors. This may be the case for Eswatini.

All the firms owned by women in basic and fabricated metals, machinery and equipment, construction and vehicle services are all formal. Any of such firms that are informal are owned by men. None of the male-owned garment firms is informal while about 8.7% of the female-owned informal firms belong to the garment industry. It is interesting to note that there are significant proportion in the transport sector in the country contrary to general believe that the sector is predominantly male-owned. Bhardwaj (2019) shows that female-owned businesses in male-dominated sectors make significantly higher profits than those in traditionally female sectors. Their correlation analysis suggests that women who own businesses in male-dominated sectors are younger, married, and more likely to have inherited the business than women in female-concentrated sectors.

Firm characteristics by gender and informality in Eswatini

Table 2 presents the firms' characteristics by gender and informality. Altogether, there are 132 firms, half of which are owned by men. More than three quarters of the female-owned informal firms (78%) are small-scale. For male-owned informal firms, the proportion is about 43.3%. Overall, about 58% of the informal firms are small scale. Mintzberg (1979) found that entrepreneurs prefer small over medium firms because of their simpler structure, greater capacity to adapt to changes, and ability to better detect and take advantage of small market niches. Brown & Lockett (2007) shows that men are more likely to have bigger firms than women, as men tend to take more risk and accept challenges like low bargaining power with suppliers and customers. More than 12% of the small and medium firms in Eswatini are owned by foreigners. This is a plus to the openness of the nation's economy. In terms of informality, however, the level seems unacceptably too high for domestic firms. All the female-owned informal firms are domestic and the proportion of domestic male-owned informal firms is more than three quarters (76.7%). The finding is in consonance with Brown & Lockett (2007) who shows that men tend to be more courageous to start and register businesses than women in several countries.

None of the female-owned firms are quoted on the stock market. More than 80% (formal and/or informal) are sole-proprietorship. Most of the companies (quoted or not quoted on stock market) are largely owned by men. However, more than one-third of the informal firms (36.7%) are run as partnerships. Managers of female-owned informal small and medium firms in Eswatini are generally more experienced than managers of female-owned formal firms. Their average year of experience is 13.2 and 9.8, respectively. In contrast, managers of male-owned informal firms are less experienced than their male-owned but formal counterpart. In terms of gender differences, managers of male-owned firms are more experience than their female counterpart.

It is of interest to note that there is a huge gender bias in the appointment of company top executives by Eswatini small and medium industries. A staggering proportion (72.7%) does not have any female top executive. The problem is more pronounced among male-owned firms. About 89% of male-owned formal firms do not have any female top executive. The proportion is even high among female-owned firms. About two-thirds (65.1%) of the female-owned formal firms have no top female executive. The story is the same for the informal firms. About 73% of male-owned informal firms do not have any female top executive. The proportion in case of female-owned informal firms is about 60%.

On the average, there is a very marginal difference between the period of establishment of formal and informal firms in Eswatini. However, there seems to be a significant gender gap. The average age of male-owned formal firms is 20.1 years while it is 16.8 for the female-owned formal firms. For informal firms, the average ages are 19.4 and 16.9 years, respectively, for male-owned and female-owned firms. It is of interest to find out that informal firms are better than formal in terms of sales values. The average annual sales value of female-owned formal firms is US$5.8 million, while it is 8.3 million in case of female-owned informal firms. The values are 17.1 million and 5.3 million, respectively, for male-owned informal and formal firms. This clearly reveals the seriousness of firm informality in the country despite massive efforts of government to stem the tide. There exist significant differences in the number of employees between male-owned and female-owned firms. On the average, the number of employees by male-owned formal firms is 31.7 while it is 26.2 in the case of female-owned formal firms. Similarly, the number of employees in male-owned and female-owned informal firms is 34.2 and 19.4, respectively. The average number of employees for formal firms is generally higher than that of informal, perhaps due to access to better information and capital. There are also wage differentials between male and female-owned firms in Eswatini. The wage rate is generally higher, on the average, in male-owned firms. For example, female-owned formal firms pay an average of US$0.9 million as wages while their male counterparts pay US$1.15 million. As expected, formal firms have access to more capital than informal firms but female-owned firms generally have more access than firms owned by men. The average annual capital for male-owned formal firms is US$0.18 million while it is US$0.4 million for the female-owned counterparts. For informal firms, there is little or no difference.

Table 2: Gender and informality of firms in Eswatini

	Female-Owned		Male-Owned		Overall	
	Formal (N=43)	Informal (N=23)	Formal (N=36)	Informal (N=30)	Formal (N=79)	Informal (N=53)
Medium	19(44.2)	5(21.7)	22 (61.1)	17(56.7)	41(51.9)	22(41.5)
Small	24(55.8)	18(78.3)	14 (38.9)	13(43.3)	38(48.1)	31(58.5)
Ownership						
Domestic	42(97.7)	23(100)	24 (66.7)	23(76.7)	66(83.5)	46(86.8)
Foreign	1(2.3)	0(0)	12 (33.3)	7(23.3)	13(16.5)	7(13.2)
Type of Firm						
Stock Market	0(0)	0(0)	1 (2.8)	5(16.7)	1(1.3)	5(9.4)
Other coy	0(0)	0(0)	10 (27.8)	8(26.7)	10(12.7)	8(15.1)
Sole trading	39(90.7)	19(82.6)	0 (0)	0(0)	39(49.4)	19(35.8)
Partnership	3(7.0)	4(17.4)	21 (58.3)	11(36.7)	24(30.4)	15(28.3)
Ltd Liability	1(2.3)	0(0)	3 (8.3)	6(20.0)	4(5.1)	6(11.3)
Others	0(0)	0(0)	1 (2.8)	0(0)	1(1.3)	0(0)
Manager Exp.	9.84(7.9)	13.2(9.8)	15.1(9.56)	14.4(8.8)	12.2(9.06)	13.9(9.2)
Female Exec.						
Yes	15(34.9)	9(39.1)	4 (11.1%)	8(26.7)	19(24.1)	17(32.1)
No	28(65.1)	14(60.9)	32 (88.9)	22(73.3)	60(75.9)	36(67.9)
Age of Firm	16.8(12.1)	16.9(10.6)	20.1(10.8)	19.4(12.4)	18.3(11.6)	18.3(11.6)
Sales	5.8(16.5)	8.23(31.0)	5.31(5.54)	17.1(38.6)	5.58(12.7)	13.3(35.4)
Labour	26.2(25.5)	19.4(17.6)	31.7(25.9)	34.2(27.4)	28.7 (25.6)	27.8(24.6)
Wage	0.9(1.2)	0.75(1.04)	1.15(1.09)	1.47(1.41)	1.05 (1.18)	1.16(1.30)
Material	1.9(6.5)	2.69(10.3)	1.60(3.03)	4.18(9.57)	1.77 (5.24)	3.53 (9.84)
Capital	0.4 (1.5)	0.34(1.00)	0.18(0.24)	0.33(0.89)	0.28 (1.13)	0.33 (0.93)

Note: In parentheses are the percentages.

Gender and financial inclusion in Eswatini

Table 3 shows the distribution of the firms by financial inclusion and informality. As expected, the percentage of formal firms using banks is higher than that of informal firms regardless of gender. However, male-owned formal firms have better access to banks (83.4%) than female-owned formal firms (70.5%). About 86% of male-owned informal firms have access to banks while for female-owned informal firms, the proportion is 60.9%. More informal firms face severe financial problems compared to formal firms and this is reflected in their access to bank loan. Female-owned firms are, however, more affected than firms owned by their male counterparts. About 73% of male-owned informal firms have no access to bank loan while the proportion in case of informal firms owned by women is about 82%. The result supports the findings of Brixiová & Kangoye, (2016) who show that women entrepreneurs rely more on

informal sources of finance for their business relative to men in Eswatini. According to Hlanze et.al., (2020) women generally face credit access challenges in their efforts to increase their household production and contribute to improvement of communities at large. The major credit access challenges include: huge family responsibilities, high transaction costs, unreliable and small marketing avenues, as well as poor access to bank advisory services.

A major driver of firms' access to bank loan is title deed to land. Those with title deed to land can use their properties as collateral relative to those without title deed. Angelakopoulos and Mihiotis (2011) show loan applicants with a tittle deed have better access to credit than those who did not have. In their view, the deeds can be used as collateral to access commercial bank loans. Though access to land seems high in the country, there exists remarkable gender discrimination. Hlanze et.al., (2020) indicate that in the past, husbands in all the marriage regimes in Eswatini had marital power which precludes a woman from owning or controlling property because the husband is regarded as the sole administrator of the estate. Currently, the conditions appear to be changing. The recent NFIS (National Financial Inclusion Strategy for Swaziland 2017–2022) report by the ministry of finance states that the constitution of the country has elevated the status of women in the country by eliminating previous tendencies towards discrimination, such as registration of property by women and access to land through “khonta”. However, there is still a need to address other areas where women are still vulnerable. All the informal firms have bank accounts and the proportion of formal firms without bank account is less than 10%. This is made possible through widespread availability of microfinance banks and mobile money operation in the country. Nevertheless, most women use internal funds to finance both their firms' working capital and fixed assets relative to their male counterparts. In justifying this type of banking habit, Yaniv et al. (2010) states that, women are better at saving up and collecting funds in general than men. The descriptive statistics clearly show that remarkable differences exist between formal and informal firms as well as female-owned and male-owned firms. Hence, in the next section, the study explores drivers of informality and access to bank credit by running separate regressions for male-owned and female-owned firms. The descriptive statistics suggests that there is an urgent need to provide support to small and medium-scale enterprises in the kingdom of Eswatini through training, including on financial literacy. Such investment in business skill acquisition should pay more attention to women and young entrepreneurs. Given severity of financial problems among the small and medium firms in the country, there may be a need to adjust the financial instruments and land use regulations (for example, regarding ownership of land and asset that can be used as collateral) to help women entrepreneurs increase their access to credit. The young women, in particular, could benefit from tailored entrepreneurship development programmes, alongside improved educational opportunities in technical and business fields, vocational training, and at the tertiary level.

