

Brixiova, Zuzana; Kangoye, Thierry

Working Paper

Gender Disparities in Employment and Earnings in Sub-Saharan Africa: Evidence from Swaziland

IZA Discussion Papers, No. 10455

Provided in Cooperation with:

IZA – Institute of Labor Economics

Suggested Citation: Brixiova, Zuzana; Kangoye, Thierry (2016) : Gender Disparities in Employment and Earnings in Sub-Saharan Africa: Evidence from Swaziland, IZA Discussion Papers, No. 10455, Institute of Labor Economics (IZA), Bonn

This Version is available at:

<https://hdl.handle.net/10419/161078>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

DISCUSSION PAPER SERIES

IZA DP No. 10455

**Gender Disparities in Employment and
Earnings in Sub-Saharan Africa:
Evidence from Swaziland**

Zuzana Brixiová
Thierry Kangoye

DECEMBER 2016

DISCUSSION PAPER SERIES

IZA DP No. 10455

Gender Disparities in Employment and Earnings in Sub-Saharan Africa: Evidence from Swaziland

Zuzana Brixiová

University of Cape Town and IZA

Thierry Kangoye

African Development Bank

DECEMBER 2016

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ABSTRACT

Gender Disparities in Employment and Earnings in Sub-Saharan Africa: Evidence from Swaziland¹

In this paper we provide first systematic evidence on the gender disparities in the labor market in Swaziland, drawing on the country's first two (2007 and 2010) Labor Force Surveys. We find that even though the global financial crisis had a less severe effect on the labor market outcomes of women than those of men, women continue to have lower employment and labor force participation rates. Utilizing the Heckman probit selection model shows that while women account for a disproportionate share of the self-employed, they are more often than men involved in low-productivity activities and rely less on formal finance. We conclude with policies that could help Swaziland – and other middle income countries in Sub-Saharan Africa – narrow these disparities and embark on a more inclusive growth path.

JEL Classification: J16, J21, L26, O12

Keywords: gender gap in the labor market, skills, credit, multivariate analysis, policies

Corresponding author:

Zuzana Brixiová
Southern Africa Labour and Development Research Unit (SALDRU)
University of Cape Town
Leslie Social Science Building
Rondebosch, 7701
South Africa
E-mail: zbrixiova@gmail.com

¹ The authors thank Robert Fakudze from the Swaziland Ministry of Labor for data and discussions. They also thank Nomusa Dlamini-Tibane, Alice Nabalamba, and Albert Okunade for helpful comments on earlier drafts. Earlier versions were presented at the African Development Bank, at the CSAE Conference on Development in Africa (Oxford) and at the ASSA/AFEA Meetings (Philadelphia). This paper started when Zuzana Brixiová was with UNDP Swaziland. The views expressed are those of the authors and do not necessarily reflect those of the AfDB or UNDP.

1. Introduction

In efforts to reduce poverty and raise prosperity, policymakers in a number of Sub-Saharan African (SSA) countries strive to achieve inclusive growth that taps into productive capacity of all groups of the society and where benefits are shared widely. The linkages between gender equality and economic outcomes as well as impacts of gender gaps in education, labor markets and political participation on growth, productivity and societal well-being have been also well documented (Dieterich et al., 2016; Hakura et al., 2016; Duflo, 2012; World Bank, 2012; Cuberes and Teignier-Baqué, 2011, and Klasen, 2006). As a result, several SSA countries, such as Rwanda, made important strides towards closing gender gaps. Many others, however, continue to experience notable gender disparities in the labor market.

In Swaziland, disparities in the labor market outcomes between men and women prevail in the midst of the overall challenging conditions, with the country posting one of the highest unemployment rates in SSA. Against this background, this paper aims to document key gender gaps in the labor market, encompassing both wage employment and self-employment (including entrepreneurship), discuss some of the factors driving them, and draw policy recommendations. The analysis utilizes the first two --2007 and 2010 -- Swaziland Labor Force Surveys and provides the first systematic evidence on gender gaps in the country and the impact of the global financial crisis on such gaps.

More specifically, we first show that against the background of the overall challenging labor market situation in Swaziland, outcomes of women are less favorable than those of men. Women are more likely to be unemployed and when employed, they work more often in low value-added/paying sectors. Moreover, a significant wage gap between men and women exists in a number of sectors, with less educated women being particularly impacted. We also use the Oaxaca-Blinder decomposition to investigate whether this wage gap is indicative of employers' preferences in the labor market or whether earnings differentials can be explained by differences in productivity or characteristics of male and female employees (e.g., education, marital status, experience).

Our analysis of the Swaziland Labor Force Surveys reveals that while women predominate among entrepreneurs and self-employed, they run mostly small informal firms. They also face challenges obtaining credit in the formal sector and growing their businesses beyond the 'nascent' stage. In light of very high youth unemployment (53 % of the labor force), we pay special attention to young women (ages 15 – 29). Specifically, a fixed-effects probit model is used to identify the links between youth as well as gender and access to finance, distinguishing periods 'before' and 'after' the-crisis. The main findings support the limited access to formal finance as a constraint to entrepreneurship for young women in Swaziland, with the global financial crisis exacerbating it.

Our paper contributes to the literature on labor markets in Southern Africa by providing first systematic evidence on the gender gaps in the labor market in Swaziland, a country with one of the highest unemployment and income inequality rates in Sub-Saharan Africa. By utilizing the first two (2007 and 2010) Swaziland Labor Force Surveys and

shedding light on the trends, scale, and forms of gender labor market disparities, the paper provides evidence for policymaking. It also illustrates the first-round impact of the global financial crisis on the labor market of a small, open, land-locked economy. The paper can be particularly relevant for other small middle-income countries in Southern Africa that aim to reach inclusive growth in the midst of fluctuating SACU revenues, high unemployment, income inequality, and HIV rates (Jauch, 2011).

