Analysis of Gender Equality in Youth Employment in Africa

BY

John C. Anyanwu[1]
Lead Research Economist
Development Research Department
African Development Bank
Abidjan, Cote d'Ivoire
E-Mail: J.ANYANWU@AFDB.ORG

---

[1] The views expressed here are those of the author and in no way reflect those of the AfDB and its Executive Directors.

Abstract

This paper empirically studies the key drivers of gender equality in youth employment over the period, 1991 and 2011. Our results suggest that in the all-Africa sample, quadratic levels of real per capita GDP, greater gender equality in primary education, greater trade openness, higher FDI inflows, higher political globalization, higher economic growth, increased urbanization, higher female share of the population, and being a net oil-exporting country are significantly positively associated with increased gender equality in youth employment while higher level of real GDP per capita, higher equality in secondary education, higher gross domestic investment, greater access to ICT (telephone) infrastructure, higher youth unemployment rate, and being a predominantly Muslim country tend to lower it. In Sub-Saharan Africa, the factors that are positively associated with gender equality in employment include the quadratic levels of real per capita GDP, greater gender equality in primary education, higher FDI inflows, higher economic growth, increased urbanization, higher female share of the population, and being a net oil-exporting country. Factors that are significantly negatively associated with gender equality in employment in SSA are higher level of real GDP per capita, higher equality in secondary education, higher government consumption expenditure, higher gross domestic investment, higher youth unemployment rate, and being a predominantly Muslim country. However, North Africa is different. The North African specific sample results indicate that while the level of real GDP per capita, greater gender equality in secondary education, and increased government consumption expenditure tend to increase gender equality in youth employment, being an oil-exporting country and higher youth unemployment rate tend to lower gender equality in youth employment in the sub-region. The policy implications of these results are discussed.

Keywords: Youth employment, gender equality in youth employment; determinants; Africa; Sub-Saharan Africa; North Africa.

JEL classification: J16, J21, E24, O55.

I.   Introduction

Youth (aged 15–24) employment[2] crisis is currently one of the greatest development challenges facing countries globally, including those in Africa. It is against this background that youth employment is now a top policy priority in most countries across all regions, and at the international level has been translated into the development of a global strategy for youth employment and embedded into the 2030 sustainable development goals (SDGs). Indeed, goal 8 of the SDGs relates to the promotion of inclusive and sustainable economic growth, employment and decent work for all. The global number of employed youth has been steadily decreasing in recent years. For example, the global youth employment-to-population ratio (EPR) – the share of the youth working-age population that is employed – fell from 44.0 percent in 2007 to 41.2 percent in 2014, representing a decline of 2.8 percentage points.

At the same time, gender equality in youth employment is one of the top policy challenges facing countries globally. In 2014, male youth employment-to-population ratio, globally, was estimated at about 48.2% compared to female youth employment-to-population ratio of only 33.7%. For Africa as a whole, male youth employment-to-population ratio was estimated at about 47.7% compared to female youth employment-to-population ratio of only 39.4%. While estimates for Sub-Saharan Africa stood at 50.4% to 45.4%, the data was much worse for North Africa. Female youth in North Africa faced an employment rate of only 11.0% (compared to the global average of 33.7%), the second lowest of all regions and sub-regions in the world – and against a figure of 35.3% for the male youth in the sub-region during the same year. The social exclusion of the female youth in employment in Africa (especially in North Africa) is acute, given that unemployment issue was a key catalyst that triggered the Arab Spring ("revolution") in North Africa from January 2011, which had led to the fall of the governments in Tunisia, Egypt and Libya. It had also triggered a spate of socio-economic cum political reforms in the other countries in the sub-region. In addition, it creates an unnaturally high employment dependency ratio.

In addition to analyzing the importance and characteristics of gender (in)equality in youth employment in Africa, this paper empirically studies the key drivers of gender equality in youth employment (proxied by the ratio of female youth employment rate to male youth employment rate for the age group 15-24 over the period, 1991 and 2012), using cross-sectional data. It also draws out important policy implications for African countries. The model is estimated by Ordinary Least Squares (OLS) method with year and sub-regional as well as oil fixed effects. Therefore, a deeper understanding of the key determinants of gender equality in youth employment in Africa is crucial for implementing effective policies to make Africa's labor market for the youth more

---

[2] This ILO definition (see, for example,
http://www.ilo.org/public/english/employment/yen/whatwedo/projects/indicators/2.htm)

inclusive and promote gender equality in youth employment so as to reap its benefits in the shortest time possible.

The next section of the paper summarizes the importance and the trend evidence on characteristics of, youth female, male and total, employment-to-population ratios (indicator of how effective a country utilizes the productive potential of its youth) as well as the associated gender equality in youth employment in the continent. The third section reviews some relevant empirical literature. The fourth section presents the model and data while section five presents the cross-country regressions of the key determinants of gender equality in youth employment in the entire continent, Sub-Saharan Africa and North Africa. The last section concludes with policy recommendations.