Table 3: Informality and financial inclusion

	Female-Owned		Male-Owned		Overall	
Credit Source	**Formal (N=43)**	**Informal (N=23)**	**Formal (N=36)**	**Informal (N=30)**	**Formal (N=79)**	**Informal (N=53)**
Private Bank	18(41.9)	6(26.1)	28(77.8)	21(70.0)	46(58.2)	27(50.9)
State Bank	8(18.6)	8(34.8)	2(5.6)	5(16.7)	10(12.7)	13(24.5)
NBFI	16(37.2)	9(39.1)	5(13.9)	3(10.0)	21(26.6)	12(22.6)
Others	1(2.3)	0(0)	1(2.8)	1(3.3)	2(2.5)	1(1.9)
Finance Problem						
None	11(25.6)	3(13.0)	7(19.4)	3(10.0)	18(22.8)	6(11.3)
Minor	15(34.9)	8(34.8)	18(50.0)	12(40.0)	33(41.8)	20(37.7)
Moderate	15(34.9)	9(39.1)	10(27.8)	11(36.7)	25(31.6)	20(37.7)
Severe	2(4.7)	3(13.0)	1(2.8)	3(10.0)	3(3.8)	6(11.3)
Very Severe	0(0)	0(0)	0(0)	1(3.3)	0(0)	1(1.9)
Land Title Deed						
Yes	35(81.4)	20(87.0)	31(86.1)	28(93.3)	66(83.5)	48(90.6)
No	8(18.6)	3(13.0)	5(13.9)	2(6.7)	13(16.5)	5(9.4)
Bank Loan						
Yes	12(27.9)	4(17.4)	14(38.9)	8(26.7)	26(32.9)	12(22.6)
No	31(72.1)	19(82.6)	22(61.1)	22(73.3)	53(67.1)	41(77.4)
Bank Advice						
Yes	0(0)	1(4.3)	2(5.6)	2(6.7)	2(2.5)	3(5.7)
No	43(100)	22(95.7)	34(94.4)	28(93.3)	77(97.5)	50(94.3)
Bank Account						
Yes	40(93.0)	23(100)	34(94.4)	30(100)	74(93.7)	53(100)
No	3(7.0)	0(0)	2(5.6)	0(0)	5(6.3)	0(0)
Loan Size	3.31(8.22)	4.83(1.06)	5.13(10.1)	3.97(8.7)	4.14(9.09)	4.34(9.48)
Working Capital Financing						
Internal Fund	72.6(35.5)	84.8(29.7)	66.5(33.8)	78.5(34.0)	69.8(34.6)	81.2(32.1)
Bank	7.79(15.7)	5.00(10.1)	7.08(11.5)	9.67(21.0)	7.47(13.8)	7.64(17.2)
NBFI	6.63(14.0)	7.17(17.9)	7.86(14.7)	2.50(8.38)	7.19(14.3)	4.53(13.4)
Credit Purchase	5.81(13.6)	1.74(5.14)	8.33(17.8)	4.50(10.7)	6.96(15.6)	3.30(8.77)
Others	0 (0)	4.65(15.8)	2.97(12.7)	2.17(11.9)	1.35(8.66)	3.25(13.6)
Fixed Asset Financing						
Internal Fund	65.9(42.3)	62.6(47.6)	48.9(43.7)	43.3(42.0)	58.2(43.5)	51.7(45.1)
Equity	4.65(14.7)	6.09(18.5)	0(0)	7.33(23.8)	2.53(11.0)	6.79(21.5)
Bank	14.4(23.8)	7.39(18.9)	12.5(22.7)	16.3(26.8)	13.5(23.2)	12.5(23.9)
NBFI	34(79.1%)	13(56.5%)	27(69.4%)	16(53.3%)	60(74.7%)	29(54.7%)
Credit Purchase	3.37(8.50)	5.22(21.1)	4.72(8.45)	4.67(18.5)	3.99(8.45)	4.91(19.5)
Others	7.09(25.8)	25.2(40.5)	21.3(54.3)	25.6(60.8)	13.8(33.9)	25.5(54.4)
Capacity	79.4(25.4)	77.2(26.7)	59.3(32.1)	74.0(27.5)	70.3(30.2)	75.4(26.9)

Note: In parentheses are the percentages.

To better understand the vulnerability of women entrepreneurs to financial and legal constraints, a focus group discussion was conducted in addition to the descriptive statistics derived from the World Bank Enterprise data on Eswatini SMEs and presented in Table 1, Table 2, and Table 3. The focus group discussion reported in this section is based on the findings from two FGDs with over 30 SME owners. The FGDs were conducted in two out of the four regions in the country, and financial inclusion and constraints were identified. The participants of the FGDs were drawn from two women target groups, namely, Imbita and Gone-Rural Women group. The women gave remarkable information on the scope and constraints to financial access for SMEs that may help the Government of Eswatini and various donor organizations to design and implement more impact and gender-oriented financial development interventions. Table 4 shows details of the group participants in the FGD. The questionnaire is presented in Appendix A.

Table 4: Details of group participants in FGDs

Group	Number	Sector	Location	Moderator
Imbita	15	Agro-processing	Manzini	Dlamini, S.G
Gender: 100% female		Manufacturing		
Age group: 18-60		Business services		
Age of Business: Start-up-mature		Agriculture/farming		
		Community and household		
Gone-Rural	15	Agro-processing	Malkerns	Dlamini, B.P
Gender: 100% female		Manufacturing		
Age group: 18-60		Business services		
Age of Business: Start-up-mature		Restaurants		
		Agriculture/farming		
		Community and household		

The key findings from the FGDs from the two women groups are discussed here bearing in mind the business motivation, rationale for informality, and access to finance. SME is the main source of income for the women. The women are in business

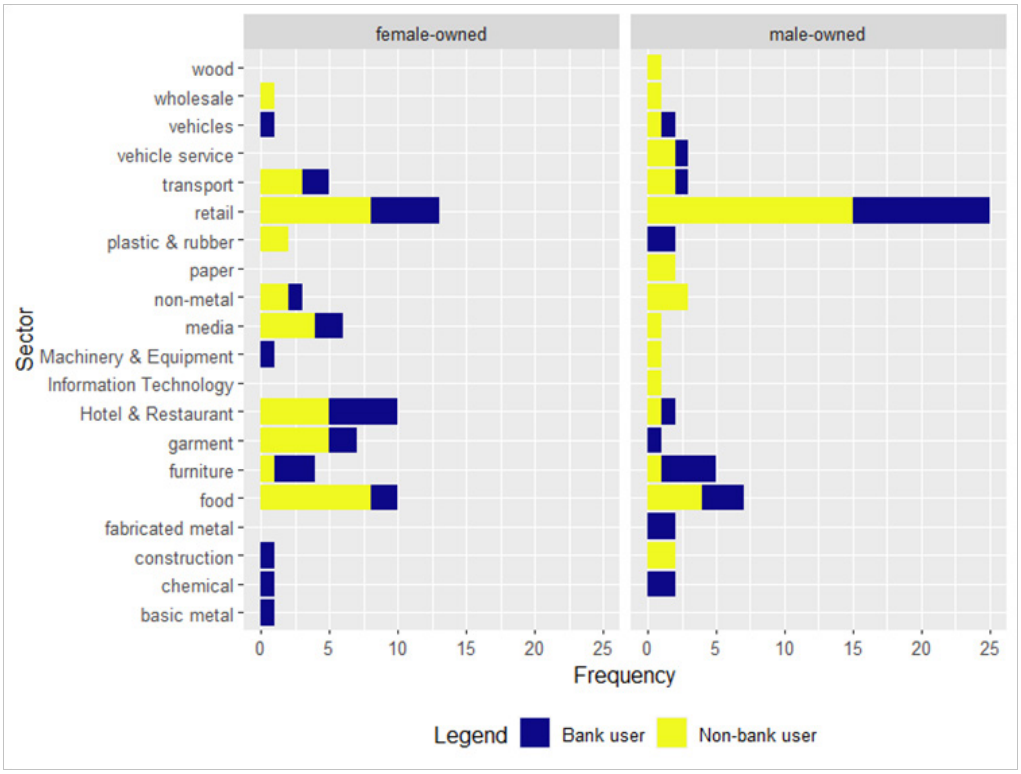
primarily to make money in order to meet their basic needs instead of wealth creation. In terms of legal status, they are predominantly sole proprietors and the level of informality is generally high. Even though most of the women are well aware of the process to formalize their businesses and the importance of formalization of the businesses, they fear that formalizing the business will expose them to tax collectors and reduce their income drastically. The main goal of joining the women group is to save and borrow money for their businesses and payment of their children school fees. The women in the two groups reported about the help of the groups in alleviating their financial stress due to COVID-19 pandemic. According to the Imbita women group, the members of the group received some food items, sanitizers, and vegetable seedlings during the COVID-19 lockdown period. Another benefit is the training they received about saving.

The women are well aware of commercial banks in the country (FNB, Standard bank, Nedbank, and Swazi bank) and their various products; however, their most common method of business transaction is the use of mobile money. Some of their reasons for avoiding the use of commercial banks include higher transaction costs, banking bureaucracy, lack of ATMs in rural areas, easy access to mobile money for making payments for life necessities such airtime, DSTV, electricity, and money transfer and information asymmetric between banks and their clients. They do not believe that internet banking is cheaper and more convenient than mobile money in conduct of their business and are not willing to adapt to changes within the banking financial sector.

