

Gender differences and women economic empowerment in the Extractive Sector: Evidence from Ghana

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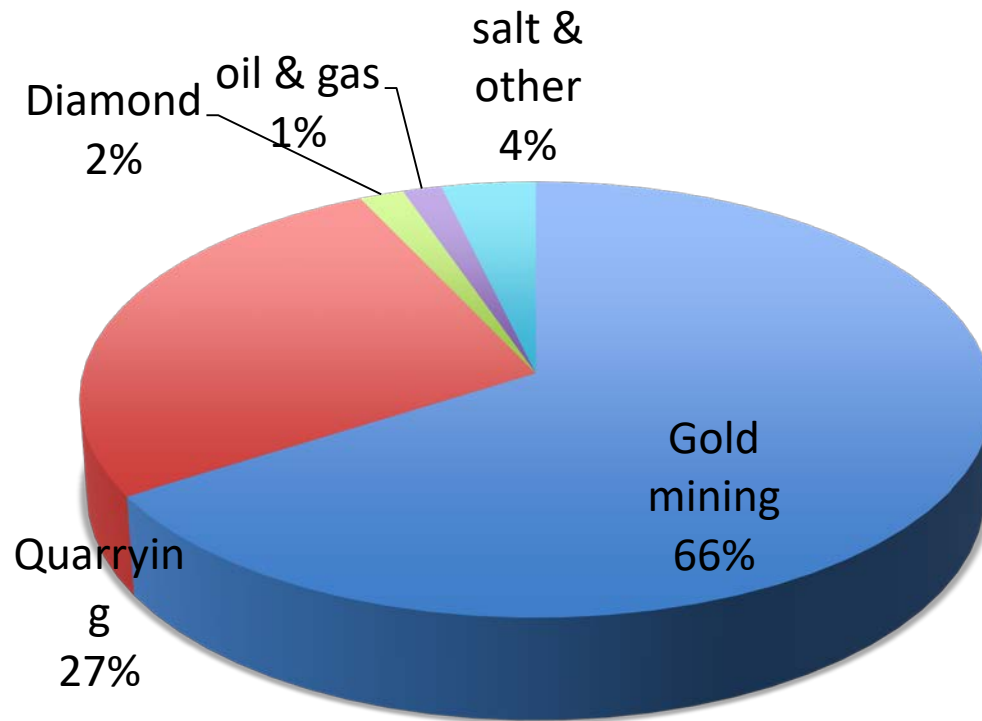
Background

- **Women Economic Empowerment** refers to the capacity of women to
 - participate in, contribute to and benefit from growth processes in ways
 - that recognize the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth.
 - at the national, local, family and household level
- WEE measured through but not restricted to (i) education, (ii) LM participation, (iii) quality of participation and (iv) earnings

Background & Motivation

- Ghana's, extractive subsector of the industrial sector has been one of the major drivers of the country's growth over the last 3 decades.
- As main export earnings (**44.2% for gold & 12.1% for oil**) and major source of government revenue (tax revenue & royalties)
- The sub-sector comprises
 - Mining (gold, diamond, salt, bauxite)
 - Oil and gas extraction
 - Quarrying