II. Importance and Characteristics of Gender (In)equality in Youth Employment in Africa

Gender disparities in terms of opportunities and the participation of female youth in economic activities have become important issues for the developing world and for African countries in particular. This is partly because of the potential negative effects that can result from the exclusion of the female youth in employment on both sustainable growth and poverty reduction. It is, therefore, not surprising that gender equality and the empowerment of women is one of the main goals of the global SDGs. It is also the reason that gender equality is on the public policy agenda of almost every country of the world today.
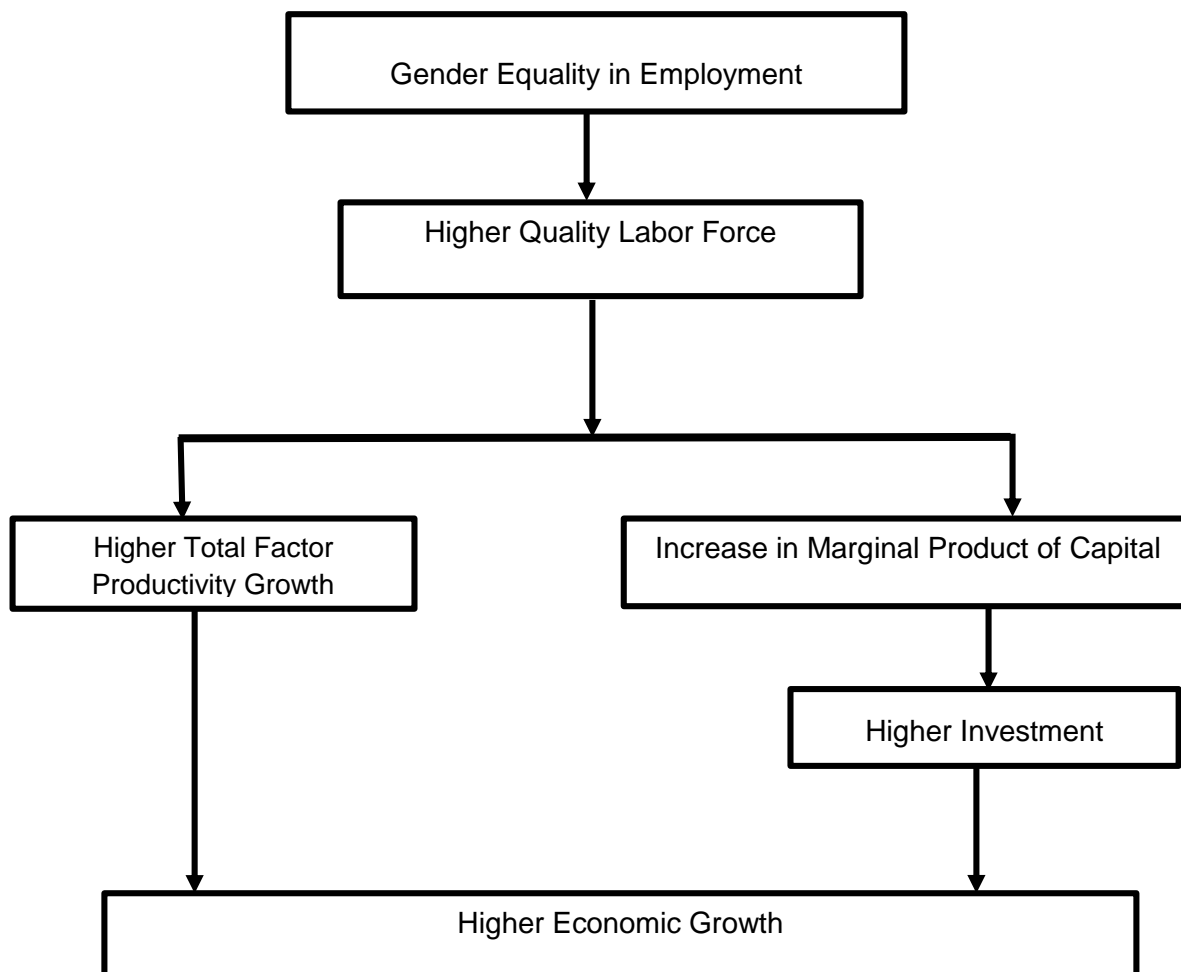
Therefore, the focus on gender equality in youth employment in Africa is important for at least two reasons. First, female youth's employment is essential in the fight against poverty. This is not only because of the direct and interrelated contribution employment makes to household welfare, but also because of the personal power it provides the female youth in shaping and making decisions and in redirecting spending on essential needs, especially in favor of education and healthcare. Second, from a rights-based perspective, gender equality in youth employment should be enhanced simply from the standpoint that, as recognized internationally, everyone deserves the same opportunities.

Indeed, gender equality in youth employment is about economic empowerment, fairness, equity, increasing productivity, reduction of efficiency losses, widening of the base of taxpayers and contributors to social protection systems, improving the opportunities and outcomes of the next generation, and enhancing development decision-making. It is also about greater opportunities for businesses to expand, innovate and compete, economic/business freedom, fostering of stronger, better, fairer, more sustainable and inclusive growth and development (see, World Bank (2012a, b).

As Figure 1 shows, gender equality in employment generates a selection-equilibrating factor that operates at the level of the labor force. Essentially, gender equality in

employment can contribute significantly to economic growth by expanding the stock and quality of human capital, raising labor productivity, improving agricultural productivity and increasing the stock of physical capital (Ward et al., 2010).

Figure 1: Key Economic Effects of Gender Equality in Employment

```
                    ┌─────────────────────────────────────┐
                    │   Gender Equality in Employment      │
                    └──────────────────┬──────────────────┘
                                       │
                                       ▼
                    ┌─────────────────────────────────────┐
                    │      Higher Quality Labor Force      │
                    └──────────────────┬──────────────────┘
                                       │
                    ┌──────────────────┴──────────────────┐
                    ▼                                      ▼
        ┌───────────────────────┐        ┌──────────────────────────────────┐
        │ Higher Total Factor   │        │ Increase in Marginal Product of    │
        │ Productivity Growth   │        │ Capital                            │
        └───────────┬───────────┘        └──────────────────┬─────────────────┘
                    │                                        ▼
                    │                         ┌──────────────────────────────┐
                    │                         │      Higher Investment        │
                    │                         └──────────────┬───────────────┘
                    ▼                                        ▼
        ┌───────────────────────────────────────────────────────────────────┐
        │                    Higher Economic Growth                           │
        └───────────────────────────────────────────────────────────────────┘
```

Sources: Adapted from Klasen (1999), Chen (2004), and Ward et al. (2010).

Higher gender equality in employment can lead to significant macroeconomic gains, especially higher GDP (Dollar and Gatti, 1999; Loko and Diouf, 2009; Aguirre et al., 2012; Cuberes and Teignier, 2012, Elborgh-Woytek et al, 2013). It has been argued that the employment of women on an equal basis would allow companies to make better use of the available talent pool, with potential growth implications (Barsh and Yee, 2012; CAHRS 2011; Dezso and Ross, 2011; CED, 2012; OECD, 2012a; Lord Davies, 2013). Better opportunities for women to earn and control income may be one of the important poverty-reducing factors in developing economies (Heintz, 2006) while higher female labor force participation and greater earnings by women could result in higher expenditure on school enrollment for children, including girls, potentially triggering a virtuous cycle, when educated women become female role models (Aguirre and et al.,
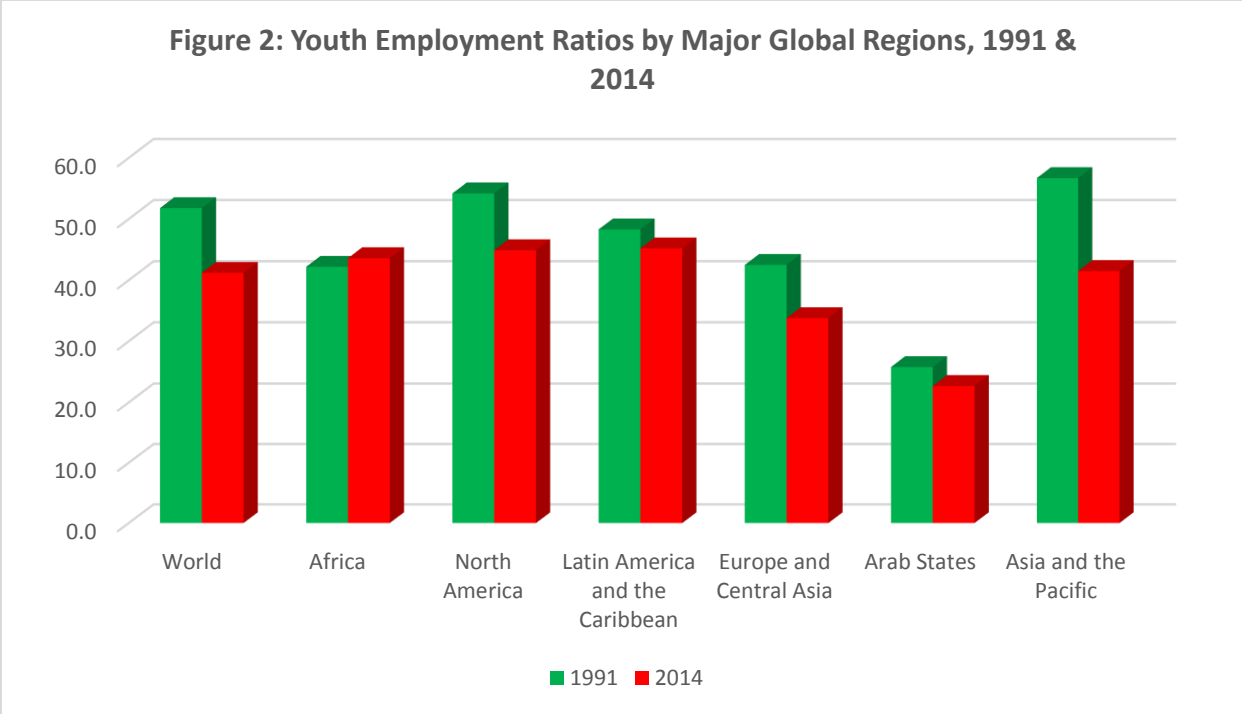
2012; Miller, 2008). While higher female work force participation would also result in a more skilled labor force, in view of women's higher education levels (Steinberg and Nakane, 2012), higher female labor participation rate can boost growth by mitigating the impact of a shrinking workforce, especially in rapidly aging economies (IMF, 2012).