Gender differences in the use of bank across sectors

Sectoral differences in the use of commercial bank facilities in the country are shown in Figure 1. The largest sector in the country is the retails industry, and it has more non-bank users than bank users. An explanation for this trend is the increased involvement of non-banks in retail payments. There is a consensus among the women group in the FGD that the use of mobile money for their transactions is preferable to the use of commercial bank products. Another rationale might be the fact that the retail firm owners relatively engage in low-value payment between consumers, businesses, and public authorities. Capital-intensive sectors such as furniture, construction, chemicals, basic metals, and vehicles prefer the use of bank facilities to non-bank. Figure 1 shows that there exist gender differences in the use of bank facilities across various sectors. Male-owned firms in non-metal, media, machinery and equipment, information technology, construction and wood sectors are predominantly non-bank users unlike their female counterparts. Generally, women are considered to be less-risk takers than men, and hence less involved informally in capital-intensive industries.

Figure 1: Gender distribution in the use of bank across sectors



Given the background information, this study attempts to address the following research questions:

i. Does informality hinder firms' access to formal credit and to what extent?

ii. What are the effects of informality and access to finance on SME performance in Eswatini?

The objectives of the study, therefore, are to:

1. Compare the productivity of informal firms and formal firms.

2. Analyse determinants of informality.

3. Investigate the effects of informality on credit access.

2. Literature review

Several cross-country studies have examined the extent to which firm size affects financing patterns (Demirguç-Kunt & Maksimovic, 1999; Beck et al., 2003). The results showed that large firms have more long-term debt as a proportion of total assets compared to smaller firms, and are therefore, more likely to use external finance compared to small firms. More disaggregated investigations of sources of finance have also examined the use of trade credit (Demirguç-Kunt & Maksimovic, 2001). They showed that large firms are significantly associated with less trade credit finance when compared with small and medium firms. In assessing the factors which would affect access to credit, traditional theory would suggest that in well-functioning credit markets, lenders would base their decisions on the overall financial soundness of firms and on expected performance and projected cash flows, adjusted for risks and transaction costs, rather than upon firm size. Measures readily available for expected performance, adjusted for risks, are difficult to construct; however, at a very simple level, many authors have found that greater sales and profits are associated with greater access to credit (Bigsten et al., 2003).

Empirical studies have also revealed that SMEs are more credit constrained than large firms (Bigsten et al., 2003). Their reports showed that small firms are less likely to obtain a loan than large firms. Levine (2005) found out that constrained firms are smaller, younger, and more likely to be owned by their founders. Furthermore, Levy (1993) reports that lack of access to finance emerges as the binding constraint for smaller and less established firms.

Several reasons have been pointed out why access to credit may be affected by firm size in addition to performance. They are: (i) greater constraints may be faced by small firms due to market imperfections, in the form of greater informational opacity (Binks & Ennew, 1996); (ii) SMEs lack the long credit history of large and long established firms; (iii) small firms do not have publicly-known contracts (supplier, customer, or labour-related), and do not trade securities that are continuously priced in public markets; and (iv) the performance of SMEs are not regularly assessed by independent market analysts, and they may be unable to provide audited financial statements (Berger & Udell, 1998). External financial agents must therefore consider the provision of finance under imperfect and asymmetric information (Berger & Udell, 1994) related both to the ex ante evaluation of the project and the firm and the ex post monitoring of performance. Information is particularly important for debt financing,

where the lender is not a beneficiary of upside gains, but is a potential loser in the event of downside firm failure. It has been argued that such information asymmetries, and thus adverse selection and moral hazard, lead to credit rationing (Stiglitz & Weiss, 1981); a situation where, with a given total supply of credit, some entities are unable to obtain a loan at any interest rate. Such credit rationing may explain the credit constraints that SMEs face (Cheng-Min et al., 1999; Berger & Udell 1994) upon initial project scale, cash flows, and requirements for continuing investment (Rajan & Zingales 1998; Bigsten et al., 2003). Industrial effects could thus be hypothesized to arise from factor intensity differentials, so that more capital-intensive firms, with higher credit needs, may face proportionally greater constraints.

There may also be a "regional effect" so that financial access differentials in different occasions can arise from differentials in bank density across regions, which themselves may reflect differentials in income and levels of economic activity. In Brazil there are sharp income differences between the five main regions, where the Southeast is three times as rich as the Northeast in per capita income terms. Kumar & Francisco, (2005) find that there is a large variation in branch density across different regions of Brazil. While the South and Southeast are relatively well branched, access to bank branches is relatively limited in the North and Northeast. Well branched regions, and as a consequence, greater ratios of banks per firm would be expected to ease physical access and also lower information asymmetry problems, and as a result ease credit access.

Next, there may also be an "ownership" effect of the firm (private domestic, private foreign or state) and credit access. Foreign firms may have more access to credit and less credit constraints than domestic private firms. Foreign firms are usually highly visible, well known and publicly listed and traded. Previous studies in Brazil suggest that foreign firms outperform domestic counterparts (Willmore, 1986). State firms may have more credit access (especially from public banks) relative to private domestic and private foreign firms.

If it is argued that state firms are generally obliged to make their financial situation public, decreasing the agency costs associated with information asymmetries, such firms would be expected to have superior access. One the other hand, if access to credit depends on performance, state owned firms have often been shown to perform less well than private firms (Vining & Boardman, (1992) which would suggest that state firms should be more credit constrained than private firms.

The extent to which different levels of managerial education affect access to credit and credit constraints is also explored. This has not been addressed in previous empirical studies. However, various authors have raised the importance of managerial education. Jensen and McGuckin (1997) maintain that variations in firm performance are largely associated not with traditional characteristics such as location, industry, size, age, or capital, but rather with intangibles specific to the firm such as the managerial capital of the firm or the skill of its workforce. At the individual level, Kumar & Francisco, (2005) found a strong education effect in explaining access to financial services in Brazil. We expect that firms with more educated managers have

more access to credit than firms with less educated managers as a result of their ability to smooth complicated loan application procedures, presenting positive financial information, and/or building closer relationships with banks. Furthermore, better educated managers are more likely to have managerial skills in finance, marketing production, and international business that would lead to firm's growth.

Bank relationships, bank ownership and access to credit

Looking at the extent to which access to credit may be affected by the lender, studies have pointed out that closer banking relationships could reduce transaction costs that emanate from information asymmetries. Closer banking relationship can facilitate the flow of information between borrower and lender, easing the bank's assessment of managerial skills, business prospects, firm needs, and resources. The better informed the bank the more it will be able to apply prospects-based lending methods rather than collateral-based lending (Binks & Ennew, 1996). Closer relationships could be established through longer association, uniqueness of association, or interaction over multiple financial products that allow the bank to learn about the firm's cash flows (Petersen & Rajan, 1994). There is a broad empirical literature with evidence that closer relationships (length of the relationship or exclusive relations) are associated with lower credit constraints. Chakravarty and Scott (1999) find that the relationship duration and the number of activities between households and lenders significantly lower the probability of being credit-rationed. Cole & Deskins Jr, (1988) finds that a lender is more likely to extend credit to a firm that has existing savings accounts and other financial services. Also, Petersen and Rajan (1994) report that the length of the relationship has a positive and significant impact on credit availability. Ferri and Messori (2000) report that close customer relationships between local banks and firms promote a better allocation of credit in the North and Centre of Italy, but worse in the South.

One measure used to proxy the closeness of bank relationships is the extent to which such relationships are unique. Petersen and Rajan (1994) and Cole & Deskins Jr, (1988) find that firms that borrow from multiple banks are charged at significantly higher rates and face lower availability of credit. These results are interpreted to suggest that multiple relationships decrease the value of the private information generated by the potential lender Cole & Deskins Jr, (1988) However, on the contrary, it has also been argued (Binks & Ennew, 1996) that the vast majority of small firms do not need a close relationship with their banks because they require standard services. Furthermore, they state that banks need to be selective when developing relationships since such services are costly in terms of people and time. The present paper investigates the extent to which unique banking relationships affect access to credit. Another factor which may differentially affect access to credit for firms of different sizes may be the ownership of the lending financial institution. Foreign banks may provide more credit to large corporate firms for two reasons: first, foreign banks tend to “cherry pick” good clients with the offer of superior services; and second,

foreign banks are usually located in large financial centre away from small firms (Berger et al., 2001; Clarke et al., 2006). Clarke et al. (2001) find that foreign bank penetration improves financing conditions for enterprises of all sizes, but this process seems to benefit enterprise size, financing patterns, and credit constraints in Brazil.

Hitherto, no study has examined access to finance by informal firms and how their informality affects their credit access in Eswatini. Also, there is no empirical study in the country on differences in the performance of formal and informal firms, given their differential access to finance. There is no consensus in literature on the pro and cons of informality contribution to firm performance. Some argue for while others argue against. Such knowledge will provide a guide to policy makers on how best to optimize the productivity of informal firms.