Similarly to Hallward-Driemier, M. (2013), our analysis extends beyond wage employment and encompasses self-employment, with special attention paid to entrepreneurship and firm performance. In this aspect, we build on Bardasi et al. (2007), Hallward-Driemier (2011), Sabarwal and Terrell (2011) and Brixiová and Kangoye (2016a) who examine gender differences in entrepreneurial performance and their drivers in Sub-Saharan Africa and other developing regions. By focusing on women's access to finance, we contribute to the growing literature on credit constraints to entrepreneurship in Africa in general (Balioune-Lutz et al., 2011) and among women in particular (Asiedu et al., 2011 and Aterido et al., 2013, Brixiová and Kangoye, 2016b).

Besides Southern Africa, our paper contributes to the ongoing general analysis and policy debates on gender disparities in Africa and globally. As highlighted in AfDB et al. (2012), reliable labor market data from African countries are still relatively scarce, and until recently none was available for Swaziland. Furthermore, with the global financial crisis having turned into a job crisis, gender disparities in labor markets continue to be a key policy issue (World Bank, 2012 and 2013). In Sub-Saharan Africa, where gender gaps in wage employment and entrepreneurial performance have been a long-standing challenge, policymakers have put renewed attention to this issue as a potential contributor to inclusive growth. Our paper adds to these debates insights from a small landlocked country with one of the highest unemployment rates in Sub-Saharan Africa and globally.

The paper is organized as follows. After this Introduction, Section 2 provides evidence on gender gaps in the labor market and their implications, with focus on employment. Section 3 analyzes gender gap in entrepreneurship in Swaziland. Section 4 concludes with main findings of the paper and policy recommendations.

2. Gender gaps in the wage employment

In both 2007 and 2010, the overall unemployment rate in Swaziland was about 26%, one of the highest in Sub-Saharan Africa's middle income countries. The rate, which rose from 21.5% in 1995, has likely increased further after the 2011 fiscal crisis when the public employment was frozen and the private sector was hampered by the government's inability to pay contractors. Women, youth and those less educated are more vulnerable to unemployment than other groups (Brixiová and Kangoye, 2014). Sections below highlight several forms of labor market gaps between men and women in Swaziland.

2.1 Gender differences in employment and unemployment

In Swaziland, women's labor market outcomes are less favorable than those of men in the in terms of both employment and unemployment rates as well as labor force participation (Table 1a). Unemployment has been disproportionately concentrated among the less educated women and men, namely people with primary or less than primary education (Table 1b). Unemployment rates for female high school graduates were almost as high as for those with primary education, suggesting lower rates of return to high school education for women than for men. In contrast, both employment and unemployment gender gaps narrowed for tertiary education, pointing to its possible equalizing role.

Table 1a. Overall Labor Market Outcomes, by gender

	unemployment (% of LF)	employment (% of population)	labor force	self-employment (% of employment)
Men	24.0	46.4	61.0	15.6
Women	30.0	31.2	44.6	28.3
Total	26.9	39.2	53.6	21.1

Table 1b. Employment and Unemployment Outcomes, by gender and education

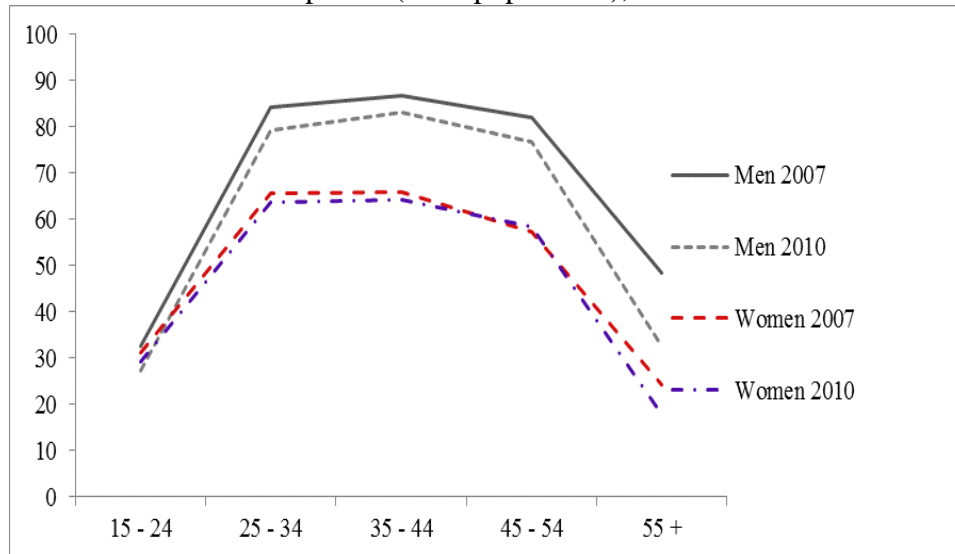
	Men	Women	Total	Men	Women	Total
	unemployment (% of LF)			employment (% of pop.)		
Primary or less	30.3	35.1	32.5	37.6	26.3	31.6
Secondary	23.5	33.0	28.0	51.1	36.8	43.7
Tertiary	7.4	9.0	8.1	72.9	69.5	71.3

Source: Authors' calculations based on the 2007 SLFS.

As in many other Sub-Saharan African countries, women's labor force participation is below that of men across all age categories except ages 15 – 19 both in 2007 and 2010. The gender gap in labor force participation has narrowed during the global financial crisis, with more men having left the labor market than women (Figure 1a). Specifically, between 2007 and 2010 labor force participation of men declined by 14 percent, while that of women declined only by 8 percent. This is in part due to the nature of the shock exorted by the crisis, with manufacturing and other sectors with high share of men in employment being particularly impacted. Concomitant with the larger decline in men labor force participation, employment rate of men also fell more than that of women, reflecting in part their higher initial employment to population rations (Figure 1b). The observation that female workers were not more affected than men by the crisis is consistent with finding for other middle-income countries (Cho and Newhouse, 2013).

