Women's Labor Participation in Ghana and Effects on Human Development: A Focus on Entrepreneurship

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ABSTRACT

The purpose of this paper is to examine the gender-rooted challenges that women entrepreneurs face in Ghana and to analyze the impacts that increasing women's rights and entrepreneurship have had on the country's economy. Several indicators (including labor force participation, women's seats in national parliaments, the Women Business and the Law index, primary completion rate, and the gender inequality index) of gender equality and the prevalence of women's entrepreneurship are compared with economic and human development trends. Through statistical regressions, the paper's findings show a positive correlation between greater income equality and women's seats in national parliament, as well as with the human development index, and conclude that the best way to reduce gender inequality is to increase the number of women in positions of power, as well as improve the education and skill development for women.

Introduction

It is no secret that women suffer major injustices and disadvantages in the labor market, especially in developing countries. The available large-scale and public data sets typically view these injustices through a general lens, focusing on labor force participation and the unemployment rate. If the focus was adjusted to view a specific variable such as women's entrepreneurship in a developing country, in this instance Ghana, are the injustices and disadvantages more visible?

In the overarching Ghanaian labor market, women are often forced into informal employment (Awumbila, 2006). The International Monetary Fund (2021)[1] explains that workers in the informal economy—such as market stand owners and minibus drivers—lack social protection, access to credit, and typically have lower levels of education, making it common for the wages of informal workers to be lower than those of formal employees. A survey of living standards, in 2000, explains that poverty in Ghana is most widespread throughout communities of farmers and employees of informal sectors (Ghana Statistical Service, 2000).[2] In the World Economic Forum's Global Gender Gap Report from July 2022, Ghana was reported to have a score of 0.67 on the Gender Gap Index, indicating that women are 33 percent less likely to have the same opportunities as men. For reference, the United States scored 0.77, South Africa scored 0.78, Iceland had the highest score of 0.91, and Afghanistan had the lowest score of 0.44. Fewer opportunities provide women with a more narrow and typically low-paying range of attainable occupations, and within similar work, women earn wages that are nearly 30 percent less than their male counterparts (WEF GGGR, 2022).[3] The overall lack of accessibility to stable employment due to gender discrimination has put Ghanaian women in a state of vulnerability to poverty.

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[1] https://www.imf.org/en/News/Articles/2021/07/28/na-072821-five-things-to-know-about-the-informal-economy
[2] https://www2.statsghana.gov.gh/docfiles/glss5_report.pdf
[3] https://www3.weforum.org/docs/WEF_GGGR_2022.pdf

Regarding scientific careers, existing research from sub-Saharan Africa explains that African women spend more time caring for their children and family than African men, because societal expectations for men encourage less participation in domestic labor (Beoku-Betts, 2004). This factor of family life can constrain a woman's ability to pursue a scientific career due to difficulties in managing her various responsibilities (Liani et al., 2021). In the same 2021 study, numerous interviews indicated that women are pressured by social norms and their family to get married and bear children at crucial ages—mid-20s to early-30s—in which their peers in other countries are establishing their scientific careers, forcing them to prioritize family life over work life. Evidently, gender roles and social norms are major barriers for women in the general labor market. In addition, women's economic empowerment has been found to be low in sub-Saharan Africa, and unfortunately, Ghana's high employment rate for women has not translated into greater authority in households or social roles (Williams et al., 2022).

But why focus on entrepreneurship, and why Ghana? Entrepreneurship is a vital contributor to economic growth worldwide, and sub-Saharan Africa, including Ghana, is no exception. Given that most sub-Saharan countries are considered developing economies, sub-Saharan African countries have been notably impacted by entrepreneurship, as acknowledged by governments, international organizations, and research institutions.

According to a 2015 study, by the Global Entrepreneurship Monitor, sub-Saharan Africa has the greatest proportion of entrepreneurs internationally. More recently, the 2021 Mastercard Index of Women Entrepreneurs revealed that in the particular case of Ghana, women made up 37.2 percent of the country's entrepreneurs, making Ghana one of the countries with the most women business owners globally.[4] Additionally, Abor and Quartey (2010) show that 70 percent of small and medium-sized enterprises in Ghana are owned by women. However, women's entrepreneurship is not the main focus in most research studies, despite its contribution to the economic growth of sub-Saharan Africa. Considering the financial and educational disadvantages that women in the region have, it is not surprising that women-owned enterprises grow at a slower rate than male-owned enterprises of the same kind (Morris et al., 2006).

