

# Understanding Gender Differences in Formal and Informal Wage Employment Sectors in Ghana

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## Introduction

## Gender Segregation in Employment in Ghana

## Data and Econometric Analysis

## Analysis of empirical Results

## Conclusions

# Motivation

- There is increasing concern on the quality of job opportunities available to women
- Women in developing countries are disproportionately engaged in informal work
- In sub-Saharan Africa, for example, 74.2% of women in wage employment engage in informality relative to men (ILO, 2016)

# Motivation

- Informal work does not offer social protection including minimum wage, maternity leave, etc with implications on old age poverty
- However, unpaid informal jobs may provide job flexibility, which may be particularly important for women

# Motivation

- In Ghana, female workers constitute only 33 per cent of employment in the formal sector compared to the male of 67 per cent (GLSS, 2013)
- However, in the informal employment the distribution is different: 49.7 per cent and 50.3 for women and men respectively,
- Thus, there is enormous evidence of sector of employment gender segregation

# Motivation

- Many factors including discrimination, education and other individual characteristics may account for the high concentration of women in the informal jobs.
- Thus, it is important to understand factors that affect gender differences in labor market
- Distinguishing paid employment from unpaid employment is particularly important in understanding contributory factors

# Motivation

- Studies on gender differences in labor market outcomes in Ghana focus on gender wage gap (Beaudry and Sowa, 1994; Verner, 1999; Schultz, 2003).
- However, quality information on wage may exist only on formal employment, which represent a very small part of labor market in developing countries.
- Considering issues about opportunity to be employed in a more protected or safe job in the formal sector would be important

# Motivation

- Benefits of working in formal sector transcends beyond the relatively high wages and include other benefits such as job protection, old age social security, parental leaves, sick leaves, opportunity for training, etc.
- Thus, discrimination in access to formal employment has far-reaching negative consequences for women compared to gender wage discrimination.



# Motivation

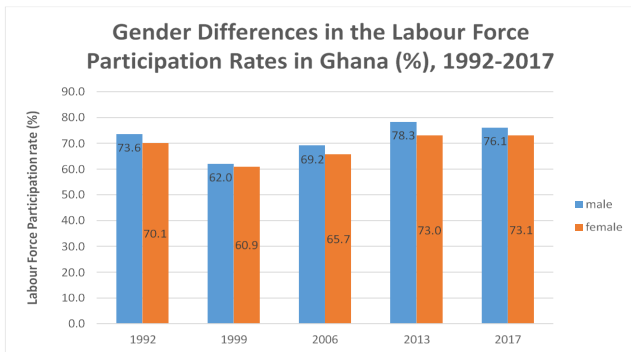
- Studies on gender dimensions on formal-formal work opportunities provide descriptive statistics (see for example Baah-Boateng, 2012 and 2007)
- Thus, it is important to understand gender differences in getting employment in the formal sector.
- Importantly, evidence on gender formal employment bias in Ghana.

## Preview of Results

- No evidence of gender bias against women in gaining employment in the formal sector
- Highly educated women are more likely to get job in the formal sector
- Thus, the observed gender differences in formal-informal employment partly reflect differences in human capital between men and women.

# Labour Market in Ghana

Fig 2.1: Labor force participation rate (per cent) (1992-2017)



Source: Ghana Statistical Service (1995, 2000, 2008, 2014) and author's own computation from GLSS 7.

# Gender Segregation in Ghana

Table 2.1: Main Occupation by Gender

Main occupation	1992		1999		2005/06		2012/13		2016/17	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Professional/Technical	5.3	3.1	5.7	2.7	6.8	3.2	10.2	6.2	13.3	6.0
Adm./Managerial	0.4	0	0.4	0.1	0.8	0.1	1.9	1.5	1.5	0.5
Clerical	3.2	1.5	3.7	1.2	1.4	1.1	1.5	1.4	1.1	0.7
Sales/Commercial	4.3	23.7	7.8	27.3	5.8	21.3	6.7	30.6	8.1	24.7
Service	3.1	2.2	5.5	4	4.4	7	5.0	8.6	22.3	26.1
Agricultural	66.6	59.1	59	50.3	58.6	51.4	51.3	38.4	42.7	36.9
Production	17.1	10.4	17.9	14.4	22.2	15.9	23.4	13.4	11.1	5.2

Source: Ghana Statistical Service (1995, 2000, 2008, 2014) and author's own computation from GLSS 7.