Figure 1. Labor Market Outcomes, by gender, 2007 and 2010

1a. Labor Force Participation (% of population), 2007 and 2010



1b. Gender differences in changes in labor market outcomes, 2007 and 2010



Source: Authors' calculations based on the 2007 Swaziland Integrated Labor Force Survey.

2.2 Gender differences among the disengaged workers

Long duration of unemployment is another persistent characteristic of the Swaziland labor market, including among women. In 2010, staggering 59% of Swazi women of working age were available for work for more than two years (Swaziland Ministry of Labor, 2011). Further, the official unemployment data mask the total size and vast differences in unemployment. Specifically, when discouraged workers are counted as unemployed, a notable gender gap in unemployment emerges already among youth and

widens further for young adults. When discouraged workers are included, two thirds of young (ages 15-24) women in Swaziland were unemployed. (Table 2).

Table 2. Relaxed Unemployment and Discouraged Workers, by gender, 2007

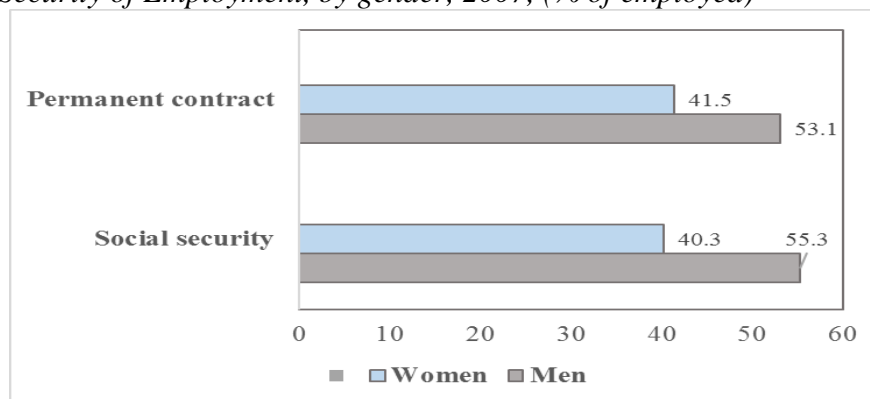
	Male	Female	Total
<i>Relaxed unemployment rate (% of LF)</i>			
Total (15+)	31.1	42.9	36.8
Youth (15 - 24)	59.2	66.7	63.2
Young Adults (25 - 34)	26.7	39.4	32.8
Adults (35 - 44)	18.7	31.7	24.9
Adults 45+	20.8	26.2	23.2
Urban areas (15+)	19.6	35.9	27.7
Rural areas (15+)	41.5	49.7	45.4
<i>Discouraged workers (% of population)</i>			
Total (15+)	6.3	10.3	8.4

Source: Authors' calculations based on the 2007 Swaziland Labor Force Survey.

2.3 Gender differences in quality of paid jobs

Women's labor market outcomes are inferior to those men not only in quantity but also quality of jobs in terms of job security. Specifically, a lower share of employed women than men have permanent contracts, in part because higher share of employed women than men are self-employed (Table 1). This implies that they are also less protected by the labor code and/or against health risk and retirement than men. While more than half of the employed men are covered by social security, only 40% of women are (Figure 2).

Figure 2. Security of Employment, by gender, 2007, (% of employed)



Source: Authors' calculations based on the 2007 SLFS.

Relatedly, women are less likely than men to work in more stable sectors such as the formal private sector rather than the informal sector. These disparities in employment distribution between women and men emerge already among youth and widen with age. For 'young adult' women the employment gap in the private sector is in part compensated by higher share of women working in the public sector, but this is reversed in the older group (Table 3).

Table 3. Sectoral Distribution of Employment, by gender and age

	men	women	men	women	men	women
	15-24		25-34		35+	
(% of total employment in each category)						
formal public	9.9	10.2	17.4	22.6	27.2	26.5
formal private	77.3	69.1	71.3	58.8	60.4	36.9
informal private	9.5	16.6	10.3	15.5	11.7	32.8
domestic workers	3.2	4.1	1.1	3.1	0.7	3.8

Source: Authors' calculations based on the 2007 SLFS.

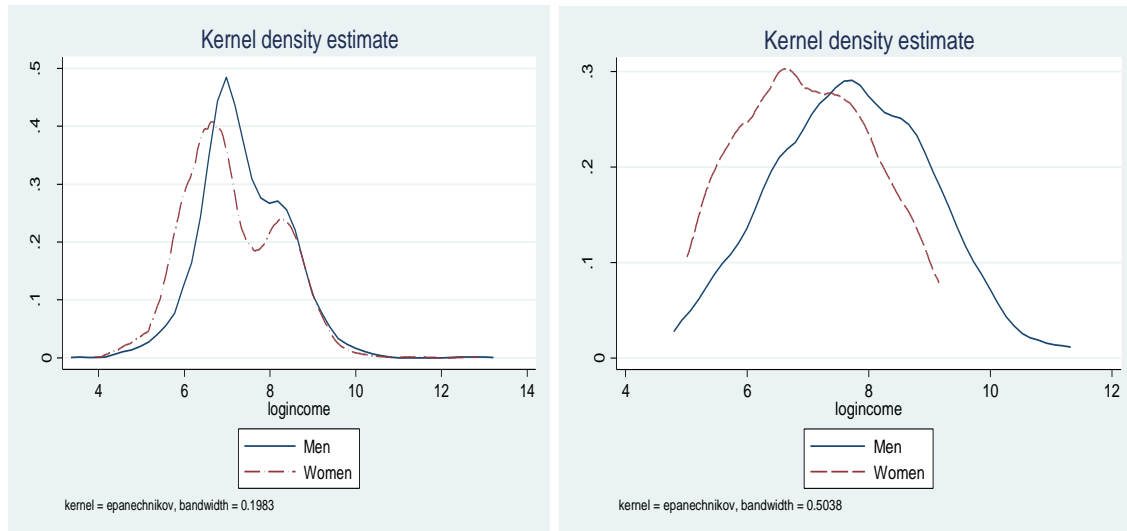
2.4 Gender gaps in earnings

The labor market in Swaziland is characterized by unadjusted gender wage gaps both for wage workers and self-employed.² Specifically, in 2007, the average income from wage employment (self-employment) of women was less than 40% (86%) of the average wage income of men men (Swaziland Ministry of Labour, 2008). At the same time, while the gender wage gap almost disappeared at higher wage ranges, men's income from self-employment exceeded that of women through most of the income range (Figure 3).