This paper illustrates these systemic injustices and stresses the importance of continuing advocacy for women's entrepreneurship in order to break gender barriers. In recognizing the impact of female entrepreneurship in Ghana, it is crucial to acknowledge the abilities that female entrepreneurs worldwide have as role models and oftentimes, mothers. Entrepreneurial mothers and fathers are often seen as role models by their children, and entrepreneur mothers have particularly strong influences on their daughters' dreams (Bullough et al., 2021; Greene et al., 2013; Hoffmann et al., 2015). Empowering and encouraging women's entrepreneurship in Ghana means empowering young women and girls.

The purpose of this paper is to examine the gender-rooted challenges that women entrepreneurs face in Ghana, and to analyze the impacts that increasing women's rights and entrepreneurship have had on the country's economy. Several indicators (including labor force participation, women's seats in national parliaments, the Women Business and the Law index, primary completion rate, and the gender inequality index) of gender equality and the prevalence of women's entrepreneurship will be compared with economic and human development trends.

The paper's findings show strong positive correlations between greater income equality and women's seats in national parliament, as well as with the human development index, concluding that the best way to reduce gender inequality is to increase the number of women in positions of power, as well as improve the education and skill development for women.

Literature Review

The literature on the role of entrepreneurship, and more specifically women's entrepreneurial activity in sub-Saharan Africa, is growing. A significant portion of this literature has concentrated on Ghana, a country that has enjoyed a level of economic and political stability lacking in many other countries in the region. In Ghana, two notable issues

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[4] https://www.mastercard.com/news/media/phwevxcc/the-mastercard-index-of-women-entrepreneurs.pdf

make women's entrepreneurship critical to address: gender equality and poverty reduction. Numerous studies have addressed a link between gender inequality and a country's poverty rate as well as economic development. In a study by the World Bank (2001), the author suggests that the poverty rate of a region is directly proportional to the amount of gender discrimination.[5] Despite gender being just one of many variables contributing to poverty, it's important to understand how sexism causes poverty to disproportionately affect Ghanaian women.

Limited opportunities, financial access, capabilities, and empowerment are four major issues increasing the poverty rate among Ghanaian women. The lack of access to resources, especially with regard to education and employment, provides an insight into why Ghanaian women are placed in an inferior social position and are more vulnerable to poverty than men.

The challenges that Ghanaian women face in the general labor market parallel the challenges they face when running their own enterprises. It's impossible to ignore that women and their enterprises provide goods/services, employment, and financial support, yet male-owned businesses grow at faster rates than those of women (Morris et al., 2006). One of many possible causes is historical gender roles; they encourage women to stay in the house and take care of the family, limiting the opportunities that women have and causing a societal aversion to women—such as female entrepreneurs—who pursue non-domestic lives. Additionally, sociocultural practices in the region throughout history place men in a superior position to women. A prime example of this is sex-role stereotyping, which is very prevalent in entrepreneurship; men are seen as more qualified for business leadership and success due to their supposed masculine traits, whereas women are not associated with high-growth ventures (Eagly & Mitchell, 2004). These preconceived notions of gender roles in entrepreneurship are unfortunately reinforced by the fact that men throughout the world are found to be entrepreneurial leaders far more often than women. This cycle of reinforcement makes women worldwide less likely to succeed in their entrepreneurial ventures; they lack funding capital, and have fewer/smaller professional and social networks (Gupta et al., 2019; Prasad, 2009; Kalafatoglu & Mendoza, 2017; Mitra & Basit, 2019). Ghanaian women, in particular, also suffer from constraints in pursuit of economic activities and business education. The lack of opportunity and ability that women have when it comes to starting a business causes most female entrepreneurs to be more necessity-driven and to acquire lower human capital than their male counterparts.

The theory of human capital classifies the value of a person's skills and knowledge. These values are based on both innate skills and skills/knowledge acquired throughout a person's education, including subcategories like previous work and entrepreneurial experience. Thus, many women—who often have trouble achieving the same human capital as men—are considered less employable and have fewer skills that they need to succeed when starting and managing a business. Some of the most notable aspects of human capital include level/area of education, business-specific training, and experience gained from previous employment. A person's area of education as well as their level of education increases productivity and success in entrepreneurship. Similarly, business-specific training improves a person's capabilities targeted at specific jobs (Kyalo & Kiganane, 2014; Adom & Asare-Yeboa, 2016).