# Gender Segregation in Ghana

Table 2.2: Employment statuses By Gender

Employment Status	1992		1999		2005/06		2012/13		2016/17	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Paid-employment	20.7	7.5	23	6.2	25	8.2	28.5	14.5	31.4	14.1
self-employment	58.9	71.4	65.9	71	54.4	57.3	44.5	51.4	38.9	49.6
unpaid family work	1.2	1.7	10.7	22.7	17.7	32.3	22.6	30.9	29.3	36.0
Others	19.2	19.4	0.3	0.1	2.9	2.2	4.5	3.2	0.4	0.4
Total Employment	3,561	4,337	3,863	4,624	6,863	7,512	11,530	9,860	14,666	15,324

Source: Ghana Statistical Service (1995, 2000, 2008, 2014) and author's own computation from GLSS 7.

# Data

- We use the latest nationally representative household survey GLSS7
- Detailed information for about 14,009 households across the country
- The analysis focuses on individuals in the labor force age (15–60): 22,476 individuals
- 17,465 engaged in non-wage employment (self-employed and unpaid family workers), and 5048 were into paid employment (formal and informal sectors).

# Descriptive Statistics

Table 3.1: Dependent Variables

Variable	Percent
<b>Paid Employment Status:</b>	
Non-wage work	77.58
Wage work	22.42
Total	5,048
<b>Status of Paid Employment:</b>	
Informal	58.1
Formal	41.9
Total	22,513

# Descriptive Statistics

## Table 3.2: Covariates

Variable	Percent
Female (=1 if female)	51.8
Rural (=1 if rural)	64.0
Head (=1 if household head)	45.9
Other adult female (=1 if adult female in the household)	76.4
<b>Marital Status:</b>	
Married	52.9
Consensual Union	8.8
Separated	2.7
Divorced	3.2
Widowed	4.3
Never married	28.2
<b>Education:</b>	
No education	36.7
Primary	23.0
JHS/MLS	22.1
High School	10.4
Post-Secondary	7.8



## Estimation Method

- Two-stage probit for binary response models with sample selection
- First stage: individuals make decision on entrance into paid employment.
- Second stage: the individuals get employment position in formal and informal sectors of paid employment

$$y_i^* = X\delta + Z\gamma + \nu_i, \quad y_i = 1 \text{ if } y_i^* > 0 \text{ and } y_i = 0 \text{ otherwise}$$

$$w_i^* = X\beta + \epsilon_i, \quad w_i = 1 \text{ if } w_i^* > 0 \text{ and } w_i = 0 \text{ otherwise}$$

$$\rho = \text{Corr}(\epsilon, \nu) \neq 0$$

# No Sample Selection

## Table 4.1: Probit Estimates

VARIABLES	(1) Paid Employment	(2) Formal Employment
Child less than age 6 in the household	0.0217	-0.0988
Child less than age 15 in the household	-0.229***	0.0209
Gender of individual: Female	-0.469***	0.355***
Education status: Primary	0.140***	-0.271***
Education status: JHS/MLS	0.349***	0.152**
Education status: High School	0.866***	0.940***
Education status: Post-Secondary	1.587***	1.942***
Age in years	0.0383***	0.0566***
Age Squared	-0.000611***	-0.000284
Rural	-0.616***	0.0765*
marital status: Consensual Union	0.229***	-0.416***
marital status: Separated	0.0778	-0.720***
marital status: Divorced	0.0271	-0.568***
marital status: Widowed	-0.0600	-0.761***
marital status: Never married	0.0956**	-0.245***
household head	0.246***	0.126***
Other Female in household	-0.0468*	0.197***
Constant	-1.113***	-2.625***
Observations	22,476	5,038

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## No Sample Selection

- Females are less likely to take paid employment job
- However, they are more likely to get formal employment