Figure 3. Kernel density estimate of (log of) income from employment, 2007

3a. Wage employment, by gender

3b. Self-employment, by gender



Source: Authors' calculations. Note: (Log of) income is for a previous month, in Emalangeni.

Women receive average nominal wage higher than men in only four sectors (agriculture, utilities, transport & communication, and financial intermediaries), which account for less than 10% of their total employment. Otherwise, women work mostly in low paying sectors such as retail and wholesale trade as well as community and social services (which account for over 40% of total employment).

² The gap was calculated with wages unadjusted for characteristics such as education, experience, etc.

Table 4. *Oaxaca-Blinder Decomposition of Wages (log) (15-60 years)*

	Coeff. (Std. Err.)		
	[2007]	[2010]	[Pooled]
Overall			
Male	7.55 ^(a) _(.03)	7.4 ^(a) _(.03)	7.50 ^(a) _(.02)
Female	7.34 ^(a) _(.03)	7.37 ^(a) _(.03)	7.35 ^(a) _(.02)
Difference	.21 ^(a) _(.04)	.093 ^(a) _(.04)	.15 ^(a) _(.03)
Endowments	-.02 _(.03)	.006 _(.02)	-.001 _(.017)
Coefficients	.18 ^(a) _(.04)	.037 _(.04)	.11 ^(a) _(.03)
Interaction	.04 _(.03)	.05 ^(b) _(.03)	.04 ^(b) _(.02)
<i>Obs</i>	2667	2573	5240
<i>Obs (Male)</i>	1445	1309	2754
<i>Obs (Female)</i>	1222	1264	2486

Source: Authors' calculations. **Note:** Robust standard errors are in parentheses; (a), (b) and (c) respectively denote significance at 1%, 5% and 10%

To investigate whether these income gaps reflect bias against women in the labor market or differences in characteristics (e.g., education, marital status, experience), we applied the Oaxaca-Blinder method (Table 4) (Blinder, 1973; Oaxaca, 1973). Specifically, we decomposed the average differences in wages for men and women aged 15 – 60 years in 2007. Gender-specific regressions were run first, after which a detailed contribution of each predictor to the wage gap was obtained. We found that the average (log) adjusted wage for men was only 3% higher than the average (log) adjusted wage for women.³

The Oaxaca-Blinder procedure explains to what extent is the aggregate wage gap caused by the wage structure (unexplained) effect, the composition (explained) effect, and their combination. In our sample, the difference in endowments (e.g., unexplained effect) is not significant, but the difference in coefficients (explained, composition effect) accounts for a significant portion of the gap. Most of the unadjusted income gap is due to different characteristics of workers, including sector of activity and education. Specifically, women educational achievements are below those of men – only 7% (17%) of working age women have tertiary (higher secondary) education relative to 9% (19%) of men.⁴

3. Gender Gaps in Self-Employment and Entrepreneurship

3.1. Disparities in entrepreneurship opportunities

An analysis of the 2010 Labor Force Survey reveals that women are disproportionately represented among entrepreneurs in Swaziland. Indeed, self-employed women account for 8.7% and 11.6% of the 15-29 years and 15-59 years population groups, respectively. This evidence is further confirmed by the regression analysis summarized in Table 5. The female dummy (which equals to 1 for more female individuals) appears to be a positive and significant determinant of the likelihood of being self-employed, which is increased

³ Using the 2010 LFS and the pooled data for two surveys led to similar results.

⁴ The field of study is possible another factor; it was left to further research.

by .45 and .29 respectively for the regression specification based on the 2010 LFS and the pooled two LFS data. Results from the other regressors show that household-related characteristics, in particular marital status, mobility and education matter the most in explaining entrepreneurship. While tertiary education enters negatively in all the regression specifications, marital status and the limited mobility turn out to be positively impacting the likelihood of being an entrepreneur in all the three specifications.⁵

Table 5. Gender and entrepreneurship (probit regressions; dependent var. is Entrepreneur)

	(1)	(2)	(3)
	2007	2010	Pooled
Personal characteristics			
Gender (female=1)	.14(.09)	.45 ^(a) (.10)	.29 ^(a) (.07)
Age (in years)	-.0008(.02)	.03(.02)	.01(.01)
Household-related characteristics			
Marital status (married=1)	.55 ^(a) (.10)	.41 ^(a) (.11)	.48 ^(a) (.07)
Mobility and location			
Urban location (urban=1)	-.11(.11)	-.07(.11)	-.08(.08)
Length of stay (since birth=1)	.16(.10)	.22 ^(b) (.11)	.2 ^(a) (.07)
Education			
Primary	.2(.16)	-.05(.15)	.07(.11)
Secondary	.27 ^(c) (.15)	-.22(.14)	.03(.10)
Tertiary	-.12(.23)	-.67 ^(a) (.23)	-.39 ^(a) (.16)
<i>Intercept</i>	-1.57 ^(a) (.38)	-2.12 ^(a) (.43)	-1.84 ^(a) (.28)
<i>Obs</i>	1208	1130	2339
<i>Pseudo R²</i>	0.04	0.07	0.05