In a study by Kwame Adom and Irene Tiwaa Asare-Yeboa (2016), all the surveyed female entrepreneurs agreed that their education, as well as work experience, played large roles in their capabilities when managing businesses; 86 percent had a higher than primary level of education, and 63 percent had prior work experience. The 86 percent of female entrepreneurs that had a higher than basic level of education specialized in these four areas of education: business/management (47%), humanities (26%), vocational/technical (16%), and science (11%). In terms of business-specific training, 83 percent of the women surveyed were trained, but 17 percent were not. According to the 83 percent who received business training, it helped them acquire skills as well as network with other women in similar fields; such skills and outreach are crucial to the growth of any business (Adom & Asare-Yeboa, 2016). Evidently, the majority of successful female entrepreneurs in Ghana have completed higher education and business training, but many are unable to attend business training due to work, family, and financial issues. There is a clear lack of opportunity to gain the skills and financial access needed to succeed in women's entrepreneurship.

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[5] https://documents1.worldbank.org/curated/en/512911468327401785/pdf/multi-page.pdf

Access to financial services is a major component of an entrepreneur's success, and it's not surprising to see that there is a gender gap in financial inclusion. In 2011, only 27 percent of Ghanaian women (15+) had ownership over a bank account; this rose to 39 percent in 2014, 54 percent in 2017, and 63 percent in 2021. On the other hand, 32 percent of men owned a bank account in 2011, rising to 42 percent in 2014, 62 percent in 2017, and 74 percent in 2021 (World Bank).[6] Surprisingly, a 2013 study done by Reyes Aterido and Leonardo Iacovone, found no statistically significant links between women-owned enterprises and a lack of access to finance. Big-picture statistics on financial market participation clearly show gaps between men and women, but not when looking at discrimination concerning financial access solely based on gender. Therefore, the paper ultimately suggests that factors beyond simple gender comparisons are causing women in sub-Saharan Africa to have lower financial market participation. For example, women-owned enterprises tend to be on the smaller side, and smaller companies generally have fewer financial resources. Factors of their personal life, such as a lack of power in households and education, are also barriers to women in their search for formal financial services. If one controls for education level, enterprise size, and other human capital factors, there's no significant gender disparity, as Aterido and Iacovone (2013) demonstrate; there is no apparent gender discrimination when women have the same qualifications as men, but underprivileged women and poor women may not have access to get to that point in the first place.

Societal expectations and traditional values surrounding gender roles also serve as barriers to a Ghanaian woman's success in entrepreneurship. Kwame Adom and Golda Anambane's 2018 study found that through the perspectives of twenty female entrepreneurs, a barrier to the growth and expansion of female-owned businesses was the value and respect for traditions; the poor performance of female entrepreneurs can be partly attributed to long-held traditional beliefs and practices.

This paper looks at both the literature and empirical data on women's rights, women's entrepreneurship, economic growth, and human development in Ghana, combining and revealing trends among those subjects. Thus, the paper's goal is to contribute to a greater understanding of the impact of women in Ghana's development under a specific, sometimes overlooked lens—entrepreneurship and labor force participation.

Through analyzing Ghana's economic and human development trends, we can see how important Ghanaian women are in contributing to the country's economic growth, and hence infer how well their potential has been fulfilled. This is important because female entrepreneurs and workers are typically disadvantaged despite their importance to Ghana's economy.

Data and Methods

This study uses publicly available socioeconomic data and is analyzed using multi-variable linear regressions to identify correlations of women's role in economic and human development.

The following data are included, due to their recognized ability to represent economic activities and societal well-being. It is the goal of the analysis to identify the key drivers among them for women's socioeconomic well-being.

- GDP (Current US $)
  - GDP, a common indicator of economic well-being, is used as a dependent variable. This study tests how it is affected by various variables that capture the role of women in the economy of Ghana. It is defined as the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period, which is typically a year long. The World Bank converts local currency into current US dollars for its GDP data.
- Unemployment Rate, Total (%)
  - The Unemployment Rate is the percentage of the labor force who does not have a job but is currently looking for one. The unemployment rate is another indicator of a region's economic health. Without specifying gender, the total unemployment rate is used in the baseline regression equation.