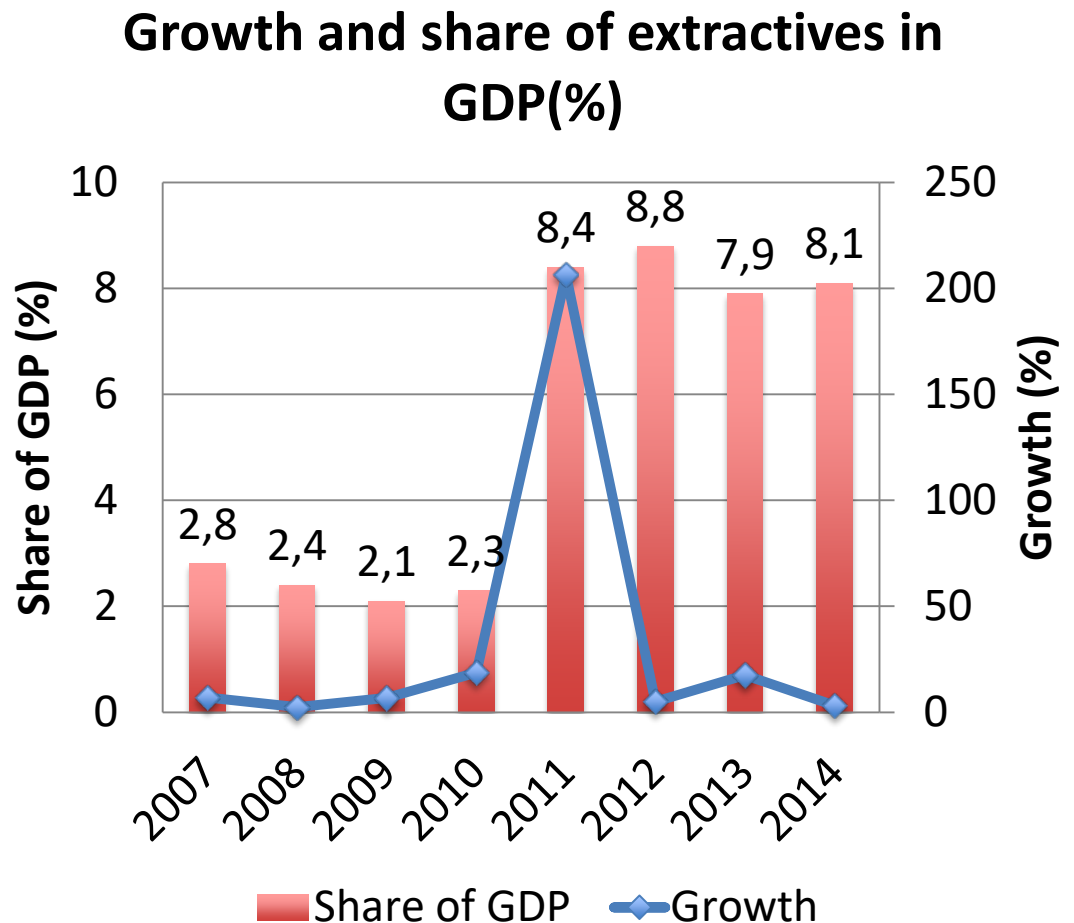
Background & Motivation



- Mining is the dominant extractive activity accounting for about two-thirds of total extractive activity
- Quarrying account for a little over a quarter of extractive activity
- Diamond mining and oil & gas extraction account for 2% each

Background & Motivation

- The extractive sector grew on average by 33.4% against 5.4% overall GDP growth over 2007-2014
- Start of commercial oil production in 2011 pushed extractive growth to 207% raising its GDP share from 2.3% in 2010 to 8.4% in 2011



Background & Motivation

- Inclusiveness of opportunities of extractive activities depends on
 - the participation in the sector's activity in terms of employment & earnings
- E,g. for economic growth to be an effective driver of women economic empowerment (WEE)
 - depends on the source of the growth and how involved women are in the growth process.

Issues and motivation

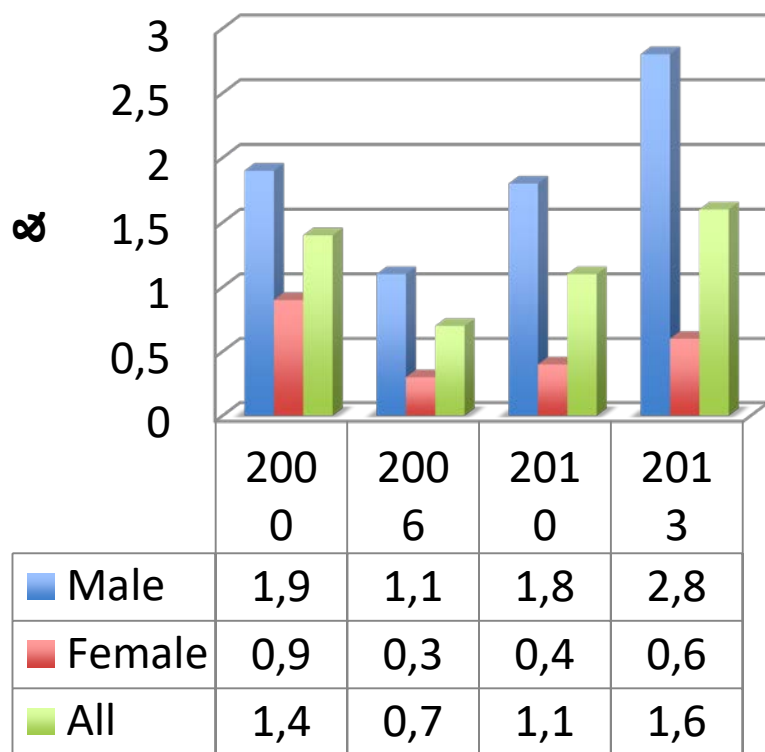
- In recent past when Ghana's economy was driven by cocoa the benefits accrued to women was far below their male counterparts
 - because they generally participated as contributing family worker
- A shift of growth drive to mining and oil suggests that for women to benefit equally as men from this shift
 - their representation in activities of these sectors to minerals (particularly gold) and now oil.