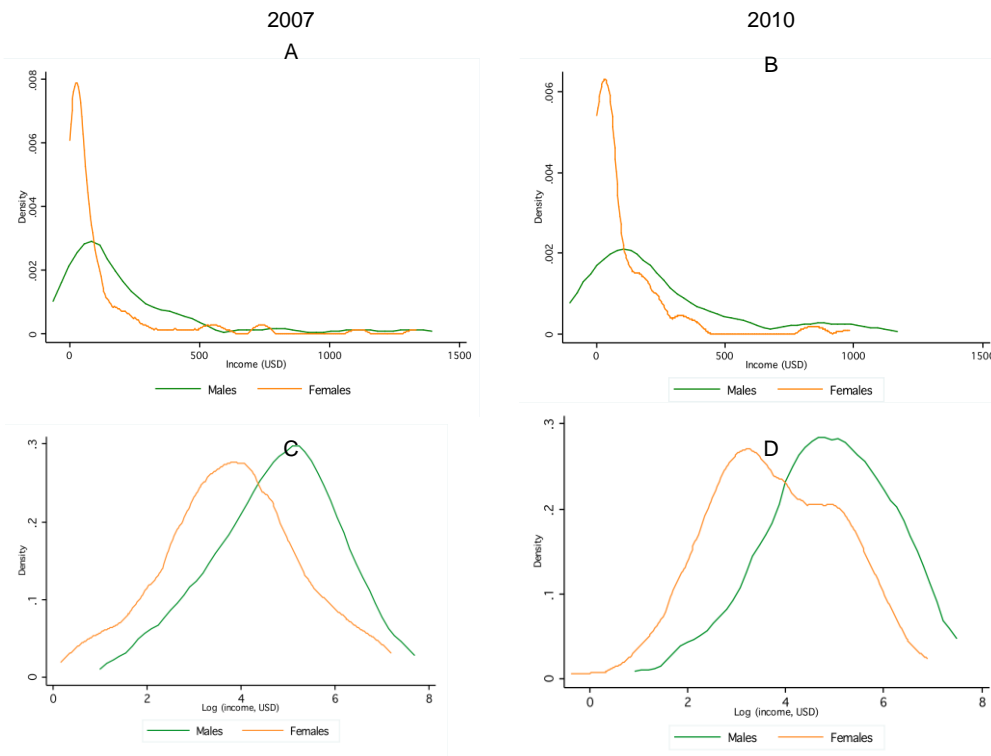
Robust standard errors are under parentheses; (a), (b) and (c) respectively denote significance at 1%, 5% and 10%

3.2 Gender gap in business income

This section presents a detailed analysis of the gender gap in earnings from business and in access to finance, with the aim of providing a descriptive analysis of how the position of women in the self-employment labor market segment differs from that of men, and why. Figure 4 displays the outputs of the Kernel density estimation of business income for men and women aged 15 – 29 using the 2007 and 2010 Labor Surveys. Charts A and B show that more women than men entrepreneurs were engaged in small businesses, and are getting lower earnings, both for 2007 and 2010. In both 2007 and 2010, men received higher income from their firms, pointing to an unadjusted income gap.

⁵ It is worthy to note that, as variation in gender ratios in our sample is driven by purely exogeneous factors and is not subject to mismeasurement, it's unlikely that the results on gender suffer from endogeneity bias.

Figure 4. Kernel density estimation plots of the net income from business and the log of the net income from business (youth 15-29, 2007 and 2010)



Source: Authors' calculations based on the 2007 and 2010 Swaziland Integrated Labor Force Surveys

Table 6 displays the output of the Oaxaca-Blinder decomposition of the mean differences in men and women's log earnings from business⁶. The results confirm that there is a gap in the incomes from business, with men outperforming women. The Oaxaca-Blinder technique then allows exploring further some possible drivers for this earnings disparity.

While differences in coefficients seem to explain a significant portion of the gap in all specifications (2007, 2010 and pooled data), differences in endowments account for only about 17% of the earnings disparity. The second panel of Table 6 evaluates in more granularity how much of the gender earnings gap is due to specific characteristics including geographic location, mobility, household-related characteristics, access to finance and personal characteristics (age, citizenship).

Evidence is provided that among the personal characteristics, tertiary education, Swazi citizenship and urban location help explain the gap. Specifically, when considering the pooled survey data, having a tertiary education and residing in an urban location explain 12% and 7% of the business income gap between men and women entrepreneurs, respectively, while the Swazi citizenship explains almost 10% of the closing of the gap.

⁶ We considered the gross cash income from paid employment in last month.

Table 6. Oaxaca-Blinder decomposition of net income from business (log), with Heckman correction for sample selection bias

	<i>Coeff. (Std. Err.)</i>		
	<i>[2007]</i>	<i>[2010]</i>	<i>[Pooled]</i>
<i>Overall</i>			
Men	6.46 ^(a) (.10)	6.71 ^(a) (.09)	6.58 ^(a) (.07)
Women	5.57 ^(a) (.19)	5.84 ^(a) (.18)	5.69 ^(a) (.13)
Difference	.89 ^(a) (.22)	.874 ^(a) (.20)	.9 ^(a) (.15)
Endowments	.05(.12)	.26 ^(a) (.11)	.15 ^(c) (.08)
Coefficients	.82 ^(a) (.25)	.63 ^(a) (.23)	.7 ^(a) (.17)
Interaction	.02(.18)	-.01(.15)	.05(.11)
<i>Endowments</i>			
Urban	.03(.02)	.09 ^(b) (.05)	.06 ^(a) (.02)
Head	.04(.08)	.04(.06)	.04(.05)
Age	.01(.06)	-.02(.17)	.004(.08)
Age squared	.02(.11)	.07(.21)	.04(.11)
Citizenship	-.13 ^(a) (.05)	-.03(.05)	-.09 ^(a) (.04)
Length of stay	-.002(.01)	-.0003(.01)	.004(.006)
No education	.1 ^(c) (.06)	-.01(.02)	-.02(.03)
Primary education	.02(.04)	-.03(.04)	-.02(.03)
Secondary education	-.02(.03)	.02(.04)	.03(.04)
Tertiary education	-	.14 ^(b) (.06)	.12 ^(a) (.05)
Business loan	-.02(.02)	-.02(.02)	-.02(.01)
<i>Obs</i>	477	459	936
<i>Obs (Male)</i>	196	186	382
<i>Obs (Female)</i>	281	273	554

3.3. Female entrepreneurs and access to finance: a regression analysis

To test the gender gap in access to finance among entrepreneurs in Swaziland, we specify a linear probit model with an outcome variable of obtaining a loan for business purpose.