3. Methodology

Model specification and controls

The regression model for the estimation of the productivity gap is as shown in Equation 1.

$$Y = \alpha + \beta X + \rho Z + \delta XZ + FE + \mu \quad (1)$$

Where: *Y* is the response variable (labour productivity), *X* is the main independent variable (dummy for the informal firms), *Z* is a vector of the firm-level control variables, *XZ* refers to a matrix of the interaction terms. The interaction terms are included to cater for changes in the productivity gap due to basic characteristics of the firms. *FE* denotes the location and sector fixed-effects, while μ is the error term. For the estimation of the model, ordinary least square method with Huber-White robust standard error was employed. The first set of control variables include the city and sector dummies. Location dummy is included to remove from the results the differences arising from overall economic and financial development across the cities where the firms are located. Sector dummy controls for the systemic differences in various sectors that cannot be explained by the control variables such as leverage, growth, and payout. The next control variable in the model is the size of the firm. According to Bartelsman et al. (2013), economies of scale for larger firms would imply greater labour productivity. On the contrary, decreasing return to scale may also imply a decline in labour productivity with firm size. Based on previous studies, firm size can also be used as a proxy for some firm characteristics affecting labour productivity such as credit access, input and product markets' access, innovation, exporting potentials, firm-level efficiency and growth (Bigsten et al. , 2004; Diaz-Mayans & Sanchez, 2008). Another reason for adding firm size as a control variable is to control for omitted variable bias.

Other firm-level control variables are the age of the firm and the quality of management. The relationship between labour productivity and firm's age has been examined in various previous studies (Amin et al., 2019). Age of the firm is important because of (1) economies of scale can be gained by a firm over time, (2) younger firms may employ new and improved technologies (vintage effects), and (3) exit of inefficient firms (selection effects) may lead to improved productivity for the surviving firms. The quality of management has been discovered to have a significant impact on firm's productivity (Syverson, 2011; Pfeifer, 2015). Differences in gender, education, and experience of the top managers could drive significant differences in management quality.

Data and description of the variables

Based on available data, informality of a firm is defined as lack of formal registration. In other words, unregistered firms are classified as informal while firms those that comply with licensing rules and regulations and register with appropriate authorities are regarded as formal. The study used the 2016 Business Environment and Enterprise Performance Survey in Eswatini conducted by the World Bank. The data set consists of firm-level survey responses for 150 firms in all the major cities across the nation. The data set for the empirical estimates is limited to small and medium size firms (firms which employ between five and 100 employees) which constitutes 88% of the total firms. The survey reports detailed information on firm size, employment, age, industry, ownership, legal status, sales and exports, capacity and innovation, investment climate constraints, infrastructure and services, conflict resolution and legal environment, business-government relations, labour relations, productivity, as well as on firm financing from different sources. The distribution of the firms by sectors is shown in Table 5. The largest sector in the country is the retail industry.

Table 5: Distribution of firms by informality

Sector	Number of Formal Firms	Number of Informal Firms	Total
Basic Metal	1	0	1
Chemical	3	0	3
Construction	2	1	3
Fabricated Metal	1	1	2
Food	10	7	17
Furniture	5	4	9
Garment	6	2	8
Hotel & Restaurant	9	3	12
Information Technology	1	0	1
Machinery & Equipment	1	1	2
Media	4	3	7
Non-Metal	5	1	6
Paper	0	2	2
Plastic & Rubber	2	2	4
Retail	22	16	38
Transport	4	4	8
Vehicle Service	1	2	3
Vehicles	2	1	3
Wholesale	0	2	2
Wood	0	1	1
Total	79	53	132

Note: Generated by summarytools 1.0.0 (R version 4.1.2) 2022-04-08.

The dependent variable in all the regression models in this study is the firm-level labour productivity. It is measured as the log of the ratio of the value-added of the firm during the 2015/16 fiscal year to the number of full-time employees of the firm. The value-added is computed as the difference between the value of the total sales and the cost of intermediate materials. The productivity differences between formal and informal firms across gender are shown in Table 6. Contrary to findings of several cross-country studies on productivity differentials between formal and informal firms (Taymaz, 2009), the informal firms in Eswatini are more productive than formal firms, on the average. This might be because the informal firms are mostly driven by survival motives and employ informal workers to reduce their cost of production. Another likely cause might be the high competition of formal firms with the informal firms. Such competitions may limit their overall productivity. Male-owned firms are more productive than their female counterparts irrespective of the levels of informality. The result in Table 6 indicates that the labour productivity of female-owned firms is about 34% less than their male counterparts. In a similar study, but with wider coverage, Islam et al. (2020) shows that women-managed firms are about 11% less labour productive than men-managed firms. They attribute the gap to lower capitalization and high labour cost of women-managed firms.

Table 6: Descriptive statistics of variables included in the regression models

	Formal		Informal		Overall	
	Female-Owned (N=43)	Male-Owned (N=36)	Female-Owned (N=23)	Male-Owned (N=30)	Female-Owned (N=66)	Male-Owned (N=66)
Labour productivity (logs)						
Mean	11.3	11.6	11.4	11.9	11.3	11.7
(SD)	(1.14)	(1.08)	(1.15)	(1.22)	(1.14)	(1.15)
Age of the firm						
Mean	16.8	20.1	16.9	19.4	16.8	19.8
(SD)	(12.1)	(10.8)	(10.6)	(12.4)	(11.5)	(11.5)
Size of the firm						
Mean	0.558	0.389	0.783	0.433	0.636	0.409
(SD)	(0.502)	(0.494)	(0.422)	(0.504)	(0.485)	(0.495)
Bribe						
Mean	0	0.0556	2.83	0	0.985	0.0303
(SD)	(0)	(0.333)	(8.64)	(0)	(5.21)	(0.246)
Tax constraint						
Mean	0.209	0.278	0.217	0.400	0.212	0.333
(SD)	(0.412)	(0.454)	(0.422)	(0.498)	(0.412)	(0.475)
Land title deed						
Mean	0.814	0.861	0.870	0.933	0.833	0.894
(SD)	(0.394)	(0.351)	(0.344)	(0.254)	(0.376)	(0.310)

continued next page

Table 6 Continued

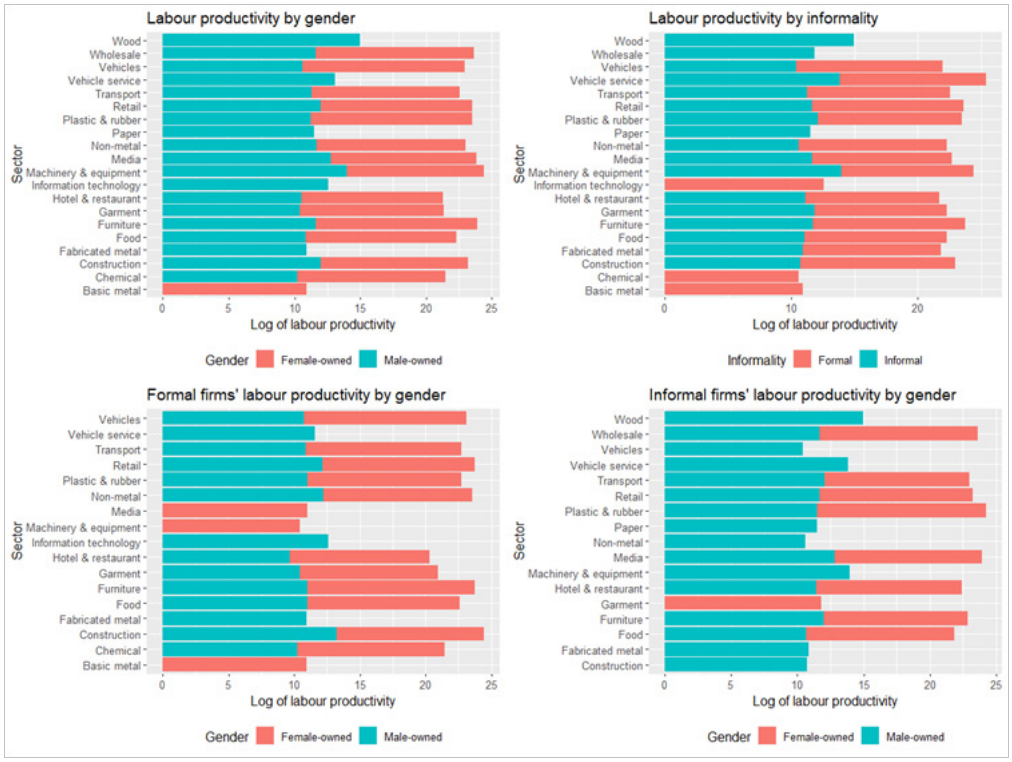
	Formal		Informal		Overall	
	Female-Owned (N=43)	Male-Owned (N=36)	Female-Owned (N=23)	Male-Owned (N=30)	Female-Owned (N=66)	Male-Owned (N=66)
Capacity utilization						
Mean	79.4	59.3	77.2	74.0	78.6	66.0
(SD)	(25.4)	(32.1)	(26.7)	(27.5)	(25.7)	(30.8)
Female executive						
Mean	0.349	0.111	0.391	0.267	0.364	0.182
(SD)	(0.482)	(0.319)	(0.499)	(0.450)	(0.485)	(0.389)
Manager's experience						
Mean	9.84	15.1	13.2	14.4	11.0	14.8
(SD)	(7.99)	(9.56)	(9.82)	(8.87)	(8.74)	(9.18)
Capital						
Mean	361000	176000	336000	332000	352000	247000
(SD)	(1510000)	(236000)	(1000000)	(892000)	(1350000)	(626000)

The main independent variable is a dummy for informality that takes the value of 0 if the firm is formal and 1 if informal. In order to address endogeneity issues, the study controls for unobserved characteristics that could be potentially correlated with both labour productivity and the explanatory variable. The control variables include the age of the firm, size of the firm, manager experience, and presence of top female executives. On the average, male-owned firms are older than female-owned firms irrespective of the level of informality. However, the conclusion varies from industry to industry. Compared to formal firms, they are less productive in the following industries: non-metal, information technology, hotels & restaurants, furniture, food, construction, chemical, and basic metal. In contrast, the informal firms are more productive in the following industries: vehicle, transport, retail, machinery and equipment, garment, fabricated metal, media, wood, paper, and wholesale. The productivity of formal firms in food, hotels and restaurants, furniture and construction industries is more than twice that of the informal. This is in congruent with the findings of Taymaz (2009). The largest gap in the productivity differential between formal and informal firms is found in vehicle service and garment industries. The productivity of the informal firms in the two industries is more than five times that of formal.