McKinsey Global Institute (MGI) (2015) considers a "full-potential" scenario in which women participate in the economy identically to men, and find that it would add up to US$28 trillion, or 26 percent, to annual global GDP in 2025 compared with a business-as-usual scenario. It also analyzed an alternative "best-in-region" scenario in which all countries match the rate of improvement of the best-performing country in their region. This would add as much as US$12 trillion in annual 2025 GDP.

Gender equality in employment tends to result in higher average labor force productivity than in the absences of such gender equality in employment. Higher labor productivity tends to lower economic growth directly. Indirectly, a high productive workforce tends to increase the rate of return to capital, which would consequently increase the investment rate and thus further increasing the rate of economic growth (see Chen, 2004 for a reverse argument). In addition, artificial barriers to female employment in the formal sector may contribute to higher labor costs and lower international competitiveness, as women are effectively prevented from offering their labor services at more competitive wages (Klasen, 1999). Indeed, if females do not have access to employment, labor supply is artificially restricted and men will earn higher wages, making the country less competitive.

Since 1991, as Figure 2 shows, there had been a general decline in youth employment across global regions, except in Africa where there was a slight increase due to a better performance in Sub-Saharan Africa.

In 2014, the North America region had the highest average female youth employment ratio (at about 44.5%) (Figure 2) and highest gender equality in youth employment in the world at 98.2%. While Africa's female youth employment ratio was low at 39.4% that of Sub-Saharan Africa was about 45.4%. Africa's performance was pulled down by North Africa's average of only 11.0%. With respect to gender equality in employment, Africa's average in 2014 stood at 82.6%, pulled up by Sub-Saharan Africa performance at 90.1% - North Africa's average was only 31.2%. The average regional performances between 1991 and 2014 show a similar picture. For example, during the period, North America topped in gender equality in youth employment at 96.7%, followed by Sub-Saharan Africa at 88%. North Africa, at just 32%, was only better than the Arab States, which had only 20.1% (Figure 3). The huge gap in the trend in gender equality in youth employment between Sub-Saharan Africa and North Africa is illustrated in Figure 4. This shows that there is greater gender inequality in youth employment in North Africa than in Sub-Saharan Africa.

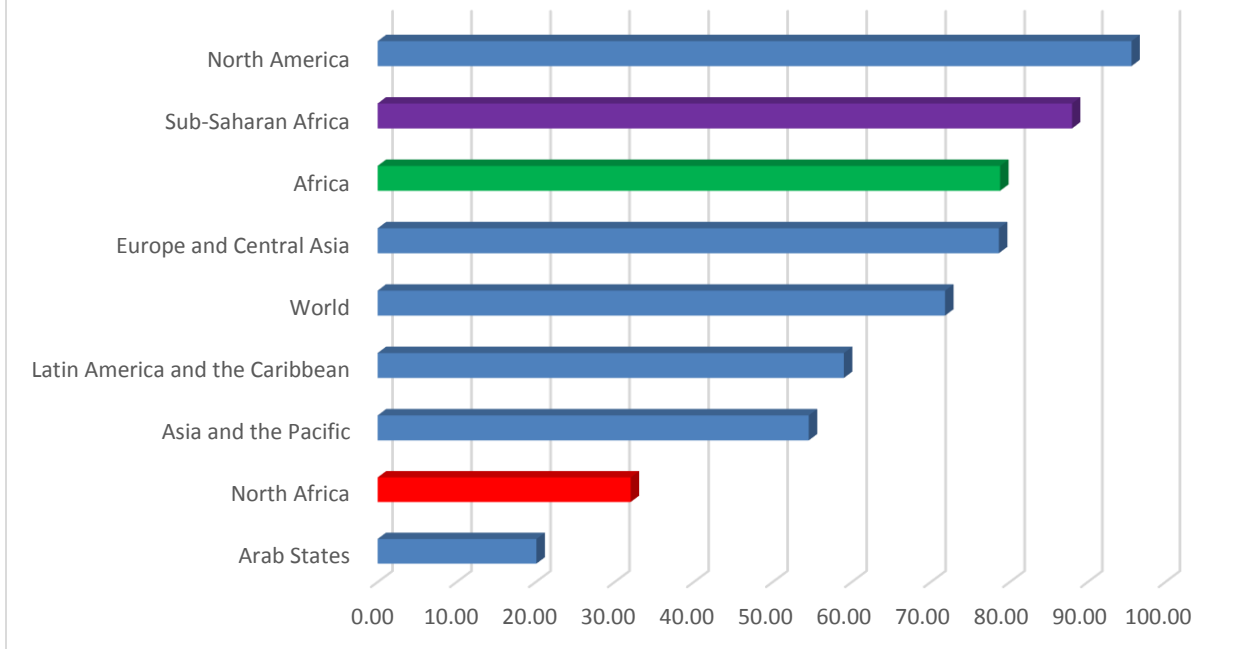**Figure 2: Youth Employment Ratios by Major Global Regions, 1991 & 2014**

Sources: Author, using data from ILO database, ILO (2015)