Besides the *Gender* variable, we include a vector of controls including personal characteristics variables, household-related characteristics, mobility, location and education variables. We control for the business location in the country's regions, which may offer unequal access to finance opportunities. Swaziland is divided into four regions: Hhohho (with capital Mbabane as the administrative center), Manzini (where the administrative center, Manzini, is the principal commercial and industrial city), Lubombo and Shiselweni. Entrepreneurs in developing countries have been relying more strongly on social networks (Kristiansen, 2004). To account for social network effects that may be related to the length of stay, we include a proxy of mobility, a binary variable indicating whether an individual has been staying in the region since his/her birth. An individual with long stay duration in the region is expected to have stronger social networks that

would support their loan search. As marriage may also potentially widen social networks and household assets (especially for women), we include in the model the marital status as an independent variable. The level of education has been found to support business performance, especially as it increases entrepreneurs' financial literacy, allowing them to better exploit funding opportunities for their businesses. Therefore, we include as regressors binary variables indicating whether individual entrepreneurs have achieved a primary, a secondary or a tertiary education compared to a 'no education' status.

In the data, a large proportion of individuals do not report getting a loan for business purposes. Our econometric analysis would not suffer from a bias if this missing data were omitted completely at random. However, while only entrepreneurs or those preparing for entrepreneurship are expected to receive a loan for business, the decision to be self-employed or not is made by individuals. Consequently, those who are not self-employed constitute a self-selected sample and are not randomly sampled. Ignoring this issue would yield a biased estimate of the likelihood of getting a loan. To correct for this, we use the Heckman correction for sample selection (Heckman, 1979). The procedure treats the selection problem as an omitted but latent variable problem, by estimating in a first step the determinants of the decision to engage in entrepreneurship (selection equation) and in a second step the determinants of getting a loan for business purpose (outcome equation).

Table 7. Gender and credit, using 2007 and 2010 Labour Force Survey (Dependent variable is getting loan for business purpose)

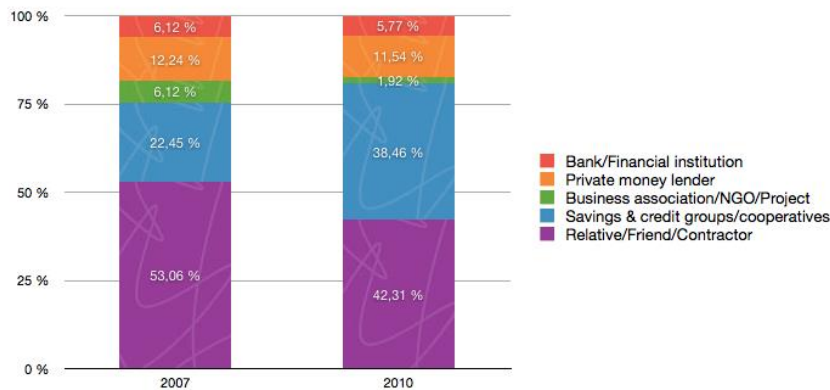
	(1)	(2)	(3)
	2007	2010	Pooled
<i>Personal characteristics</i>			
Gender (female=1)	1.4 ^(b) (.68)	7.78(5.66)	2.58 ^(c) (1.46)
Age (in years)	.12 ^(a) (.05)	.53(.38)	.21 ^(b) (.10)
<i>Household-related characteristics</i>			
Marital status (married=1)	2.51(2.38)	7.82(5.77)	4.48(2.79)
<i>Mobility and location</i>			
Length of stay (since birth=1)	.84(.98)	4.18(3.68)	1.94(1.37)
Hhohho	-.36(.45)	-.09(.61)	.29(.48)
Manzini	.09(.42)	-.21(.55)	.39(.47)
Shiselweni	-	-	.5(.48)
<i>Education</i>			
Primary	.26(.1)	-.58(1.04)	.63(.52)
Secondary	1.69(1.16)	-3.34(2.39)	.69(.43)
Tertiary	-.01(.71)	-	-2.74(1.81)
<i>Mills inv. ratio</i>	6.45(4.93)	23.64(17.98)	11.21 ^(c) (6.89)
<i>Intercept</i>	-17.67(10.87)	-59.79(43.16)	-29.27 ^(c) (15.89)
<i>Obs</i>	142	118	308
<i>Pseudo R²</i>	0.16	0.12	0.06

Robust standard errors are under parentheses; (a), (b) and (c) respectively denote significance at 1%, 5% and 10%

Table 7 summarizes the Heckman adjusted findings. Columns (1), (2) and (3) represent the three main specifications corresponding to the use of the 2007, 2010 and the pooled LFS data (2007 and 2010). The results show that female entrepreneurs benefit from a better access to finance from either formal or informal sector. Indeed, being a female entrepreneur increases the likelihood of getting a loan for business purpose by 1.4% and 2.6%, respectively, for the specification based on 2007 LFS data and for the specification based on the pooled data.