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[6] https://databank.worldbank.org/source/global-financial-inclusion/Series/account.t.d.1

- Final Consumption Expenditures (current US $)
    - The Final Consumption Expenditures is the sum of household consumption expenditures and general government consumption expenditures. This is an indicator of the domestic consumption market.
- Government Expenditures (current US $)
    - The Government Expenditures are defined as the Government spendings on a variety of activities, such as education, national defense, infrastructure building, and healthcare.
- Gross Capital Formation (current US $)
    - Gross Capital Formation consists of outlays on additions to the fixed assets of the economy added to the net changes in the level of inventories and reflects private investments from the private sector.
    - Capital Formation measures the level of investment a country adds to its economy. Higher investment tends to drive higher economic growth.
- Net Exports (current US $)
    - Net Exports are Total Imports subtracted from Total Exports. It is an important measure of how competitive the country's products are versus those of other countries.

(The five preceding variables are also common indicators of a region's economic well-being, and they serve a similar role in the baseline regression equation with GDP as the dependent variable.)

- Primary Completion Rate, Female (%)
    - The Primary Completion Rate, or gross intake ratio to the last grade of primary education, is the number of new entrants (enrollments minus repeaters) in the last grade of primary education, regardless of age, divided by the population at the entrance age for the last grade of primary education. Data limitations preclude adjusting for students who drop out during the final year of primary education.
    - The primary school completion rate in a region is an indicator of the general level of education that citizens obtain. By specifying gender, education levels among genders are compared and gauge gender inequality in basic education.
    - It is used as a regressor in both GDP and Gender Inequality Index analysis.
- Labor Force Participation, Female (%)
    - Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.
    - As Female Labor Force Participation can potentially affect both economic growth and gender inequality, I used it as a regressor in both GDP and Gender Inequality Index analysis.
- Exchange Rate (LCU per US $)
    - Exchange Rate is the value of a currency expressed in terms of another currency. For example, each US dollar is worth 5.55 Ghanaian Cetis in March 2020. The exchange rate of the US dollar to Ceti is therefore 5.55 at that time. I used it as a regressor in the GDP analysis.
- Women's Seats in National Parliaments (%)
    - Represents the percentage of parliamentary seats in a single or lower chamber held by women. This is a good indicator of the social status of women in a country. This is used as a regressor for analyzing gender inequality.
- Unemployment Rate, Female (%)
    - The female unemployment rate represents the number of unemployed women as a percentage of the female labor force.
    - Female unemployment rate indicates both the economic and social wellbeing of women, as being unemployed means not only the loss of income, but oftentimes also the loss of independence. This is used as a regressor for gender inequality analysis.

- The "Women, Business and the Law" Index (0 = low economic opportunity, 100 = high)
    - This index measures how laws and regulations affect women's economic opportunity. Overall scores are calculated by taking the average score of each index (Mobility, Workplace, Pay, Marriage, Parenthood, Entrepreneurship, Assets and Pension), with 100 representing the highest possible score.
    - I used this as a regressor for gender inequality analysis.
    (All preceding data are from World Bank Open Data)[7]
- Human Development Index (0 = low human development, 1 = high):[8]
    - The HDI is based on a large number of indicators, including, life expectancy at birth, literacy rate, education levels and gross national income (GNI) per capita.
    - Since HDI can potentially affect both economic growth and gender inequality, it is used as a regressor in both GDP and Gender Inequality Index analysis.
- Gender Inequality Index (0=very equal, 1=highly unequal):[9]
    - The Gender Inequality Index (GII) is a composite metric of gender inequality using three dimensions: reproductive health, empowerment and the labor market. A low GII value indicates a high level of equality between women and men, and vice-versa.
    - The second regression analysis is run with GII as the dependent variable to find out the key drivers to gender inequality.

Here are the descriptive statistics for each of the variables above.