# No Sample Selection

## Table 4.2: Probit with Female Interactions

VARIABLES	(1) Paid Employment	(2) Formal Employment
Child less than age 6 in the household	0.0490	-0.0543
Child less than age 15 in the household	-0.224***	-0.0294
Sex of individual: Female	-0.396***	0.0477
Education status: Primary	0.250***	-0.374***
Education status: JHS/MLS	0.480***	0.0106
Education status: High School	0.824***	0.832***
Education status: Post-Secondary	1.473***	1.794***
Age in years	0.0394***	0.0592***
Age Squared	-0.000622***	-0.000320
Rural	-0.619***	0.0808*
marital status: Consensual Union	0.236***	-0.417***
marital status: Separated	0.0815	-0.714***
marital status: Divorced	0.0426	-0.556***
marital status: Widowed	-0.0555	-0.721***
marital status: Never married	0.0981***	-0.244***
household head	0.256***	0.204***
Other Female in household	-0.0443*	0.189***
Female*kid06	-0.0443	-0.0735
Female*kid15	0.00779	0.0741
Female*primary	-0.243***	0.297
Female*JHS/Middle School	-0.334***	0.444***
Female*SHS	0.130*	0.313**
Female*Post-Secondary	0.273***	0.436***
Constant	-1.183***	-2.553***
Observations	22,476	5,038

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# No Sample Selection

- For individuals with higher level of education, females are more likely to get formal employment

# Sample Selection

## Table 4.3: HeckProbit Estimates

VARIABLES	(1) Paid Employment	(2) Formal	(3) athrho
Child less than age 6 in the household	0.008		
Child less than age 15 in the household	-0.209***		
Sex of individual: Female	-0.471***	0.508***	
Education status: Primary	0.140***	-0.296***	
Education status: JHS/MLS	0.350***	-0.078	
Education status: High School	0.867***	0.340**	
Education status: Post-Secondary	1.589***	1.015***	
Age in years	0.038***	0.029*	
Age Squared	-0.001***	0.000	
Rural	-0.618***	0.347***	
marital status: Consensual Union	0.234***	-0.449***	
marital status: Separated	0.086	-0.629***	
marital status: Divorced	0.029	-0.487***	
marital status: Widowed	-0.052	-0.574***	
marital status: Never married	0.100***	-0.251***	
household head	0.245***	0.051	
Other Female in household	-0.049*	0.191***	
Constant	-1.125***	-1.058**	-0.786***
Observations	22,476	22,476	22,476

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Sample Selection

- Among individuals who decide to work in paid employment, females are more likely to get formal employment,

# Sample Selection

Table 4.4: Heck-Probit Estimates with Female Interactions

VARIABLES	(2) Paid Employment	(1) Formal	(3) athrho
Child less than age 6 in the household	0.036		
Child less than age 15 in the household	-0.198***		
Sex of individual: Female	-0.406***	0.263**	
Education status: Primary	0.249***	-0.437***	
Education status: JHS/MLS	0.478***	-0.242***	
Education status: High School	0.827***	0.302*	
Education status: Post-Secondary	1.475***	0.975***	
Age in years	0.040***	0.030*	
Age Squared	-0.001***	0.000	
Rural	-0.621***	0.347***	
marital status: Consensual Union	0.241***	-0.457***	
marital status: Separated	0.089	-0.633***	
marital status: Divorced	0.044	-0.498***	
marital status: Widowed	-0.047	-0.570***	
marital status: Never married	0.103***	-0.251***	
household head	0.255***	0.045	
Other Female in household	-0.047*	0.185***	
Female*kid06	-0.046		
Female*kid15	-0.002		
Female*primary	-0.241***	0.367**	
Female*JHS/Middle School	-0.331***	0.511***	
Female*SHS	0.126*	0.132	
Female*Post-Secondary	0.274***	0.159	
Constant	-1.192***	-1.004**	-0.770***
Observations	22,476	22,476	22,476

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1



# Sample Selection

- For individuals with higher level of education, there is no evidence of gender bias in formal employment
- However, females with basic education have better chance of getting formal employment

## Conclusions

- The paper analysed the determinants of wage employment, formal and informal sectors of employment.
- Majority of the Ghanaians in the labor force are employed in the informal sectors.
- women are over-represented in the non-wage employment sector.
- Being female has adverse effect on the likelihood of working in the wage employment
- But improves likelihood of working in the formal sector employment

# Conclusions

- Education as a major factor determining participation in both wage employment and formal sector employment.
- Low levels of education among women are mirrored their under-representation in formal employment in comparison with those of males
- Education is very important for women (as it is for men) in enhancing their access to wage employment and lucrative formal employment.

# Thank You