There are substantial variations in gender equality in youth employment across African countries as can be seen in Figure 5, which shows average gender equality in youth employment and real GDP per capita in African countries between 1991 and 2014. It indicates that a number of smaller African economies have relatively higher gender equality in youth employment compared to richer, oil-exporting and North African economies, which languish at the bottom. It can also be seen in Figure, countries like Sierra Leone, Mozambique, DRC, Malawi, and Burundi have substantially higher levels of gender equality in youth employment than the continental average relative to their per capita GDP levels, while gender equality in youth employment is near the continental average in countries such as Nigeria, Namibia and Botswana. In addition, as Figure 5 shows, there is a U-shaped relationship between gender equality in youth employment and the level of economic development in Africa.
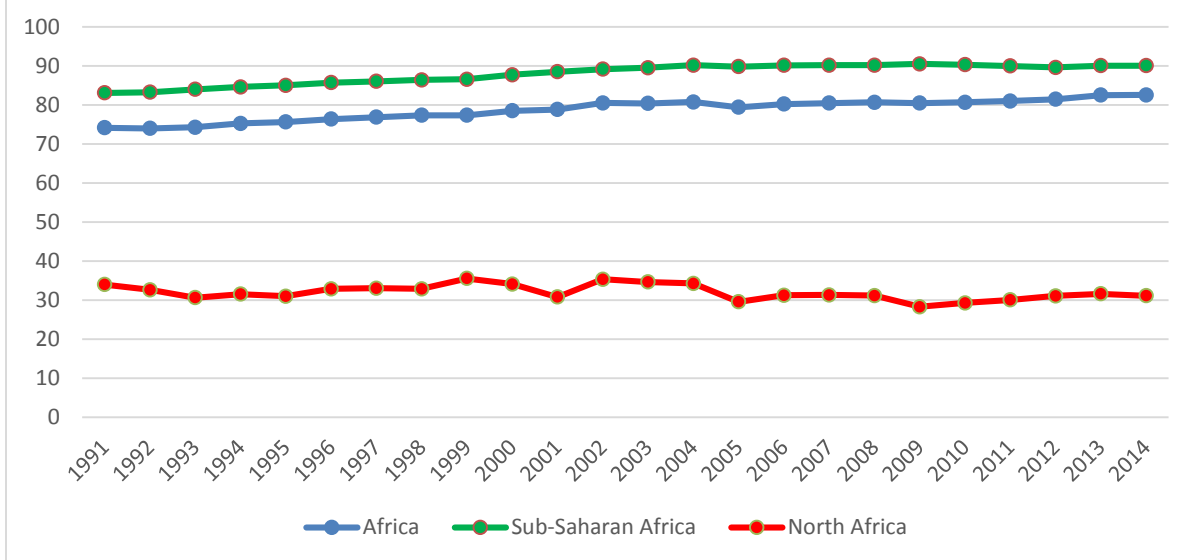
The pattern of gender equality in youth employment in Africa partly reflects natural resource endowment structure, whereby gender equality in youth employment is lowest in fossil fuel-rich economies of North Africa. For example, Algeria, Egypt, and Libya have very low gender equality in youth employment relative to their income levels.

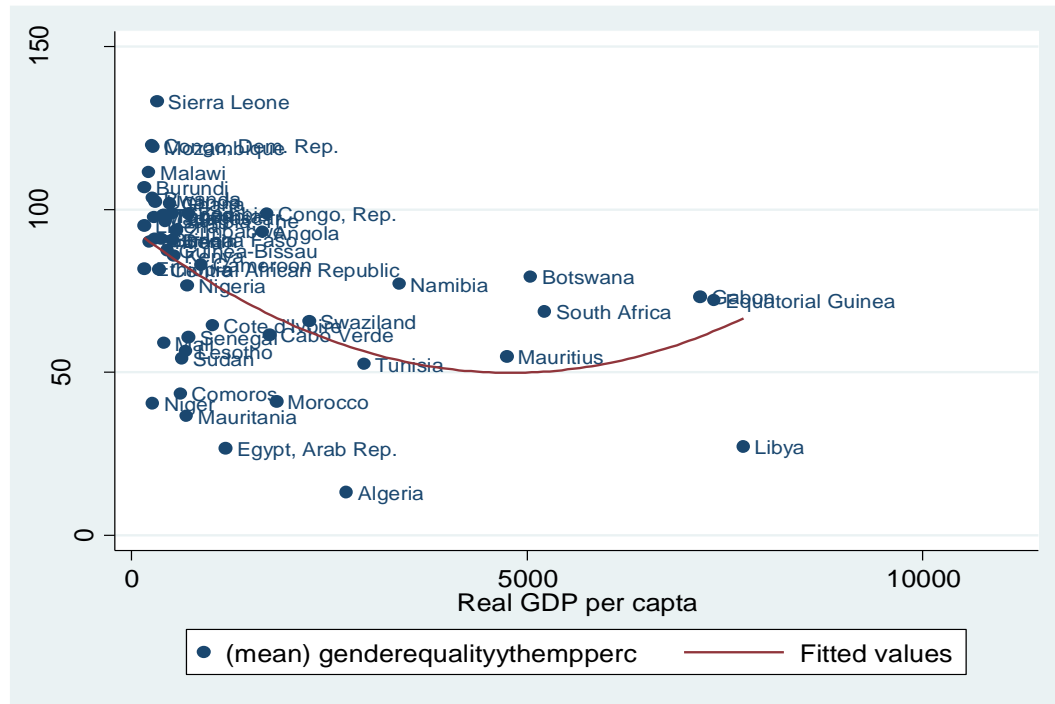**Figure 3: Average Gender Equality in Youth Employment by Global Regions, 1991-2014 (%)**

Sources: Author, using data from ILO database, ILO (2015)

Figure 4: Gender Equality in Youth Employment by Africa's Major Sub-Regions, 1991 -2014

Sources: Author, using data from ILO database, ILO (2015).

Figure 5: Africa: U-shaped correlation between gender equality in youth employment and GDP per capita, 1991-2014

Sources: Author, using data from ILO database, ILO (2015), and World Bank (2015).

III.   The Review of the Literature

The literature suggests that the key factors affecting gender equality in youth employment relate to the level/stage of economic development, gender equality in education, democracy, globalization, macroeconomic factors, demographic factors, infrastructure availability, natural resources production and exports, youth unemployment rate, and cultural and social norms. These conform roughly to what Spierings, Smits, and Verloo (2008) refer to as opportunities, needs, and values in their framework of factors affecting women employment.

There is evidence that, as countries develop, female labor force participation, for example, displays a U-shaped trajectory. A number of hypotheses have been put forward as to why female labor force participation first falls before rising with economic development levels. Boserup (1970) suggests that men's greater access to education and technologies implies that they displace women from the labor force during the early stages of a country's development. As development continues and women gain more access to education and technologies, female labor force participation increases. Another well-established hypothesis for this phenomenon focuses on income and substitution effects. As development occurs, households' unearned incomes rise, reducing the incentive of women to work outside the home. The negative impact of rising incomes on women's labor force participation is termed the "income effect," since greater household income

implies that households are able to afford more female leisure time. On the other hand, the substitution effect works in the opposite direction—as female wages rise, more women have the incentive to enter the labor market (Goldin, 1995; Mammen and Paxson, 2000; Bloom et al., 2009; Chaudhuri, 2009; Tam, 2011). The stylized U-shaped curve holds for African countries as earlier seen in Figure 5, a result confirmed for total gender equality in employment for North Africa by Anyanwu and Augustine (2013).

Eastin and Prakash (2013) find a curvilinear relationship between economic development and gender inequality ('S shaped'), with three distinct stages. In the first stage, economic development improves gender equality because it enables greater female labor force participation. In the second stage, labor force stratification and gender discrimination encourage divergent male/female income trajectories, which decreases opportunity costs of female labor force withdrawal and lends credence to social resistance against rising gender norms. As a result, there is a decline in initial equality gains. In the final stage, gender equality again improves as greater educational participation and technological advancement provide new employment opportunities for women, increase opportunity costs of staying home, and encourage the evolution of new social institutions and norms that overcome prior discriminatory practices.