Table 1. Descriptive Statistics

Variable	Mean	Median	Standard Deviation	Min	Max
GDP (Current US $)	27.787 billion	15.593 billion	24.896 billion	4.983 billion	77.594 billion
Unemployment Rate, Total (%)	5.678	5.243	2.128	2.170	10.460
Final Consumption Expenditures (current US $)	24.038 billion	14.634 billion	20.058 billion	4.706 billion	62.124 billion
Government Expenditures (current US $)	2.472 billion	1.729 billion	2.051 billion	0.507 billion	7.720 billion
Gross Capital Formation (current US $)	5.803 billion	3.468 billion	5.534 billion	0.821 billion	15.562 billion
Net Exports (current US $)	-2.080 billion	-1.335 billion	2.012 billion	-6.206 billion	2.049 billion
Primary Completion Rate,	76.439	71.083	15.078	57.423	104.098

[7] https://data.worldbank.org/country/ghana
[8] https://www.statista.com/statistics/1244455/human-development-index-of-ghana/
[9] https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII

Female (%)

Labor Force Participation, Female (%)	70.030	69.916	4.086	64.527	76.459
Human Development Index (0 = low human develop-ment, 1 = high)	0.563	0.570	0.047	0.490	0.630
Exchange Rate (LCU per US $)	1.660	0.910	1.813	0.033	5.806
Inflation, GDP Deflator (%)	23.059	17.838	15.076	8.481	80.755
Gender Inequality Index (0=very equal, 1=highly un-equal)	0.584	0.575	0.034	0.529	0.646
Women's Seats in National Parliaments (%)	10.434	10.870	1.861	7.895	14.545
Unemployment Rate, Fe-male (%)	6.002	5.635	2.227	2.375	10.755
The "Women, Business and the Law" Index (0 = low eco-nomic opportunity, 100 = high)	67.012	72.500	8.768	54.375	75.000

Results and Analysis

In order to understand the impact of women's educational level on economic growth, I plotted the female primary education completion rate (%) against the Human Development Index (0-1, with 1 being the most developed) and GDP (US $ in billions) from 1990 to 2021, in Figure 1.

All three indices grow substantially in the thirty-one-year period. In fact, the spikes in GDP in 2012 and the Human Development Index in 2015 are preceded by a similar spike in Female Primary Completion Rate in 2012. As expected, all three of these factors have positive correlations, but how significant are the correlations among women's education level and economic growth as well as human development? The following regressions offer additional insight.

Table 2. Determinants of GDP (current US $) with GDP as the dependent variable (all data in natural logarithms except for Net Exports from Ghana 1990-2021)

Variable	M	SD	Regression 1	Regression 2	Regression 3
Final Consumption Expenditures (current US $ Billion)	24.0	20.1	0.89*** [0.82, 0.95]	0.92*** [0.84, 1.0]	0.87*** [0.73,1.0]
Government Expenditures (current US $ Billion)	2.47	2.05	-0.023 [-0.095, 0.049]	-0.046 [-0.14, 0.043]	-0.080 [-0.19,0.028]
Gross Capital Formation (current US $ Billion)	5.80	5.53	0.18*** [0.13, 0.23]	0.19*** [0.12, 0.25]	0.15** [0.067,0.28]
Unemployment Rate, Total (%)	5.68	2.12	-0.041 [-0.089, 0.0074]	-0.016 [-0.082, 0.051]	-0.018 [-0.13, 0.10]
Net Exports (current US $ Billion)	-2.08	2.01	0.020*** [0.014, 0.027]	0.024*** [0.013, 0.035]	0.027 [-1.1, 0.064]
Primary Completion Rate, Female (%)	76.4	15.1		0.25 [0.020, 0.49]	0.044 [-0.27, 0.36]
Labor Force Participation, Female (%)	70.0	4.1		1.0 [-0.41, 2.5]	-5.4 [-15, 4.3]
Human Development Index (0 = low human development, 1 = high)	0.56	0.046			-0.30 [-2.0, 1.4]
Exchange Rate (LCU per US $)	1.66	1.81			-0.12 [-0.47, 0.22]
Number of observations			31	20	17
R^2			.99	.99	.99

Note: *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < 0.05$. ** indicates $p < 0.01$. *** indicates $p < 0.001$

The ex-ante expectations are that GDP is positively correlated with Consumption, Government Expenditure, Capital Formation, Net Exports, Female Primary Completion Rate, Female Labor Force Participation, and the Human Development Index. On the other hand, GDP is negatively correlated with Unemployment. The correlation between GDP and Exchange Rate is hard to predict since it depends heavily on the structure of the economy.