Figure 2 also shows gender differences in the productivity of formal and informal firms in the kingdom of Eswatini. Women operating formal firms are more productive and efficient than their male counterparts, on the average. The average total factor productivity (TFP) of female-owned formal firms is 1.33, while it is 1.07 in the case of male-owned formal firms. The improvement in the productivity of female-owned firms is driven mainly by the productivity of firms in food, furniture, and hotels and restaurants industries. The result is consistent with the studies of Gui-Diby et al.

(2017). Gender differentials in the productivity of informal firms in Eswatini are also summarized in Figure 2. Unlike formal firms, male-owned informal firms are more productive and efficient than female-owned, on the average. Based on the overall TFP average, the productivity of male-owned informal firms is about 6.3% higher than female-owned informal firms. In trying to explain the rationale for this type of results in previous study, Gui-Diby et al. (2017) found that female entrepreneurs are generally more financially constrained than their male category.

Figure 2: Productivity differences between informal and formal firms across sectors



4. Results and discussion

Firm informality and productivity

Base regression results for the productivity gap

The base regression results for the productivity gap are shown in Table 7. The results indicate that informality reduces labour productivity irrespective of the control variables included in the model. The coefficient of informality is -0.231 when control variables are excluded from the model and it is significant at 5% level. The coefficient implies that labour productivity of informal firms is lower by about 21% relative to the formal firms. The conclusion is similar to Amin et al. (2019) who found that labour productivity of informal firms is lower by about 76% compared to the formal firms. However, in contrast to Amin et al. (2019) the proportion declines with increase in the number of control variables. When all the control variables are included in the model, the labour productivity of informal firms is lower by 10% compared to the formal firms. As expected a priori, labour productivity increases with injection of more capital into the business. A 1% increase in capital will cause close to 17% increase in labour productivity. It is interesting to see that labour productivity is higher for firms with female top executives relative to their counterparts without female top executives. This finding conforms to Smith et al. (2006) and Jyothi and Mangalagiri (2019). They show that women directors have positive and significant impact on performance of firms. In line with global best practice, therefore, (see Terjesen & Singh, 2008), the proportion of women in the board of directors of traded firms in Eswatini should be increased to at least 40%. Table 7 shows that the proportion for male-owned firms is as low as 18%.

Table 7: Base regression results for labour productivity gap

	Dependent Variable: Labour Productivity (Logs)				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Informality (YES: 1, NO: 0)	-0.231**	-0.178*	-0.144*	-0.129**	-0.106**
	(-2.048)	(-1.833)	(-1.690)	(-2.619)	(-2.507)
Employee (logs)		-0.390***	-0.447***	-0.480***	-0.464***
		(-3.078)	(-3.560)	(-3.707)	(-3.567)
Capital (logs)			0.169**	0.165**	0.167**
			(2.584)	(2.524)	(2.560)
Age of firm (logs)				-17.880	-17.527
				(-1.035)	(-1.015)
Female executive					0.228*
					(1.975)
Sector fixed-effect	Yes	Yes	Yes	Yes	Yes
Constant	10.948***	12.152***	10.502***	146.602	143.845
	(10.202)	(10.988)	(8.378)	(1.115)	(1.094)
Observations	132	132	132	132	132
R^2	0.268	0.326	0.365	0.371	0.378
F Statistic	2.033**	2.535***	2.848***	2.773***	2.709***

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Results of productivity gap regression with interaction terms

The regression results showing the relationship of labour productivity and several firm's characteristics interacted with informality is presented in Table 8. The modelling begins with the results in column (5) of Table 7. The interaction terms between informality dummy and each of the firm's characteristics are then added one after the other. The estimation results show that there exists a sharp heterogeneity in labour productivity depending on number of full-paid employees, age of the firm, and availability of female top executives. The interaction between informality and number of employees is negative and statistically significant at 5% level. This shows that the benefits of more employees are much smaller for informal firms compared to formal firms. On the contrary, the interaction of informality with the age of the firm, as well as with the female executive dummy, is positive and statistically significant. The informal firms thrive more among young firms and those with female executives relative to old firms and firms without female executives. A key factor driving better performance of informal firms that are relatively young may be the entrepreneurial drive of fresh graduates in the country.

A gender perspective to the labour productivity is presented in Appendix B. Informality and number of employees reduces labour productivity irrespective of gender differences in firm's ownership. In terms of the magnitude and significance, female-owned firms are more affected than male-owned. In respect of the control variables, the coefficient of the number of employees is negative and significant for both male-owned and female-owned firms. For capital, the coefficient is positive for both female-owned and male-owned

firms. It is, however, insignificant in the case of male-owned firms. The coefficient of the interaction term between number of employees and informality is negative and significant at 5% level. The coefficient implies that labour productivity of female-owned firms declines by about 57% relative to the formal firms. When interaction term between informality and female executive dummy is added to the model, labour productivity of female-owned informal firms is lower by about 70% compared to the formal firms. In the case of male-owned informal firms, the proportion is about 50%. The interaction between informality and the age of the firm is positive and statistically significant at 5% level for female-owned firms but insignificant in the case of the male-owned firms. All the coefficients of the interaction terms are statistically significant for female-owned firms except capital; in the case of male-owned firms, capital alone is statistically significant. More capital is required to improve the performance of male-owned informal firms compared to the formal firms. Formalization of the informal firms may be an easy way out.

Table 8: Relationship of labour productivity and several firm's characteristics interacted with informality

	Dependent Variable: log(LP)			
	(1)	(2)	(3)	(4)
Informality (YES: 1, NO: 1)	0.741	-0.556	-446.877*	-0.315
	(0.952)	(-0.347)	(-1.665)	(-1.275)
Number of employee (logs)	-0.248	-0.460***	-0.479***	-0.477***
	(-1.068)	(-3.499)	(-3.701)	(-3.684)
Capital (logs)	0.158**	0.139	0.162**	0.169**
	(2.390)	(1.164)	(2.498)	(2.595)
Age of the firm (logs)	-15.162	-17.625	-51.186*	-17.304
	(-0.873)	(-1.016)	(-1.932)	(-1.009)
Female executive	0.248	0.230	0.219	-0.200
	(1.162)	(1.078)	(1.037)	(-0.582)
Informality*employee (logs)	-0.300			
	(-2.131)			
Informality*capital (logs)		0.040		
		(0.283)		
Informality*Age of the firm (logs)			58.786*	
			(1.665)	
Informality*female executive				0.673
				(1.580)
Constant	125.299	144.880	399.890**	142.178
	(0.947)	(1.097)	(1.984)	(1.089)
Observations	132	132	132	132
R^2	0.385	0.378	0.394	0.392
F Statistic (df = 25; 106)	2.658***	2.581***	2.755***	2.737***

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Firm informality and credit constraints

Baseline regression

In order to examine the relationship between firm's informality and its utilization of formal and informal credit, the study proceeds thus: first, the study considers the relationship and controls for firm-level characteristics, such as size, age, legal status, ownership, and sector dummies. This is followed by investigation of the roles of the country's business environment and institutions in determining the effects of informality on credit. The results are presented in Table 9. Columns (1), (2), and (3) show the regressions with the dependent variables bank credit, non-bank credit, and informal credit which measure the reliance of firms on bank, non-bank financial institutions, and informal sources of financing, respectively. Column (4) presents the results with the financing obstacle as the dependent variable. The variable measures perceived financing constraints. All columns contain the coefficient estimates with industry dummies to control for unobserved heterogeneity across industries. The coefficients are the marginal effects of the probit model. The results in column (1) show that the relationship between informality and reliance on bank financing is negative and statistically significant at 5% level. The conclusion holds even after controlling for firm characteristics and sector fixed-effects. The marginal effect is less than 1 which means that informal firms are less likely to rely on bank financing as expected from various literatures. In a similar fashion, column (2) also shows that there is a negative and statistically significant relationship between informality and reliance on non-bank financing. As expected a priori, small and medium-scale enterprises are less likely to rely on bank and non-bank credit. Though many small and medium-scale enterprises in the country are mobile money users, they rely more on informal sources of finance for their credit needs. The marginal effects show that the probability of relying on informal credit (money lender, friends and relatives) increases by about 19.5% for informal firms compared to formal firms. This suggests that bank and informal credit are likely substitutes in the country. Column (4) shows that informality is associated with a higher incidence of severe financing problems (i.e., a higher probability of firms rated availability of finance as a severe obstacle). This implies that informal firms are more likely to face severe financing constraints instead of mere low demand for bank credit.

In consonant with findings from several previous studies, the results show that firm's characteristics play significant roles as determinants of a firm's reliance on bank financing. Column (1) shows that small-scale firms are more likely to be financially handicapped and are less likely to rely on the commercial banking system in the country for credit relative to medium-scale firms. The marginal effect shows that the probability of depending on bank credit declines by about 49% for small-scale firms relative to medium-scale firms. In contrast, the probability of getting credit from informal sources of financing increases by 86% for small-scale firms. This result

implies that reliance on informal sources of finance decreases with firm's size. This suggests that formal and informal credit are substitutes because informal sources may largely cater for the financial needs of small-scale firms, but may be too limited to satisfy the credit demand as the scale increases.