Another interesting result is that in 2010, access to finance among entrepreneurs in Swaziland was no longer gender-specific. This is likely to reflect effects of the crisis that impacted entrepreneurs' access to finance regardless of gender.⁷ Still, those results were unexpected as broad evidence has been found in the literature that women entrepreneurs in developing countries tend to face more challenges in accessing credit (Kuada, 2009). Looking in more detail at our access to finance variable, we find corroborating explanations with the standard literature. In particular, the analysis of the source of the loans for business purpose (Figure 5) revealed that relative to men, women entrepreneurs are much more relying on informal source of finance for their business rather than formal sources of finance. Indeed, in both 2007 and 2010, no more than 6.12% of loans obtained by women entrepreneurs originated from formal financial institutions. Women entrepreneurs tend to have more difficulties in accessing bank financing but compensate for this by relying on their social relationships.⁸ Out of the remaining controls, only *Age* enters significantly in the regression, with a positive sign in the 2007 Survey and the pooled data specifications, pointing to the role of experience in accessing finance.

Figure 5. Source of loans for women entrepreneurs (% of total)



Source: Authors' calculations based on the 2007 and 2010 Swaziland Integrated Labor Force Surveys

⁷ In the aftermath of the global financial crisis, access to finance for entrepreneurs and small and medium enterprises (SMEs) has weakened globally, especially among non-innovative firms. SMEs and entrepreneurs have suffered a double shock: a reduction in demand for their products and a tightened credit conditions, which have reduced their access to credit (OECD, 2009; Wehinger, 2014; Lee et al., 2015).

⁸ It would have been informative to focus the regression analysis on the access to formal sources of finance and test the sensitivity of the findings, to that but data limitation (gaps in the survey data in particular) prevents us from pursuing this analysis.

Finally, we checked the robustness of our findings to business income-related outliers as the above-discussed results could be driven by large business incomes biasing the estimates in favor of women (or against men). After identifying outliers and excluding them using the method of Hadi (1992), we find that the results remain stable.⁹

4. Conclusions and Policy Recommendations

In this paper, we documented the main gender-related disparities in the Swazi labor market, using the 2007 and 2010 Swaziland Labor Force Surveys. We found that while young female are more subject to unemployment and more prone to discouragement, only a small (adjusted) gender wage gaps are identified. However, women may be facing barriers in entering the high paying professions, including in the public sector. With respect to the disparities in entrepreneurship outcomes, the findings from the econometric analysis based on a Heckman probit selection model suggest that while more women than men are self-employed and have higher overall access to finance than men, they are again engaged in low-productive activities. Moreover, they rely mostly on informal sources of finance for their businesses, due to limited asset ownership.

Based on the above evidence, the following areas seem to warrant policymakers' attention: (i) enhancement of education outcomes; (ii) support to women's businesses through training, including on financial literacy; and (iii) financial instruments and change in 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 programs, alongside improved educational opportunities in technical and business fields, vocational training, and at the tertiary level.

⁹ Being a female entrepreneur still increases the likelihood of getting a loan for business purpose by 1.4% and 2.3% considering respectively the 2007 and the pooled LFS survey data.

References

African Development Bank, Organization for Economic Cooperation and Development, United Nations Development Program and Economic Commission for Africa (2012), *African Economic Outlook 2012: Promoting Youth Employment*, AfDB: Tunis; OECD: Paris; UNDP: New York; and UNECA: Addis Ababa.

Asiedu, E.; Kalonda-Kanyama, I.; Ndikumana, L. and Nti-Addae, A. (2013), 'Access to Credit by Firms in Sub-Saharan Africa: How Relevant is Gender?', *American Economic Review: Papers & Proceedings*, Vol. 103(3): 293–297.

Aterido, R.; Beck, T. and Iacovone, L. (2013), 'Access to Finance in Sub-Saharan Africa: Is There a Gender Gap?', *World Development*, Vol. 47 (July), 102–120.

Baliamoune, M.; Brixiová, Z. and Ndikumana, L. (2011), 'Credit Constraints and Productive Entrepreneurship in Africa', IZA Discussion Paper No. 6193, Institute for Labor Economics: Bonn.

Bardasi, E., C. M. Blackden, and J. C. Guzman (2007), 'Gender, Entrepreneurship, and Competitiveness', In: *The Africa Competitiveness Report 2007*, Geneva: World Economic Forum, World Bank, and African Development Bank.

Blinder, A. S. (1973), 'Wage Discrimination: Reduced Form and Structural Estimates' *The Journal of Human Resources*, 8: 436–455.

Brixiová, Z. and Kangoye, T. (2016a), 'Gender and Constraints to Entrepreneurship in Africa: New Evidence from Swaziland', *Journal of Business Venturing Insights*, Vol. 5 (June), 1-8.

Brixiova, Z. and Kangoye, T. (2016b), 'Start-Up Capital and Women's Entrepreneurship: Evidence from Swaziland', IZA Discussion Papers No. 10279, Institute of Labor Economics (IZA).

Brixiová, Z. and Kangoye, T. (2014), 'Youth Unemployment in Africa: New Evidence and Policies from Swaziland', In: D. Sciulli & M. Ángel Malo (ed.), *Disadvantaged Workers*, edition 1, chapter 9, pages 181-202, " AIEL Series in Labour Economics.

Cho, Y. and Newhouse, D. (2013), 'How Did the Great Recession Affect Different Types of Workers? Evidence from 17 Middle-Income Countries', *World Development*, Vol. 41(C), 31-50.

Cuberes, D. and Teignier-Baqué, M. (2011), 'Gender Inequality and Economic Growth', Background paper for the World Development Report 2012, World Bank: Washington DC.

Dieterich, C.; Hakura, D. and Newiak, M. (2016), 'In the Driver's Seat', *Finance & Development*, June 2016, 22 – 24.