Objectives

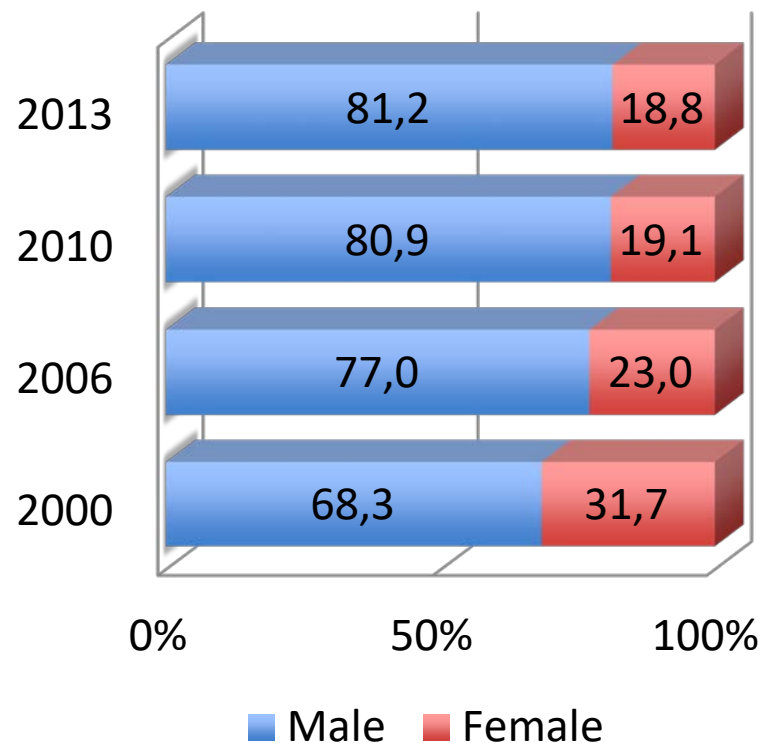
- Analyse gender differences in Ghana's extractive sector (to show if it undermines WEE) in terms of
 - Occupational representation;
 - Status of employment
 - Earnings and whether the difference smacks of discrimination & implication for WEE;
- Account for the role of gender differences in education
- Extractive activities are less labor intensives accounting for **1.6%** of total employment (or about 300,000) in 2013

Gender differences in Employment in Extractives, 2000-2013

Male-female representation in Extractives (%)



Sex Composition of employment in extractives (%)



Different extractive activities, 2013

- Female composition is highest in quarrying where technology usage and education requirement is very low
- Petroleum and gas has only 8% women composition with mining reporting 14%

Extractives	Male	Female
Mining	85.9	14.1
Gold	85.6	14.4
Diamond	87.5	12.5
Quarrying	55.7	44.3
Petroleum & Gas	92.3	7.7
Crude petroleum	75.0	25.0
Natural gas	100.0	0.0
Support activities	100.0	0.0
Others		
Salt extraction	80.0	20.0

Behind the numbers- Qualitative survey

- Small scale mining is tedious and women cannot withstand the condition.
- 35.9% of men and 47.0% of women claims its dangerous for women to work in extractives
- Perception about masculinity of mining activity; As the adage say “barima beko Tarkwa” is a clear evidence
- 61.5% agrees that some tasks are physically demanding and must not be given to women
- 92.9% indicates that men are preferred in the hiring process to women in extractives