Table 9: Determinants of firms' access to credit

	Dependent Variable:			
	Bank credit	Non-bank credit	Informal credit	Financing obstacle
	(1)	(2)	(3)	(4)
Informality	-0.138**	-0.570*	0.195**	0.671*
	(-2.573)	(-1.939)	(2.418)	(1.888)
Small size	-0.491*	-0.323	0.861	0.196
	(-1.902)	(-1.101)	(1.604)	(0.528)
Capacity utilization	-0.009**	-0.021***	0.004	0.001
	(-2.134)	(-4.375)	(0.473)	(0.106)
Age	-0.073*	0.044	0.228	0.116
	(-1.820)	(0.907)	(1.638)	(1.513)
Age-squared	0.001*	-0.001	-0.004	-0.002
	(1.761)	(-0.913)	(-1.477)	(-1.498)
Female executives	-0.296	0.108	0.394	0.362
	(-1.077)	(0.343)	(0.780)	(0.965)
Constant	1.295**	0.516	-5.396***	-3.110***
	(2.233)	(0.791)	(-3.011)	(-3.081)
Observations	132	132	132	132
Log Likelihood	-77.856	-56.436	-17.388	-31.609
Akaike Inf. Crit.	169.711	126.872	48.776	77.218

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Informality, credit access and business climate

The baseline regression is extended to include indicators of the business climate in the country. The variables include tax administration constraint, bribe, and title deed to land. They are introduced into the model one at a time for reliance on bank credit and informal credit. The results are presented in Appendix C. The results show that the marginal effect of tax administration obstacle is negative and significant in respect of bank credit probit model. Firms that report tax administration as a major obstacle have about 44% lower probability of relying on bank credit than firms with little or no tax administrative problems. The probability of using bank credit decreases with increase in the proportion of sales given as bribe. The results show that weakness in tax administration and quality of legal environment reduces the use of bank

credit in the country. In contrast, tax administrative obstacle and bribe increase the probability of using informal credit. Despite controlling for the effects of business climate, the association between informality and various measures of credit access remain significant.

Given the differences between male-owned and female-owned firms in the country, the marginal effects of informality on the use of commercial bank (presented in Appendix D) are estimated separately for female-owned and male-owned firms. Informality still reduces the probability of reliance on bank credit for both male-owned and female-owned firms after adding business climate indicators to the models. Tax administrative problems reduce the probability of using bank credit by about 30% for female-owned firms. In the case of male-owned firms, the percentage is about 45%. The marginal effect of bribe on the use of bank is negative and significant for both male-owned and female-owned firms. Landed property constraint has more negative effects on access to bank credit by female-owned firms than male-owned. The magnitude is, however, higher for male-owned firms. Their marginal effects are -0.074 and -0.186, respectively. Generally, title deed to land is an important asset required by commercial banks as collateral, and female-owned firms are more constrained than male-owned firms.

5. Conclusion and policy recommendations

The study investigates the relationship between informality of small and medium-scale enterprises in Eswatini and: (1) their productivity and (2) their access to finance. The results show that there exist remarkable gender differences in the socioeconomic and demographic profiles, informality as well as financial inclusion of small and medium-scale firms in the kingdom of Eswatini. Female-owned firms are more financially constrained and rely more on non-bank and informal credit than male-owned firms. Nevertheless, women operating formal firms are more productive and efficient than their male counterparts, on the average. The main determinants of informality in the country are financial constraints, capacity utilization, availability of top female executive, firm size, and urbanization. The magnitude and significance of the variables vary by gender. The results also shows that informality is associated with a higher incidence of severe financing problems, that is, informal firms are more likely to face severe financing constraints instead of mere low demand for bank credit, particularly among female-owned firms. Based on the findings, the following recommendations are suggested:

1. The banking sector should be directed to find alternatives to request of title deed to land as collaterals for bank credit. The idea of group loan can be encouraged, where the group members and other financially reputable clients of the bank can serve as loan guarantors for the women.

2. The government should improve their business registration and licensing procedure to reduce the size of informality, especially among the women in the country.

3. Availability of top female executives reduces the probability of informality. Firms should pay attention to gender equality in appointment of top executives.

4. Bank charges should be further regulated by the government, and the bank staff should be well-trained to go extra miles to ease administrative bottlenecks for less educated clients.

5. Given the usefulness of the informal sources of credit to SMEs in Eswatini, especially women, the government should support the growth of the micro finance, credit union, and cooperative institutions to provide more affordable credit to micro entrepreneurs. The government and other institutions should also focus on improving coordination of SMEs development support initiatives such as joint initiatives in order to increase firm sizes.

References

Aiyagari, M., Demirguc-Kunt, A., Maksimovic, V. (2010) Formal versus informal finance: evidence from China, *Review of Financial Studies* 23(8): 3048–3097

Ambos, B., & Schlegelmilch, B. B. (2008). Innovation in multinational firms: Does cultural fit enhance performance? Management International Review, 48(2), 189–206.

Amin, M. 2010. Gender and informality. World Bank Enterprise Note, 16: 1611–1638.

Amin, A., Shah, B., Khattak, A. M., Moreira, F. J. L., Ali, G., Rocha, A., & Anwar, S. (2019). Cross-company customer churn prediction in telecommunication: A comparison of data transformation methods. International Journal of Information Management, 46, 304–319.

Angelakopoulos, G., & Mihiotis, A. (2011). E-banking: Challenges and opportunities in the Greek banking sector. Electronic Commerce Research, 11(3), 297–319.

Argyris, C. (1957). The individual and organization: Some problems of mutual adjustment. Administrative Science Quarterly, 2(1): 1–24.

Bartelsman, E., Haltiwanger, J., & Scarpetta, S. (2013). Cross-country differences in productivity: The role of allocation and selection. American Economic Review, 103(1), 305–334.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003). Law and finance: Why does legal origin matter? Journal of Comparative Economics, 31(4), 653–675.

Berger, A. and G. Udell. 1994. "Lines of credit and relationship lending in small firm finance". Center for Financial Institutions Working Paper No. 94–11. Wharton School Center for Financial Institutions, University of Pennsylvania.

Berger, A. N., & Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. Journal of Banking & Finance, 22(6–8), 613–673.

Berger, A. N., Klapper, L. F., & Udell, G. F. (2001). The ability of banks to lend to informationally opaque small businesses. Journal of Banking & Finance, 25(12), 2127–2167.

Bhardwaj, B. (2019). Role of knowledge management in enhancing the entrepreneurial ecosystems through corporate entrepreneurship and strategic intent in high-tech firms. Journal of the Knowledge Economy, 10(4), 1831–1859.

Bigsten, A., P. Collier, S. Dercon, M. Fafchamps, B. Gauthier, J. Gunning, M. Soderbom, A. Oduro, R. Oostendorp, C. Patillo, F. Teal and A. Zeufack. 2003. "Credit constraints in manufacturing enterprises in Africa." *Journal of African Economies,* 12(1): 104–125. https://doi.org/10.1093/jae/12.1.104

Binks, N. and C. Ennew. 1996. "Growing firms and credit constraint". *Small Business Economics,* 8: 17–25.

Brixiová, Z., & Kangoye, T. (2016). Gender and constraints to entrepreneurship in Africa: New evidence from Swaziland. Journal of Business Venturing Insights, 5, 1–8.

Brown, D. H., & Lockett, N. (2007). E-business, innovation and SMEs: The significance of hosted services and firm aggregations. International Journal of Entrepreneurship and Innovation Management, 7(1), 92–112.

Chakravarty, S., & Scott, J. S. (1999). Relationships and rationing in consumer loans. The Journal of Business, 72(4), 523–544.

Cheng-Min, C., Tung-Lung, C., & Li, P. P. (1999). The internationalization and capital structure of taiwanese multinationals. American Asian Review, 17(4), 51.

Claessens, S., & Leaven, L. 2003, "What Drives Bank Competition, Some International Evidence" *World Bank Policy, Working Paper* 3113,

Clarke, G. R., Cull, R., & Peria, M. S. M. (2006). Foreign bank participation and access to credit across firms in developing countries. Journal of Comparative Economics, 34(4), 774–795.

Cole, R. E., & Deskins Jr, D. R. (1988). Racial factors in site location and employment patterns of Japanese auto firms in America. California Management Review, 31(1), 9–22.

Dabla-Norris, E., M. Gradstein and G. Inchauste. 2008. "What causes firms to hide output? The determinants of informality". *Journal of Development Economics,* 85: 1–27.

Deijl, C., J. de Kok and V.-V. Essen. 2013. "Is small still beautiful? Literature review of recent empirical evidence on the contribution of SMEs to employment creation". Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

Demirguc-Kunt, A., & Maksimovic, V. (2001). Firms as financial intermediaries: Evidence from trade credit data. *Working Paper*; No. 2696. World Bank, Washington, DC. © World Bank.

Demirguc-Kunt, A. and V. Maksimovic. 1998. "Law, finance, and economic growth". *Journal of Finance,* 53: 2107–37.

Díaz, M., & Sánchez, R. (2008). Firm size and productivity in Spain: A stochastic frontier analysis. Small Business Economics, 30(3), 315–323.

Ferri, G., & Messori, M. (2000). Bank–firm relationships and allocative efficiency in Northeastern and Central Italy and in the South. Journal of Banking & Finance, 24(6), 1067–1095.

Gui-Diby, S.L., S.S. Pasali and D. Rodriguez-Wong. 2017. "What's gender got to do with firm productivity: Evidence from firm-level data in Asia". MPFD Working Paper No. WP/17/01. Macroeconomic Policy and Financing for Development Division, Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok, February.