As Chen (2004) indicates, gender equality in education is postulated to have positive effects on gender equality in employment. Indeed, women with higher levels of education are more likely to enter the labor market, especially in urban areas, which may reflect their higher wage premiums and higher opportunity cost of being inactive (Ogawa and Akter, 2007; World Bank, 2010). As Sakellariou (2011) had explained, changes in educational attainment, demographic profile of the population, explain changes in the female-male gap in labor force participation, especially in rural communities. Changes in education and literacy contribute to the explanation of variation in female labor force participation within a country (Ogawa and Akter, 2007; World Bank, 2010; Gallaway and Bernasek, 2004). Chen (2004) finds positive significant effect of average years of schooling on gender equality in employment. Campa et al (2011) analyze the extent gender culture affects gender gap in employment. They show that the index of gender culture based on firms' attitudes as well as female literacy and education are significant in explaining gender gap in employment in Italian provinces.

Recent findings by Cipollone,, Patacchini, and Vallanti (2012) show that increasing (positive) effect of the level of education and diminishing (negative) effect of fertility choices play important role in explaining women's participation to the labor market, with important differences across EU countries characterized by different institutional and welfare settings.

Democracy could unleash women's labor market potential and open up the decision-making process to the less privileged, including women, resulting in redistributive policies benefitting these groups. Democracy could also reduce gender inequality by

increasing expenditures on social programs. In addition, the inter-state conflict literature, such as studies by Hegre et al. (2001) and Anyanwu and Augustine (2013) support a quadratic relationship between democracy and gender equality. Eastin and Prakash (2013) also find significant positive democracy effect on female labor force participation and their measure of gender equality measure.

Recent empirical work finds that globalization can improve gender equality because international trade and foreign direct investment (FDI) can generate employment opportunities for women (Richards and Gelleny, 2007). The theoretical and empirical literature on trade and (un)employment linkages indicate one of the key channels or links to show the effect of "trade" is trade openness measured by value of exports plus imports over gross domestic product (GDP). The standard international trade theory (Hecksher-Ohlin-Stolper-Samuelson theory) predicts employment gains for women in export sectors of developing countries and employment losses for women in industrial countries. Also, Becker's theory predicts decline in labor market discrimination in response to increasing competition in product markets generated by trade expansion, leading to demand-induced dynamic toward greater gender equity (Becker, 1971; Black and Brainerd, 2004).

According to Oostendorp (2009), inflows of foreign capital to local markets are held to have positive effects on gender equality as multinational corporations (MNCs) frequently provide women with employment outside of the home – often in countries where these opportunities would not have existed in its absence. However, in the long term, FDI may make women more likely to either lose their jobs to men or be pushed down the production chain into subcontracting work. Furthermore, FDI may further widen the gender gap as technical training is mostly offered primarily to men, thereby "improving male technical knowledge and reducing women's access to technology and employment" (Parpart et al., 2000). Also, foreign investment could have a disproportional adverse effect on women if it serves to reinforce existing gender inequalities (Ward, 1984; see also Ernesto, 2011). Anyanwu and Augustine (2013 and Sajid (2014) find significant negative effect of FDI on gender equality in employment while Eastin and Prakash (2013) find significant positive FDI effect on female labor force participation and their measure of gender equality.

However, economic integration can solidify gendered occupational segregation, which forces women into poorly paid jobs. At the same time, policies designed to increase trade and FDI inflows reduce state revenue, and therefore reduce the government's capacity to provide social services. Because women are often the key beneficiaries of these services, economic integration can undermine gender equality in many dimensions.

Political globalization is also important for gender equality in employment. As Gray et al (2006) observe, the more international activity a country is engaged in, the more likely it will be affected by norms and ideas of other countries. In the same manner, norms and

ideas that are dominant in the international community are diffused through international organizations and fora. Thus, in the context of international connectedness, the higher degree of participation and appreciation of these international fora – and ratification of their agreements and conventions - the more likely those international community norms and ideas will be integrated in domestic policies. To that extent, international conventions like the "Convention on Elimination of all forms of Discrimination Against Women" (CEDAW) as well as international conferences and declarations on employment of women should have positive effects on the domestic norms and ideas regarding women's employment.

The first macroeconomic variable affecting gender equality in employment is economic growth. In a study on the Euro Area, Gomez-Salvador and Leiner-Killinger (2008) find that economic conditions, represented by economic growth, are negatively correlated with the youth unemployment rate, that is, the youth unemployment rate increases when the economic situation worsens in the zone. Choudhry, Marelli and Signorelli (2012) find similar results in a recent cross-sectional study. Eastin and Prakash (2013) also find significant positive growth effect on female labor force participation but a significant negative one on their gender equality measure. However, Wamboye and Seguino (2014) find no significant economic growth effect in their examination of the effect of trade liberalization on gender equality in employment.

The second macroeconomic variable influencing gender equality in youth employment is government consumption expenditure. According to Seguino (2006), there is no guarantee that public expenditures will be gender-enabling because gender-sensitive budget analysis reveals government spending as a source of inequality in gender well-being. Government spending can act as a redistributive mechanism such that women's relative well-being is enhanced by increases in social expenditures. Whether such spending is gender-equitable is an empirical question, since governments may allocate spending in such a way that reinforces rather than rectifies gender imbalances in well-being. As Anyanwu (2013) indicates, policies designed to increase government consumption expenditure reduces the government's capacity to provide social services. Because women are often the key beneficiaries of these services, government expenditure can undermine gender equality in many dimensions. The higher the value of government consumption expenditure and in conformity with the crowding-out literature, the lesser the resources the government has at its disposal to spend on economic and social programs, including for gender equality programs.

The third macroeconomic variable is domestic investment. Domestic investment is a key source of employment, wealth creation and innovation. Where domestic investment is low, the productive capacity of the economy fails to increase. This results in lower rates of economic growth, fewer opportunities for the poor to improve their livelihoods, and lower rates of job creation. As the ILO (2011) shows, investment growth has a strong and positive effect on employment creation. The results show that a 1 percentage point

increase in the investment growth rate would produce a 0.12 percentage point increase in employment growth. In addition, results from ILO (2012) show that both private and public investment rates positively and strongly affect employment. Anyanwu and Augustine (2013) find positive investment effect on gender equality on employment.

In a recent study, Tseloni, Tsoukis and Emmanouilides (2011) find that a relatively greater participation of women in paid employment is evidenced in more populous countries, with a greater share of women in their populations, more equal income distribution, and higher growth rates (in an inverted U-shaped form), but lower level of economic development, democracy ratings or international capital mobility (i.e., current account surplus or deficit/GDP). Also, declines in fertility have been found to exert a large positive effect on the labor force participation rate across the world (Bloom et al., 2009). Anyanwu and Augustine (2013) show that higher female-male sex retie tends to lower gender equality in employment in Africa.