For all three regressions in Table 2, GDP is indeed strongly and positively correlated to Consumption and Capital Formation. This is no surprise, since both a stronger domestic consumption and more capital investment boost

the economy.[10] As expected, Net Exports are positively correlated and statistically significant for the first two regressions. In the third regression, the coefficient is similar but not statistically significant. Additionally, GDP is negatively correlated to Government Expenditures, yet the correlation is not statistically significant. Thus, I conclude that government expenditures do not seem to affect the level of economic activity. The Unemployment Rate is negatively correlated to GDP as expected, but the correlation is also not statistically significant. The weak correlation may indicate the resilience of the economy when the unemployment rate is both relatively stable and relatively low (ranging from 2.0 percent to 10.2 percent in the entire period.)

While a higher Female Primary Completion rate is correlated to higher GDP, the correlation is statistically insignificant. One possible explanation for this lack of impact/correlation is that Ghanaian women are still predominantly stuck in low-value jobs despite their increased educational and skill levels. This might be due to cultural traditions and gender stereotyping. Interestingly, a higher GDP is correlated to a lower Female Labor Participation Rate. This seemingly counterintuitive observation can be explained like so: women are forced to work to make ends meet when society is extremely poor, whereas when society becomes relatively wealthy, women tend to leave the labor force to take better care of their families. The Ghanaian Female Labor Participation rate has declined from close to 80 percent in 1990 to slightly above 60 percent in 2021, a number similar to that of the industrialized countries which tend to have rates between 50 percent to 60 percent. The GDP is negatively correlated to the Human Development Index, but it is statistically insignificant.

The analysis shows that the predominant drivers of Ghanaian economic growth are domestic market development, investment, and Net Exports. Other factors' impacts on the economy cannot be proven with high statistical confidence.

The next two figures analyze gender inequality in Ghana by looking at the correlations between the Human Development Index (0-1, with 1 being the most developed) and the Gender Inequality Index (0-1, with 1 being the most unequal) as well as the correlations between Women's Seats in National Parliaments (% of all seats in parliament) and the same Gender Inequality Index.

While Ghanaian women may have been stuck in low-value economic activities, gender inequality has undoubtedly improved over the past thirty-plus years, as evidenced by Figure 2 and Figure 3. Both the Human development index and Women's Seats in the National Parliament seem to be negatively correlated with gender inequality, implying that human development is positively correlated with greater gender equality and greater gender equality is positively correlated with women taking a more active political role. To confirm this, a linear regression in Table 3 was performed for Gender Inequality Index with Female Labor Force Participation, Human Development Index, Female Primary Completion Rate, Women's Seats in National Parliaments, Female Unemployment Rate, and the "Women, Business and the Law" Index as the regressors. The ex-ante expectations are that the Gender Inequality Index is negatively correlated to all but the Female Unemployment Rate.

The empirical findings demonstrate that—with a high confidence level—the Human Development Index and Women's Seats in National Parliaments are the key drivers of the reduction of Gender Inequality.[11] Other factors do not seem to have statistically significant impacts on gender inequality.

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[10] Coefficient in a linear regression signifies the average amount of change in the dependent variable that corresponds to a unit of change in the regressor. For example, for Regression 1 of GDP, all else being equal, an 1% of increase in Final Consumption Expenditures (in natural logarithms) is correlated with 0.89% increase in GDP (in natural logarithms), and an 1% of increase in Gross Capital Formation (in natural logarithms) is correlated with 0.18% increase in GDP (in natural logarithms).

[11] Coefficient in a linear regression signifies the average amount of change in the dependent variable that corresponds to a unit of change in the regressor. For example, for Regression 1 of Gender Inequality Index, all else being equal, an 1% of increase in Human Development Index (in natural logarithms) is correlated with -0.19% decrease in Gender Inequality (in natural logarithms), and an 1% of increase in Women's Seats in National Parliaments (in natural logarithms) is correlated with 0.088% decrease in Gender Inequality (in natural logarithms).