Behind the numbers- Qualitative survey

- The “isolated” nature of mining sites (mostly out of town) tends to discourage particularly women from engaging in mining for a longer period.
- Engagement in mining competes with time for family which women find it difficult to cope
- Some discouraging comments about women involvement in mining as “work for men” is a factor

Type of Jobs in extractives

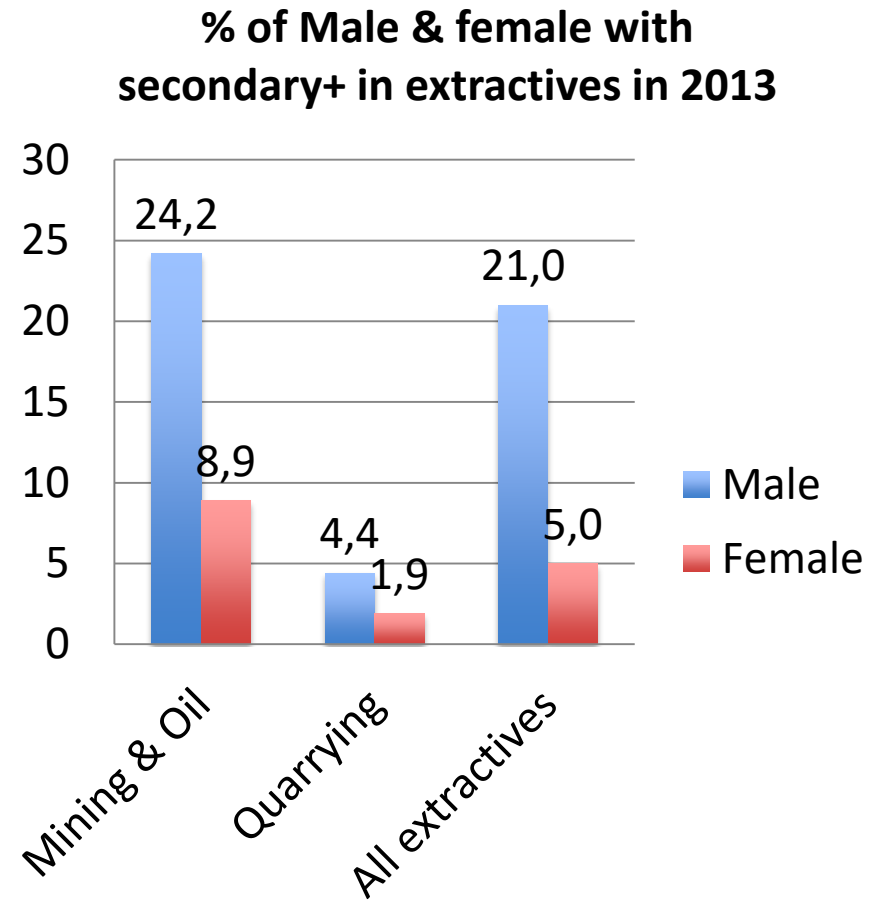
Status on the Job	Mining & Petroleum		Quarrying		All extractives	
	Male	Female	Male	Female	Male	Female
High Skilled	11.4	8.9	4.4	0.0	9.9	4.0
Semi-skilled	3.2	2.2	0.0	1.8	2.6	3.0
Production	41.3	28.9	22.1	20.4	37.4	24.0
Elementary	41.6	60.0	70.6	72.2	47.6	66.0
Other	2.6	0.0	2.9	5.6	2.6	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Behind the numbers:

- ◆ Lower education of women than men
- ◆ Women are underrepresented in science, math & engineering
- ◆ Non-exposure of girls to prospects in mining related disciplines in school
- ◆ Cultural barriers that tend to see women as better in the kitchen

Education of workforce in extractives

- Education of women in extractives is far lower than males
- It is worse in mining and petroleum extraction than quarrying
- This explains the lower job status of women than men