Hlanze, M. P. ., Dlamini, D. V., & Ajetomobi, J. O. . (2020). The Effect of Investment Climate on Productivity of Food and Beverages Industries in Eswatini. *Archives of Business Research*, 8(7), 124–133.International Finance Corporation (IFC). 2012. Qurterly Report.

Irene, B. 2017. "Women entrepreneurship in South Africa: Understanding the role of competencies in business success". *The Southern African Journal of Entrepreneurship and Small Business Management*, 9(1): 1–9.

Islam, N., Gyoshev, S., & Amona, D. (2020). External complexities in discontinuous innovation-based R&D projects: Analysis of inter-firm collaborative partnerships that lead to abundance. Technological Forecasting and Social Change, 155, 119303.

Jensen, J. B., & McGuckin, R. H. (1997). Enterprise Performance and Evolution: Empirical Regularities in the US Micro Data. S. The Evolution of Enterprises and Industries. Statistics Finland Research Reports, 223, 24–49.

Jyothi, P., & Mangalagiri, J. (2019). Would firm performance be better with women directors? Evidence from India. Vision, 23(2), 180–188.

Klapper, L., L. Laevan, and R. Rajan, 2006, "Entry regulation as a barrier to entrepreneurship". *Journal of Financial Economics*, 82: 591–629.

Kumar, A., & Francisco, M. (2005). Enterprise size, financing patterns, and credit constraints in Brazil: Analysis of data from the investment climate assessment survey (Vol. 6). World Bank Publications.

La Porta, R. and A. Shleifer. 2014. "Informality and development". *Journal of Economic Perspectives*, 28(3): 109–26.

Levine, R. (2005). Does firm size matter for growth and poverty alleviation? https://faculty.haas.berkeley.edu/ross_levine/Papers/Aspen_RL_small_firms.pdf

Levy, B. (1993). Obstacles to developing indigenous small and medium enterprises: An empirical assessment. The World Bank Economic Review, 7(1), 65–83.

Melnikas, B. (2008). The knowledge-based economy in the European Union: Innovations, networking and transformation strategies. Transformations in Business & Economics, 7.

Mintzberg, H. (1979). An emerging strategy of" direct" research. Administrative Science Quarterly, 24(4), 582–589.

Petersen, M.A. and R.G. Rajan. 1994. "The benefits of lending relationships: evidence from small business data". *The Journal of Finance*, 49(1): 3–37.

Pfeifer, C. (2015). The nexus between top managers' human capital and firm productivity. Applied Economics Letters, 22(12), 982–986.

Rajan, R., & Zingales, L. (1998). Financial development and growth. American Economic Review, 88(3), 559–586.

Safavian, M., & Wimpey, J. (2007). When do enterprises prefer informal credit? World Bank Policy Research Working Paper, 4435.

Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *MPRA paper* No 78715

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. The American Economic Review, 71(3), 393–410.

Syverson, C. (2011). What determines productivity? Journal of Economic Literature, 49(2), 326–365.

Taymaz, E. 2009. "Productivity differentials between formal and informal firms in Turkey". ERC Working Papers in Economics No. 09/01. Economic Research Center, Middle East Technical University, March.

Terjesen, S., & Singh, V. (2008). Female presence on corporate boards: A multi-country study of environmental context. Journal of Business Ethics, 83(1), 55–63.

Vining, A. R., & Boardman, A. E. (1992). Ownership versus competition: Efficiency in public enterprise. Public Choice, 73(2), 205–239.

Willmore, L. N. (1986). The comparative performance of foreign and domestic firms in Brazil. World Development, 14(4), 489–502.

World Bank. 1996b. "Stock market development and firm financing choices". *The World Bank Economic Review*, 10(2): 27.

World Bank. 2007a. *Informality: Exit and Exclusion.* Washington, D.C.: The World Bank.

Yang, T., & Aldrich, H. E. (2014). Who's the boss? Explaining gender inequality in entrepreneurial teams. American Sociological Review, 79(2), 303–327.

.Yaniv, E., Lavi, O. S., & Siti, G. (2010). Person-organisation fit and its impact on organisational citizenship behaviour as related to social performance. Journal of General Management, 36(2), 81–89.

Appendixes

Appendix A: Focus group discussion on financial inclusion among women in Eswatini

To advance financial inclusion, there needs to be more uptake and usage of financial services by poor customers. The focus of this FGD is to understand your views as customers who need to be empowered financially to grow your business. The essence is to understand customer-centricity of currently available financial inclusion in Eswatini. We shall be focussing on women or women group access to financial services in general, as well as digital financial services.

PROFILE OF PEOPLE/GROUP TO INTERVIEW

Name of the Group:
Group Size:
Homogeneity of the Group:

Interviews were conducted in the participant's mother tongue (*Siswati*), and where necessary translation used.

FACILITATION AND NOTE TAKING

The FGD was facilitated by two people, one person focused on monitoring the flow of the discussion. The other provided support to the main facilitator in terms of following the interview guide and probing questions. The co-facilitator also took notes.

DURATION, REFRESHMENTS, AND BREAKS

The FGD was conducted within two hours and refreshments were given after about one hour so as to sustain focus and energy in the discussions.

INTRODUCING RESEARCH TO PARTICIPANTS

Introduction of visitors / *Asimekele bo make*

INTRODUCTION OF THE PURPOSE OF THE FGD/ *INGCIKITSI YALE LICWANINGO*

The purpose of the research is to better understand how women customers relate to FSP—the services they offer and various delivery channels used—so as to inform improvements of practice for all FSPs and not for any specific organization. The questions focus on understanding which financial services you use and don't use, your experiences and aspects that facilitate or prevent you from choosing and using them. *Ingcikitsi yalelicwaningo kutfola kutsi bomake labatisebentako basebentisa tiphi tindlela tekugcina, sebentisa timali tabo. Lokukwentela kutsi kube khona lokwentiwako kuto wenta tindlela letincono. Lemibuto lesicela kunibuta yona ihambelana nekufuna kwati kutsi timali tenu nitibekaphi (bekise nje ngabe nibeka emabhange noma etinhlanganweni letifana nabo Imbita), kwati nekutsi kuhamba njani kubeka emabhange noma ke kaImbita.*

DISCUSSION OF PRODUCT, SERVICES, AND CHANNELS

What financial products/services are available?

Who are the different providers and delivery channels in the area?
Bobani laba labanisitako kulelo hlangatsi lwetimali?

What do you use/not use and why?
Nguliphi luhlobo lolusebentisako noma longalisebentini? Sicela uchaze kutsi leni?

What are the benefits to you of using these financial products and services?
Uzuzani ngekusebentisa ….?

CHANNELS AND PROVIDERS

We may use pre-prepared hand written cards to talk through with participants what providers are locally available. Probe whether anything is missing, and if so, add a hand-written card.

DISCUSS POSITIVE AND NEGATIVE FEATURES OF EACH OF THE CHANNELS/ PROVIDERS

Prepare two sheets, write dislike on one and like on the other. For each provider/ channel, ask participants to place it on the FSP cards or in-between, asking "why would someone dislike? Note: Do not ask why do you like or dislike but keep the question

generic so as to focus on the general and not just the individual experience to get to aspects that are perceived as positive or negative.

Probe what people do in response to negative experiences. Ask for specific examples. Probe customer journey and how experience has evolved over time.

Aim to generate a list of key factors that are important in terms of financial services such as:
Yetama kutfola kutsi ngukuphi lokumcoka kuloku lokushiwo langentasi

1. Access – what facilitates/blocks access? Who does/does not have access?/ *Kutfolakala – yini lentakutsi kutfolakale noma kungatfolakali?*

2. Reliability (that is, service works when you need it) /

3. Trust in the service/provider (for example, won't mis-sell or defraud you) / *Kwetsembeka kwalona loletsa lolusito*

4. Feeling understood and listened to/ *Bayakulalela noma bayativa tikhalo takho*

5. Complex or hard to understand/good information so can understand

6. Supportive staff or processes to help negotiate the process / *Tisebenti tinesineke natikusita/ uyasitakala ngasosonke sikhatsi*

7. Difficulty of using service/ *Sihlangabetana nebulukhuni nasisebentisa lama services abo*

8. Ability to complain/ *Siyakhona kukhonona*

9. Extent to which they are able to negotiate the product/service to tailor their own needs / *Siyakhona kucela basehlisele bese sitfola lokusilungele*

10. Extent to which they understand obligations of provider and channels for complaint

PRODUCTS AND SERVICES

Note: Many of the answers to these questions will have been touched on already, so introduce these questions by recapping what participants have already said and use these to gather additional detail only if necessary.

WHICH OF PRODUCTS/SERVICES DO PARTICIPANTS USE AND FOR WHAT PURPOSE?

Who uses what? Probe use of digital financial services, such as mobile phone ownership and use of mobile banking, ATMs, point of sale, role of agents.

What do they use these for different purposes and why? Probe on different financial needs:
lama financial services niwasebentisa

1. Day-to-day purchase / *nanitsenga ngasosonke sikhatsi*

2. Managing business money to buy stock, and so forth / *kuchuba ibhizinisi noma naniyo cupha sitoko*

3. Remittances from migrant working elsewhere, to other family members, and so forth / *kupha tihlobo nebangani nelingahlali nato*

4. Saving for short-/medium-term need, for example, school fees, fertilizer, assets, and so forth / *kongela kwesikhashana njenge kongela tikolwa, kuhlanyela nitotsenga bomanyolo, nalokunye lenikudzingako emakhaya noma kwebhizinisi*

5. Saving for longer-term need, such as wedding, funeral, education / *kongela sikhatsi lesidze noma kongela umcumbi lomkhulu njenge mshado, umgcwabo noma sikolwa/ifundvo*

6. Paying for emergencies such as health expenses / *noma kubhadalela lokuphutfumako*

Are they aware of products and services on offer that they don't use? Why? *Kukhona yini lokunye loletfwa basiti/bagcini betimali leningakusebentisi? Ngabe leni?*

What financial needs do they have that are not met by the products/services on offer?
Yini lokunye lenikufisile lekuhambelana naloku lesikhuluma ngako labagcini betimali labangakweni noma labete kona kani niyakudzinga noma nibona kumcoka?