On the other hand, living in an urban area is associated with an increase in access to labor markets and formal employment opportunities. Women have access to more economic opportunities in urban areas than in rural areas. This is because urban labor markets offer a wide variety of occupations, from manufacturing and services to clerical activities. Thus, increased urbanization rate is expected to lead to higher levels of female employment. Anyanwu and Augustine (2013) and Sajid (2014) fins positive significant relationship between urbanization and gender equality in employment while Chen (2004) finds no significant relationship.

Chen (2004) shows that increases in the level of ICT infrastructure tend to improve gender equality in labor activity rates. In addition, the author shows that education among the general population, gender equality in education, and economic development are important for improving gender equality. However, Sajid (2014) finds no significant effect of ICT on gender equality in employment contrary to the results obtained by Anyanwu and Augustine (2013).

Lin (2012), in a study of the Japanese case, shows that industry ICT intensity has increased the share of male regular employment in sectors that hire a larger proportion of professional workers but the opposite story is found in the case of women. This suggests that there is a gender bias in ICT usage within specialist/managerial occupations, with a larger share of women possibly involved in less complex computer tasks relative to men, and those tasks are more likely to be substitute by computer and irregular workers. Recently, Wamboye and Seguino (2014) find generally positive significant relationship between telephone subscription and gender equality in employment.

Another important factor is that most countries in Africa are oil-exporting countries, and in most studies, oil sector is classified as male dominated sector, which discourages women to enter labor market (Moghadam, 2004; Ross, 2008) and hence promotes gender

inequality contrary to the findings of Anyanwu and Augustine (2013) for North Africa though their results for Sub-Saharan Africa support the anti-equality thesis.

In some countries, women tend to serve as secondary breadwinners of the family. In such cases, labor force participation rates of women may actually increase in period of high unemployment if the primary breadwinner is unemployed. Also, firms may prefer to hire female workers during economic recessions, as they are more likely to accept lower wages as compared to male workers. However, many women, especially in developed countries, participate in the labor market in a non-secondary breadwinner capacity. In such countries, high rates of unemployment should not have effects on gender equality in youth employment (Chen, 2004). However, Chen's (2004) basic result shows a weakly significant negative relationship between unemployment rate and gender equality in employment. Tseloni, Tsoukis and Emmanouilides (2011) find no significant unemployment rate effect on gender equality in employment. However, OECD (2012b) finds significant negative effects of unemployment rate on women's labor force participation rate, as well as their part-time and full-time employment.

As Forsythe et al. (2000), have noted, with respect to the effect of culture, "rapid development is particularly likely to be accompanied by greater gender rigidity in a country with a tradition of patriarchal institutional arrangements." Indeed, Boserup (1970), Moghadam (1994), Shukri (1996), Psacharopoulos and Tzannatos (1989) have found that Muslim and Latin American countries – countries with strong socio-religious views about women's role in the public sphere and the workplace - are more likely to be characterized by entrenched patriarchal institutions (see also Antecol, 2000; Fernández, 2010; Fernández and Fogli, 2005; Fernández, Fogli, and Olivetti, 2004). This pattern tends to conform with the often analyzed "cultural effect" in Muslim-dominated countries where female employment is considered socially and culturally acceptable as long as it does not interfere with women's primary role as wives and mothers given the notion, belief and persistent stereotypes that motherhood and child care represent a "woman's true vocation" (Blackburn, 2004; Stivens, 2006).

IV.   The Model and Data

This section focuses on the econometric analyses of the determinants of gender equality in youth employment in Africa. We use the cross-sectional time series data covering 48 African countries to empirically study the key drivers of gender equality in youth employment in the continent, during the period, 1991 to 2011. The variable that proxies gender equality in youth employment (the ratio of the female to male employment for the age group 15-24 over the period (in percentage) was used as dependent variable. This indicator of gender equality reflects the gender gap in youth employment opportunities. Increasing values in the indicator indicate increasing levels of gender equality. The level of economic development along with other control variables, acted as independent variables.

Independent Variables

To control for the level of economic development, we include a nation's real gross domestic product (GDP) per capita measured in terms of constant 2005 dollars. We also include the square of real GDP per capita in order to determine whether a non-monotonic relationship exists between development and gender equality in youth employment. The quadratic term tests the Böserup's (1970) assertion that the gap between men and women increases at intermediate levels of economic development but subsequently narrows after a nation has achieved a certain level of economic development. To account for gender equality in education, we use gender equality in primary school enrolment and gender equality in secondary school enrolment.

It has been hypothesized that democracy increases equity in gender relations as women become empowered through the political process. This is because it is assumed that democratic regimes have greater respect for human rights, including women's rights, relative to authoritarian regimes. We use the measure democracy from the Polity IV Project, in which a country's level of democracy is ranked along a 21-point spectrum, ranging from -10 for fully institutionalized autocracies to +10 for fully institutionalized democracies, based on research done at the Center for International Development and Conflict Management, University of Maryland. Since it is intuitively plausible that democratic countries encourage female employment, we expect that increasing levels of democracy act to increase gender equality in employment.

In order to control for the effect of globalization on gender equality in employment, trade openness of the economy, foreign direct investment (FDI) (as percentage of GDP), and the index of political globalization are included as explanatory variables. A nation's openness to trade, defined as the sum of net exports of goods and services as a percent of GDP. An increase in openness is hypothesized to augment female labor force participation thereby narrowing the gender gap. In addition, if the export sector is primarily capital intensive, then gender equality is expected to increase as a result of differential access to productive resources. As authors like Oostendorp (2009) have argued, FDI is assumed to be positively associated with gender equality in youth employment.

On the other hand, other authors have argued that FDI can have a negative effect on gender equality by serving to reinforce existing gender inequalities in the access to the labor market and the gender division of labor. Indeed, in predominantly agricultural nations of Africa, men have a greater advantage in producing export crops, compared with women who predominately produce crops for subsistence and local consumption hence the greater the access to export channels through FDI would further widen the gender gap. Many African countries are today blessed with abundant natural resources, which have been attracting huge FDI. Unfortunately, most natural resources sectors such as minerals, are enclave and capital-intensive sectors, and operate to the advantage of

men thus widening the gender gap in youth employment. We include political globalization index to capture the effect of international political connectedness or the domestic effects of a country's participation and appreciation of international fora as well as the ratification of international agreements and conventions on gender equality in youth employment.

Three macroeconomic indicators are used: economic growth, domestic investment rate, and general government final consumption expenditure rate. We also include economic growth (real GDP growth rate) separately to control for inclusiveness of economic growth as well as the possibility that an economic decline or slowdown might have adverse effects on gender equality in youth employment independent of the level of development. The second macroeconomic factor is a nation's domestic investment measured as a percentage of GDP. The higher the value of investment rate, the more resources a government ostensibly has at its disposal to spend on economic and social programs, including investments for employment creation. Third, we include general government final consumption expenditure measured as a percentage of GDP. It is expected that the higher the value of government consumption expenditure, the lesser the resources the government has at its disposal to spend on economic and social programs, including investments for employment creation for both men and women.