It is disheartening to see that the Women, Business and the Law Index, which measures the legal and regulatory barrier to women's businesses, has a low statistically significant impact on gender inequality. This may imply that other barriers, such as cultural ones, play a much bigger role in impeding Ghanaian women's business activities. Female labor participation rate in Regression 2 is positively correlated with Gender Inequality. This is likely because a higher Female Labor Force Participation percentage occurs when the country is poorer and because poverty tends to increase gender inequality. Unemployment rate is, not surprisingly, positively correlated to Gender Inequality. But that correlation is weak, which can be explained by the close correlation of female and male labor participation rate with their respective unemployment rates. Namely, there does not seem to exist a gender bias as far as employment rate is concerned.

The Female Primary Completion Rate in Ghana was used in Regression 2 in lieu of Human Development Index. While it is expected that the former shall have a similar statistically significant correlation as the latter, the actual significance of the Female Primary Completion Rate's correlation is far lower. This finding shows that simply completing primary education is not enough to reduce gender inequality. Training women with the right skills, the result of which is measured by the Human Development Index, is key to reducing inequality.

Table 3. Regression Coefficients for Predicting the Gender Inequality Index Score in Ghana from 1990-2021

Variable	M	SD	Regression 1	Regression 2
Labor Force Participation, Female (%)	70.0	4.1	0.13 [-0.12, 0.39]	1.0** [0.43, 1.6]
Human Development Index (0 = low human development, 1 = high)	0.56	0.047	-0.19** [-0.31, -0.071]	
Primary Completion Rate, Female (%)	76.4	15.1		0.11 [-0.0095, 0.22]
Women's Seats in National Parliaments (%)	10.4	1.9	-0.088*** [-0.10, -0.074]	-0.070*** [-0.098, -0.042]
Unemployment Rate, Female (%)	6.0	2.2	0.0075 [-0.0021, 0.017]	0.014 [-0.0010, 0.028]
The "Women, Business and the Law" Index (0 = low economic opportunity, 100 = high)	67.0	8.8	-0.0083 [-0.041, 0.024]	0.0090 [-0.052, 0.070]
Number of observations			20	16
R^2			0.99	0.98

Note: *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < 0.05$. ** indicates $p < 0.01$. *** indicates $p < 0.001$

Conclusion

The objective of this paper is to examine the gender-rooted challenges that women face in Ghana, and to analyze the impacts that increasing women's rights and education level have had on the country's economy. Several indicators

(including labor force participation, women's seats in national parliaments, the Women Business and the Law index, primary completion rate, and the gender inequality index) of gender equality and the prevalence of women's entrepreneurship are compared with economic and human development trends.

Two sets of regression studies were performed to identify correlations among an array of social-economic indicators over the period of 1990 to 2021. GDP was the dependent variable in the first set of regressions. It was found that the expected positive correlations of GDP with Final Consumption Expenditure, Gross Capital Formation and Net Exports are statistically significant. Other indicators, while somewhat correlated with GDP, do not demonstrate statistically significant correlations. A particularly interesting finding is that the Female Primary Completion Rate's positive correlation with GDP is not significant. One possible explanation for this is that Ghanaian women are still predominantly stuck in low-value jobs despite their increased educational and skill levels, remaining unable to contribute to the growth sectors of the economy.

The second set of regressions used the Gender Inequality Index as the dependent variable. The empirical results show strong negative correlations between the Gender Inequality Index and Women's Seats in National Parliament, as well as the Human Development Index. Although the GII's correlation with Female Primary Completion Rate is positive as expected, it is not statistically significant. As explained before, this finding shows that simply completing primary education is not enough to reduce gender inequality. This finding is also consistent with the finding in Regression 1 that GDP's correlation with Female Primary Completion Rate is not statistically significant. Training women with the right skills, the result of which is measured by the Human Development Index, may be the key to reducing inequality and realizing women's potential in the nation's economy. It was also found that the GII is not statistically correlated with the change in legal and regulatory barriers to women's businesses, pointing to other culture barriers to women's entrepreneurship. Thus, I conclude that an effective way to reduce gender inequality is to increase the number of women in positions of power, to improve the education and skill development for women, as well as to reduce cultural barriers to women's entrepreneurship.

The following policy recommendations are made based on the findings of this paper.

1. While maintaining the level of primary education for women, the focus shall be given to offering additional training to women, such as vocational training.
2. Affirmative action programs should be instituted to bring women into positions of power and respect, such as legislative, governmental, and judicial officials.
3. Educational programs shall be implemented to break cultural barriers that prevent women from pursuing careers of their choice.

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