Segregation

- Segregation concerns the tendency for men and women to be engaged in different occupations across the entire spectrum of occupations.
- In spite of women underrepresentation in extractives, they are highly represented in elementary jobs (e.g. cleaners, cooks, labourers, refuse workers etc.);
- But are highly underrepresented in high skilled and better-remunerated jobs such as managers, supervisors, engineers;

Segregation

- We adopt 3 indices to assess occupational segregation within extractives & entire LM
- Duncan Index (ID)

$$ID = \frac{1}{2} \sum_{i=1}^n \left| \frac{W_i}{W} - \frac{M_i}{M} \right|$$

- Kamel Machlachlan Index (KM)

$$KM = \frac{1}{T} \sum_{i=1}^n |W_i - a(W_i - M_i)|$$

- Size Sandarndized index (Ds)

$$D_s = \frac{1}{2} \sum_{i=1}^n \left| \frac{W_i / T_i}{\sum_{i=1}^n W_i / T_i} - \frac{M_i / T_i}{\sum_{i=1}^n M_i / T_i} \right|$$

Segregation

Index occupational segregation of extractives and the entire labour market

Segregation Index	2006		2013	
	Extractives Sector	All workers in the LM	Extractives Sector	All workers in the LM
Duncan dissimilarity index	0.414	0.183	0.258	0.212
Karmel and Maclachlan index	0.169	0.091	0.106	0.085
Size-standardized dissimilarity	0.513	0.401	0.426	0.314

Source: Computed by Authors from the GLSS V of 2005/06 and GLSS VI of 2012/13

Why segregation?

- Women are not allowed to get closer to the machine or the operating area because of the possibility of being in their menstrual period
- Women are mostly confined to elementary activities such as cooking
- Patriarchy and intimidating behavior of some men

Earnings differences – Quantile decomposition

- We apply quantile decomposition to nationally representative household survey of 2013

$$\ln \bar{E}_i^m - \ln \bar{E}_i^w = (\bar{x}_i^m - \bar{x}_i^w) \beta_j^m + (\beta_j^m - \beta_j^w) \bar{x}_i^w$$

- Observed characteristics used include age, marital status, effort (i.e. hours of work), education, location, skills or job status
- Adopt Heckman two-stage correction method to correct for potential selectivity bias.

Analysis of earnings differences

Table 5: Decomposition of gender differences of earnings in the Extractives WITH SELECTION CORRECTION using Quantile decomposition

Differences & Source	Quantile		
	0.25	0.5	0.75
Overall Difference	-1.0369***	-0.8182***	-0.9861***
<i>Source</i>			
Explained/Characteristics	-0.9263*** (-89.33%)	-0.8035*** (-98.20%)	-0.8436*** (85.55%)
<i>Education</i>	-0.1791*** (-17.27%)	-0.1533** (-18.72%)	-0.1631*** (-16.54%)
Unexplained/Coefficient/	0.1106 (10.67%)	-0.0147 (-1.80%)	-0.1425*** (14.45%)
<i>No. of Observations</i>			
Male	260	260	260
Female	73	73	73

***p<1% **p<5% *p<10%

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Source: Estimated from GLSS VI of 2013

Analysis of earnings differences

- Gender differences in favor of men is quite strong at lower levels of earnings than mean and upper level in
- Observed characteristic (or endowment) account for substantial differences in gender earnings differences
- Evidence of discrimination exists at upper (75th quantile).
- Lower education and skills of women relative to men explain quite substantial and significant gender earnings differences in Ghana extractive sector.

Behind the Figures - some qualitative explanation

- In the field survey, 80.3% finds men and women earn the same wages for similar job holdings
- BUT 49.4% claims major differences in roles assigned to male and female and differences in education explains differences in job status and earnings
- Cultural beliefs particularly among small-scale miners also prevent women from engaging in the actual extraction.
- Women used to carry the sand and do washing but the excavators have taken over that task

Conclusion & Policy Thoughts

- There is evidence of gender differences in favor of men
 - based on secondary and primary data analysis
- This has the effect of undermining women economic empowerment (measured by education, participation and earnings)
- Policy thoughts
 - Promotion of women education
 - More science education and role model issue
 - Addressing cultural beliefs
 - Flexibility in the work of mining and providing access to education closer to the mining site
 - Regulation to prevent “hidden” intimidation.

Thanks for your attention