To measure the effect of key demographic variables on gender equality in employment, three indicators are used: population growth rate, female share of population, and the share of urban areas to total population. Increasing population growth is expected to narrow the gender equality in youth employment. Inclusion of the female share of the population ensures that changes in the population ratio due to changes in the sex population ratio are properly accounted for. In light of the above, the female share of the population is expected to have a positive effect on the gender equality in youth employment. On the other hand, living in an urban area is associated with an increase in access to labor markets and formal employment opportunities. Women, like their male counterparts, have access to more economic opportunities in urban areas than in rural areas. This is because urban labor markets offer a wide variety of occupations, from manufacturing and services to clerical activities. Thus, increased urbanization rate is expected to lead to higher levels of gender equality in youth employment.

It is recognized that given that women (especially those in the rural setting) face severe time trade-offs between household chores and market work, programs targeted at reducing their time on chores are likely to increase their ability to engage in market-based income-earning opportunities. A good example is investment and provision of requisite infrastructure. These include access to affordable child care centers, energy, transport, and ICT infrastructure. It has been shown that new and emerging technologies, when accessible, can help to empower women, by opening new economic (including employment) opportunities, breaking down information barriers, enabling women to

take collective action, and helping those in isolated communities engage in commerce. We use telephone and mobile phones (per 1000 persons) to proxy infrastructure.

To capture the effects of net oil exporters, we add a dummy variable representing net oil exporters. In addition, to gauge the effects of general youth unemployment on gender equality in employment, we use the youth unemployment rate. We also include year and the five sub-regional dummies to capture year and sub-regional effects.

The Model

Based on the above review and following the frameworks posited by Chen (2004), Tseloni, Tsoukis and Emmanouilides (2011), Anyanwu and Augustine (2013), and Eastin and Prakash (2013), the relationship that we want to estimate can be written as:

$$\log GE_{it} = \alpha_i + \beta_1 \log(rgdp_{it}) + \beta_2 \log(rgdp^2_{it}) + \beta_3 \log(telmobile_{it}) + \beta_4(democ_{it}) + \beta_5(X_{it}) + \beta_6(Z_{it}) + \varepsilon_{it}$$
$$(i = 1,...., N; t = 1,....., T),................(1)$$

where GE is the measure of gender equality in youth employment in country i at time t; α_i is a fixed effect reflecting time differences between countries; β_1 is the elasticity of gender equality in youth employment with respect to real per capita income in 2005, rgdp; β_2 is the gender equality elasticity with respect to quadratic real per capita GDP; β_3 is the elasticity of gender equality in youth employment with respect to infrastructure, telmobile; β_4 is the coefficient of democracy, domec; X is the control variables, including equality in primary school enrolment ratio (eqprimeduc), equality in secondary school enrolment ratio (eqseceduc), economic growth (ecgth), government expenditure (% of GDP) (govexp), domestic investment (% of GDP) (inv), trade openness (open), foreign direct investment (% of GDP) (fdi), political globalization index (polglob), urban population share (urban), population growth rate (popg), female population share (fempopshare), Christian religion dominance (Christian), Muslim religion dominance (Muslim), and youth unemployment rate (ythunemp); Z represents year and oil exporting (natural resources) effects dummies used as fixed effects; and ε is an error term that includes errors in the gender equality in youth employment measure. We also separately estimate Sub-Saharan Africa and North African data to check if indeed, North Africa is different.

Data (1991 to 2011) for the variables in equation (1) are largely drawn from the World Bank's WDI Online database, except democracy from the PolityIV Project Online (2013) (see Marshall, 2013) and political globalization that is from the 2015 KOF Index of Globalization. The descriptive statistics are presented in Table 1. It reports the sample mean, median and standard deviation of the variables used in the estimations.

We analyze an unbalanced pooled time series data set for equality in youth employment in Africa from 1991 to 2011, using the OLS regressions with year, sub-regional, and oil fixed-effects.

Table 1: Descriptive Statistics of Main Regression Variables (Excluding Dummies), 1991-2011

Variable	Observations	Mean	Standard Deviation
Gender equality in youth employment	1050	78.11	26.51
Real GDP per capita	1074	1577.17	2421.49
Gender equality in primary education	868	87.53	13.33
Gender equality in secondary education	607	81.76	24.56
Democracy	1069	0.25	5.46
Trade Openness	1075	75.43	47.07
FDI-GDP (%)	1065	4.17	10.19
Political globalization index	1069	54.39	18.84
Economic Growth (%)	1074	4.26	8.96
Govt. final consumption expenditure (%GDP)	1029	15.83	7.78
Domestic investment (%GDP)	1028	22.05	17.25
Urban population share (%)	1134	37.64	16.98
Female Population Share (%)	1134	50.25	0.77
Population Growth (%)	1134	2.41	1.24
Fixed & mobile phone subscriptions	1099	17.98	29.70
Youth unemployment Rate (%)	1050	16.97	13.04

Note: These are raw data before the log and other transformations.
Source: Author's Calculations.

V.   Model Estimation Results and Analysis

Table 2 presents the results of estimating the gender equality in youth employment equation (1).

Level of Economic Development
From Table 2, the coefficient associated with real GDP per capita is found to be negative and statistically significant (at one percent level) relationship with gender equality in youth employment in Africa as a whole and the Sub-Saharan Africa. However, real GDP per capita is found to have positive and statistically significant (at one percent level) association with gender equality in youth employment in North Africa.

To test the hypothesis that real GDP per capita has a non-monotonic relationship with gender equality in employment, the squared real GDP per capita is included as an explanatory variable. The quadratic term is positive in sign and significant at the one percent level in the overall African sample and at the ten percent level in the Sub-Saharan African sample. These results provide evidence of U-shaped relationship between real GDP per capita and gender equality in youth employment in Africa as a whole and in Sub-Saharan Africa – and not in North Africa.

Thus, our results suggest that although higher levels of real GDP per capita are negatively associated with gender equality in youth employment in Africa, especially in Sub-Saharan Africa, the effect is not constant. Rather, for levels of real GDP per capita above a certain point (US$6,313 million in Africa as a whole and US$7,146 million in SSA), higher levels of real GDP per capita act to increase gender equality in youth employment, holding other factors constant. This relationship suggests that the marginal effect of real GDP per capita exhibits increasing returns for gender equality in youth employment. Thus, our findings for Africa as a whole, especially in Sub-Saharan Africa, support Böserup's (1970) assertion that the curvilinear relationship between economic development and gender equality is U-shaped. However, this U-shaped relationship contradicts the findings of Chen (2004), Tseloni, Tsoukis and Emmanouilides (2011), and Eastin and Prakash (2013).