- Duflo, E. (2012), 'Women Empowerment and Economic Development', *Journal of Economic Literature*, Vol. 50, (4), 1051–79.
- Hadi, A.S. (1992), 'Identifying Multiple Outliers in Multivariate Data', *Journal of the Royal Statistical Society Series B*, Vol. 54, 761–77.
- Hakura, D.; Hussain, M.; Newiak, M.; Thakoor, V. and Yang, F. (2016), 'Inequality, Gender Gaps and Economic Growth: Comparative Evidence for Sub-Saharan Africa', IMF Working Paper No. WP/16/111.
- Hallward-Driemier, M. (2013), *Enterprising Women: Expanding Economic Opportunities in Africa*, Agence Francaise de Developpement and World Bank.
- Hallward-Driemier, M. (2011), 'Strengthening Women's Entrepreneurship', In *The Africa Competitiveness Report 2011*, Geneva: World Economic Forum, World Bank, and African Development Bank.
- Heckman, J.J. (1979), 'Sample Selection Bias as a Specification Error', *Econometrica* 47, 153-161.
- Jauch, H. (2011), 'Time to Turn the Tide: Tackling Poverty, Inequality and Unemployment in Southern Africa', Freidrich Ebert Stiftung Perspective (June).
- Klasen, S. (2006), "Gender and pro-poor growth," in Lukas Menkoff, ed. *Pro-Poor Growth: Policy and Evidence*, pp. 151–71. Berlin: Dunker and Humblot.
- Kristiansen, S. (2004), 'Social Networks and Business Success: The Role of Subcultures in an African Context', *American Journal of Economics and Sociology*, Vol. 63, No. 5 (Nov., 2004), pp. 1149- 1171.
- Kuada, J. (2009), 'Gender, Social Networks, and Entrepreneurship in Ghana', *Journal of African Business*. Volume 10, Issue 1.
- Lee, N.; Sameen, H. and Cowling, M. (2015), 'Access to finance for innovative SMEs since the financial crisis', *Research Policy*, 44 (2), 370-380.
- Oaxaca, R. (1973), 'Male-Female Wage Differentials in Urban Labor Markets', *International Economic Review* 14: 693–709.
- OECD (2009), *The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses*, OECD Centre for Entrepreneurship, SMEs and Local Development, OECD: Paris.
- Sabarwal, S. and Terrell, K. (2011), 'Does Gender Matter for Firm Performance? Evidence from Eastern Europe and Central Asia', IZA Discussion Paper No. 3758.

Swaziland Ministry of Labor (2008 and 2011), Labor Force Survey 2007 and 2010, Mbabane, Swaziland.

Wehinger, G. (2013), 'SMEs and the credit crunch: Current financing difficulties, policy measures and a review of literature', *OECD Journal: Financial Market Trends*, Vol. 2013/2.

World Bank (2012), *World Development Report: Gender Equality and Development*, World Bank: Washington DC.

World Bank (2013), *World Development Report: Jobs*, World Bank: Washington DC.

ANNEX

Table 1, Annex: Gender and access to business finance, using 2007 and 2010 Labour Force Survey (Dependent variable is *getting loan for business purpose*): income from business outliers excluded

	(1)	(2)	(3)
	2007	2010	Pooled
<i>Natural characteristics</i>			
Gender (female=1)	1.42 ^(b) (.73)	4.07(2.79)	2.29 ^(c) (1.26)
Age (in years)	.08(.05)	.27(.18)	.14 ^(b) (.07)
<i>Household-related characteristics</i>			
Marital status (married=1)	2.05(2.12)	3.64(2.51)	3.36 ^(c) (2.00)
<i>Mobility and location</i>			
Lenght of stay (since birth=1)	.34(.75)	1.64(1.77)	1.23(.93)
Hhohho	-	-.10(.63)	.15(.5)
Manzini	.68(.48)	-.28(.58)	.33(.47)
Shiselweni	.67(.46)	-	.51(.48)
<i>Education</i>			
Primary	-.002(.88)	.1(.63)	.44(.42)
Secondary	1.36(.96)	-2.17(1.51)	.25(.32)
Tertiary	-.49(.87)	-	-2.93(1.84)
<i>Mills inv. ratio</i>	6.04(4.51)	10.60(7.77)	8.76 ^(c) (5.05)
<i>Intercept</i>	-16.1 ^(c) (9.07)	-28.86(19.01)	-22.87 ^(b) (11.4)
<i>Obs</i>	138	115	300
<i>Pseudo R²</i>	0.19	0.12	0.07

Robust standard errors are under parentheses; (a), (b) and (c) respectively denote significance at 1%, 5% and 10%

Table 2, Annex II. Descriptive statistics: youth aged 15-29, by gender, 2007 and 2010

Variable	Mean		Std. Dev.		N	
	2007	2010	2007	2010	2007	2010
Panel A : Demographic Characteristics						
Gender (Female=1)	.53	.52	.5	.5	5165	4715
Age (in years)	21.41	21.59	4.23	4.23	5165	4725
Panel B : Household-related characteristics						
Marital status (Married=1)	.17	.16	.38	.37	5165	4715
Head of household (Head=1)	.11	.15	.32	.36	5165	4715
Panel C : Mobility and Location						
Urban location (Urban=1)	.41	.39	.49	.49	5165	4726
Length of stay (Since birth=1)	.72	.75	.45	.43	5165	4713
Hhohho	.27	.29	.44	.45	5165	4726
Manzini	.29	.3	.45	.46	5165	4726
Shiselweni	.21	.21	.41	.41	5165	4726
Der,	.23	.2	.42	.4	5165	4726
Citizenship (Swazi=1)	.98	.99	.13	.11	5165	4715
Panel D : Education						
No education	.18	.17	.38	.37	4945	4544
Primary	.34	.33	.47	.47	4945	4544
Secondary	.43	.44	.49	.5	4945	4544
Tertiary	.06	.06	.23	.23	4945	4544
Sebenta	0	.004	0	.06	4945	4544
Panel E : Entrepreneurship						
Entrepreneur (Yes=1)	.14	.14	.34	.34	1299	1198
Business loan (Yes=1)	.08	.04	.27	.19	167	157
Net income (USD)	169.34	153.52	260.3	219.64	178	164