What are the reasons that people access/use certain products and services and not others?
Nicabanga kutsi yini leyenta kutsi labanye bantfu basebentise letintihlobo tetimali labanye bangatisebentisi?

Probe the extent to which participants make informed choices or are following lead from what others are doing; for example, are being advised by someone what to do; are doing what they do because they don't see a choice, because, for example, husband doesn't think they should have a mobile phone.

Letincumo lenitsatsako letihambelana nekonga, nekubhanga noma kuphatsa imali ngalendlela leniphetsengayo ngabe nititsatsaphi? Ngabe kukhona lonelulekako noma tisuka kini noma nenta lokushiwo ngubabe emakhaya?

What do customers feel that the FSPs could do to improve channel and service delivery? This helps, not only define customer needs, but also gives a sense of how empowered they were to be able to define alternatives/improvements. Where concerns are raised, this should be followed up by asking whether this concern/ suggestion has been raised with the FSP or anyone else.

Appendix B: Effect of informality on labour productivity across gender

	Dependent Variable: Labour Productivity (logs)							
	Female-owned firms				Male-owned firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Informality (Yes: 1, No: 1)	-1.738*	-2.959**	-841.587**	-1.230***	-0.070	-4.522*	-52.184	-0.077**
	(-1.839)	(-2.287)	(-2.052)	(-2.695)	(-0.054)	(-1.798)	(-0.113)	(-2.244)
Number of employee (logs)	-0.208**	-0.426*	-0.345*	-0.533**	-0.541	-0.516***	-0.505**	-0.491**
	(-1.902)	(-1.971)	(-1.738)	(-2.422)	(-1.552)	(-2.708)	(-2.411)	(-2.473)
Capital (logs)	0.152	0.398**	0.188*	0.194*	0.109	-0.182	0.104	0.106
	(1.503)	(2.276)	(1.868)	(1.934)	(1.083)	(-0.995)	(1.005)	(1.062)
Age of the firm (logs)	-28.505	-34.142	-82.470**	-41.874	9.086	1.974	5.277	10.767
	(-1.052)	(-1.230)	(-2.225)	(-1.525)	(0.332)	(0.076)	(0.107)	(0.402)
Female executive	0.588*	0.469	0.364	-0.590	0.110	0.091	0.105	-0.043
	(1.869)	(1.488)	(1.165)	(-1.044)	(0.300)	(0.260)	(0.288)	(-0.078)
Informality*employee (logs)	-0.852**				0.066			
	(-2.130)				(0.153)			
Informality*capital (logs)		-0.319				0.420*		
		(-1.547)				(1.859)		
Informality*Age of the firm (logs)			110.647**				6.884	
			(2.051)				(0.113)	

continued next page

Appendix B Continued

	Dependent Variable: Labour Productivity (logs)							
	Female-owned firms				Male-owned firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Informality*female executive				1.490**				0.264
				(2.204)				(0.362)
Sector fixed-effects	yes	Yes	yes	yes	yes	yes	Yes	yes
Constant	225.413	267.568	637.077**	328.906	-57.761	-0.657	-28.995	-70.766
	(1.093)	(1.267)	(2.260)	(1.574)	(-0.277)	(-0.003)	(-0.077)	(-0.348)
Observations	66	66	66	66	66	66	66	66
R^2	0.381	0.353	0.377	0.385	0.593	0.625	0.593	0.594

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Appendix C: Informality, credit constraints and business climate

	Dependent Variable:							
	Bank Credit				Informal Credit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Informality	-0.178	-0.098	-0.098	-0.089	0.208	0.158	0.256	0.274
	(-0.724)	(-0.398)	(-0.399)	(-0.351)	(0.440)	(0.333)	(0.503)	(0.502)
Small size	-0.519**	-0.580**	-0.542**	-0.640**	0.858	0.921*	0.842	0.936
	(-1.991)	(-2.176)	(-2.066)	(-2.355)	(1.604)	(1.655)	(1.435)	(1.525)
Capacity utilization	-0.009**	-0.009**	-0.010**	-0.010**	0.005	0.004	0.0002	-0.0004
	(-2.223)	(-2.271)	(-2.313)	(-2.484)	(0.488)	(0.396)	(0.019)	(-0.037)
Age	-0.076*	-0.080**	-0.083**	-0.091**	0.226	0.235	0.176	0.185
	(-1.873)	(-1.962)	(-2.002)	(-2.157)	(1.638)	(1.635)	(1.317)	(1.318)
Age-squared	0.001*	0.001*	0.002*	0.002**	-0.004	-0.004	-0.003	-0.003
	(1.819)	(1.827)	(1.948)	(2.034)	(-1.478)	(-1.463)	(-1.147)	(-1.114)
Female executives	-0.268	-0.330	-0.297	-0.311	0.386	0.449	0.328	0.385
	(-0.969)	(-1.184)	(-1.079)	(-1.105)	(0.759)	(0.882)	(0.618)	(0.695)
Bribe	-0.031**			0.022	0.011*			-0.019
	(-2.019)			(0.715)	(1.775)			(-0.282)
Tax administration constraint		-0.435**		-0.420		0.466*		0.701
		(-2.544)		(-1.474)		(1.913)		(1.226)

continued next page

Appendix C Continued

	Dependent Variable:							
	Bank Credit				Informal Credit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Title deed to land			0.458*	-0.422			-1.105**	-1.299**
			(1.992)	(-1.168)			(-1.994)	(-2.162)
Constant	1.354**	1.590***	1.858**	2.142***	-5.375***	-5.621***	-3.871**	-4.185**
	(2.311)	(2.589)	(2.524)	(2.783)	(-3.027)	(-3.075)	(-2.062)	(-2.177)
Observations	132	132	132	132	132	132	132	132
Log Likelihood	-77.322	-76.640	-77.040	-75.582	-17.373	-16.971	-15.313	-14.461
Akaike Inf. Crit.	170.643	169.280	170.080	171.165	50.745	49.941	46.627	48.923

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Appendix D: Gender, informality and the use of bank credit

	Dependent Variable: The use of Bank Credit							
	Male-owned firms				Female-owned firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Informality	-0.203**	-0.225*	-0.219**	-0.137**	-0.085**	0.040*	0.067**	-0.137*
	(-2.594)	(-1.955)	(-2.039)	(-2.390)	(-2.207)	(-9.103)	(-2.168)	(-1.890)
Size of the firm	-0.111	-0.264	-0.216	-0.249	-0.942**	-0.946**	-0.932**	-0.249
	(-0.305)	(-0.714)	(-0.592)	(-0.657)	(-2.304)	(-2.307)	(-2.264)	(-0.657)
Capacity	-0.004	-0.003	-0.004	-0.005	-0.019***	-0.019***	-0.019***	-0.005
	(-0.651)	(-0.570)	(-0.770)	(-0.837)	(-2.735)	(-2.686)	(-2.655)	(-0.837)
Age of the firm	-0.035	-0.036	-0.047	-0.062	-0.098*	-0.098*	-0.097*	-0.062
	(-0.494)	(-0.508)	(-0.647)	(-0.842)	(-1.751)	(-1.754)	(-1.737)	(-0.842)
Age-squared	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001
	(0.470)	(0.400)	(0.582)	(0.765)	(1.593)	(1.549)	(1.569)	(0.765)
Female executive	-0.224	-0.097	-0.095	-0.304	-0.526	-0.603	-0.588	-0.304
	(-0.459)	(-0.211)	(-0.205)	(-0.612)	(-1.336)	(-1.541)	(-1.512)	(-0.612)
Bribe	-2.896**			2.675	-0.035*			2.675
	(-2.015)			(0.014)	(-1.963)			(0.014)
Tax administrative problem		-0.458**		-0.392		-0.305**		-0.392
		(-2.236)		(-1.040)		(-2.652)		(-1.040)

continued next page

Appendix D Continued

	Dependent Variable: The use of Bank Credit							
	Male-owned firms				Female-owned firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Title deed to land			0.741**	-0.466			-0.186**	-0.466
			(2.345)	(-0.797)			(-2.364)	(-0.797)
Constant	0.383	0.651	1.302	1.356	2.684***	2.760***	2.779***	1.356
	(0.416)	(0.674)	(1.077)	(1.099)	(2.905)	(2.925)	(2.614)	(1.099)
Observations	66	66	66	66	66	66	66	66
Log Likelihood	-41.454	-41.754	-41.623	-40.437	-31.550	-31.929	-32.082	-40.437
Akaike Inf. Crit.	98.907	99.508	99.246	100.875	79.100	79.859	80.164	100.875

Note: * p < 0.10, ** p < 0.05, *** p < 0.01.

Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

www.aercafrica.org

Learn More

www.facebook.com/aercafrica

www.instagram.com/aercafrica_official/

twitter.com/aercafrica

www.linkedin.com/school/aercafrica/

Contact Us
African Economic Research Consortium
Consortium pour la Recherche Economique en Afrique
Middle East Bank Towers,
3rd Floor, Jakaya Kikwete Road
Nairobi 00200, Kenya
Tel: +254 (0) 20 273 4150
communications@aercafrica.org