Table 2: Estimates of the Key Drivers of Gender Equality in Youth Employment			
Variable	**Africa**	**Sub-Saharan Africa**	**North Africa**
Log of Real GDP per capita	-44.454 (-4.27***)	-31.809 (-2.69***)	13.952 (3.22***)
Log of Real GDP per capita^2	2.628 (3.47***)	1.614 (1.88*)	
Gender equality in primary education	0.526 (5.29***)	0.638 (5.94***)	-0.076 (-0.65)
Gender equality in secondary education	-0.269 (-4.34***)	-0.312 (-4.76***)	0.224 (1.83*)
Democracy	-0.078 (-0.51)	0.136 (0.81)	0.377 (1.49)
Trade Openness	0.601 (2.09**)	0.012 (0.38)	0.087 (1.09)
FDI-GDP (%)	0.548 (3.49***)	0.441 (2.68***)	-0.256 (-0.71)
Political globalization index	0.104 (2.03**)	0.051 (0.89)	-0.051 (-0.77)
Economic Growth (%)	0.460 (3.17***)	0.419 (2.71***)	-0.168 (-1.20)
Government expenditure (%GDP)	-0.245 (-1.60)	-0.361 (-2.21**)	0.612 (2.20**)
Domestic investment (%GDP)	-0.421 (-4.84***)	-0.332 (-3.53***)	0.049 (0.32)
Urban population share (%)	0.636 (7.36***)	0.511 (5.52***)	0.314 (1.01)
Female Population Share (%)	5.078 (4.18***)	5.176 (4.03***)	-0.557 (-0.32)
Population Growth (%)	-0.686 (-0.94)	-0.343 (-0.45)	0.786 (0.56)
Fixed & mobile phone subscriptions	-0.171 (-3.27***)	-0.089 (-1.37)	-0.74 (-1.20)
Oil Exporters	4.695 (1.72*)	11.905 (3.38***)	-37.375 (-10.37***)
Youth unemployment rate	-0.964 (-11.78***)	-0.841 (-8.69***)	-0.214 (-1.84*)
Christian dominance	0.002 (0.03)	-0.035 (-0.63)	
Moslem dominance	-0.159 (-3.10***)	-0.241 (-4.29***)	
Central Africa	22.906 (4.73***)	-19.482 (-380***)	
East Africa	24.307 (5.69***)	-16.251 (-5.91***)	
North Africa			
Southern Africa	39.616 (8.22***)		
West Africa	11.318 (3.36***)	-25.802 (-7.43***)	
Constant	-51.000 (-0.75)	-39.918 (-0.52)	-74.484 (-0.81)
Year Dummies	Yes	Yes	Yes
Adjusted R-Squared	0.7763	0.6764	0.9707
F-statistic	40.14	22.06	69.13
Prob>F	0.0000	0.0000	0.0000
N	486	414	77
Note: t-values are in parentheses; ***= 1% significant level; **=5% significant level; *=10% significant level. Source: Author's Estimations.			

Gender Equality in Education

Gender equality in primary education has positive and statistically significant (at one percent level) association with gender equality in youth employment in the whole of

Africa and Sub-Saharan Africa. A one percentage point increase in gender equality in primary education enrolment is associated with a 0.53 percentage point increase in gender equality in youth employment in Africa as a whole. This result is consistent with those of Chen (2004). This supports the hypothesis that education tends to broaden one's awareness of cultures and social norms that exist in industrial countries where women are in most circumstances entitled to the same freedoms and opportunities as extended to men (Chen, 2004). However, gender equality in primary education is not statistically significant in the North Africa estimation.

On the other hand, gender equality in secondary education has negative and statistically significant (at one percent level) relationship with gender equality in youth employment in the all of Africa and Sub-Saharan Africa. Our results indicate that a one percentage point increase in gender equality in secondary school enrolment rate is associated with a 0.27 percentage point decline in gender equality in youth employment in Africa as a whole and 0.31 percentage point in SSA countries. But it has positive and significant (at the ten percent level) relationship with gender equality in youth employment in North Africa. In North Africa, a one percentage point increase in gender equality in secondary education is associated with a 0.22 percentage point increase in gender equality in youth employment.

Institutionalized Democracy

Institutionalized democracy does not appear to be associated gender equality in youth employment whether in the whole of Africa or its major sub-regions of Sub-Saharan Africa and North Africa. This result contradicts the positive effects found by Tseloni, Tsoukis and Emmanouilides (2011), and Eastin and Prakash (2013).

Globalization

Trade openness is positive in sign and statistically significant at the five percent level only in the overall African estimation, contrary to the findings of Wamboye and Seguino (2014) that increased global integration as measured by trade's share in GDP has no significant effect on women's relative employment in a full Sub-Saharan African sample. Our results show that a one percentage point increase in trade openness is associated with a 0.60 percentage point increase in gender equality in youth employment in Africa as a whole. This result supports the view that increasing levels of exports relative to imports may increase gender equality and further that an external market orientation may further enhance women's empowerment. This may also suggest that labor-intensive export sectors dominate the capital-intensive sectors in the whole of the continent.

FDI-GDP ratio has positive and statistically significant association with gender equality in youth employment, in both all of Africa and sub-Saharan Africa – but not in North Africa. Our results for Africa, especially Sub-Saharan Africa, therefore, supports the

proposition that the inflow of foreign direct investment enhances gender equality in youth employment. In Africa as a whole, a one percentage point increase in FDI-GDP ratio is associated with a 0.55 percentage point increase in gender equality in youth employment while in SSA the increase would be 0.44 percentage point.

Political globalization has positive and statistically significant (at five percent level) association with gender equality in youth employment only in the overall African estimation. The results show that a one percentage point increase in political globalization index is associated with a 0.10 percentage point increase in gender equality in youth employment in Africa as a whole.

Macroeconomic Factors

In view of the concern for inclusive growth in Africa, we also intend to find out the effect of economic growth on gender equality in youth employment in the continent. Our results show that there is a positive and statistically significant association between economic growth and gender equality in youth employment in both all of Africa and sub-Saharan Africa – a partial indication of the inclusiveness of economic growth in Sub-Saharan Africa but not in North Africa. Our results indicate that a one percentage point increase in economic growth is associated with a 0.46 percentage point increase in gender equality in youth employment in Africa as a whole and 0.42 percentage point in SSA countries. These results indicate that economic growth is inclusive with respect to gender equality in youth employment in Sub-Saharan Africa but not in North Africa.

Gross government final consumption expenditure (as % of GDP) has negative and a statistically significant (at five percent level) association with gender equality in youth employment in Sub-Saharan Africa. Our estimates suggest that, on average, a one percent increase in the share of gross government final consumption expenditure in GDP is associated with about 0.36 percent reduction in gender equality in youth employment in Sub-Saharan Africa. On the other hand, gross government final consumption expenditure has positive and a statistically significant (at five percent level) association with gender equality in youth employment in North Africa. Our results indicate that, on average, a one percent increase in the share of gross government final consumption expenditure in GDP is associated with about 0.61 percent increase in gender equality in youth employment in North Africa.

As shown in Table 2, a nation's domestic investment rate is found to be negatively associated with gender equality in youth employment in the overall Africa and Sub-Saharan African estimations. Our results indicate that a one percentage point increase in domestic investment rate is associated with a 0.42 percentage point decline in gender equality in youth employment in Africa as a whole and 0.33 percentage point decline in SSA countries. The explanation is rooted in wastages, inefficiency, and corruption associated with most investment projects in most African countries, especially in Sub-

Saharan Africa. Thus, investment in white-elephant, unproductive activities, remains a development challenge in Africa, especially in the Sub-Saharan African nations.

Demographic Factors

Increasing urbanization rates are found to be positively associated with increasing gender equality in youth employment in all-Africa and, especially, Sub-Saharan Africa estimations. As seen in Table 2, this effect is statistically significant at the one percent level in both cases. The results show that a one percentage point increase in urbanization rate is associated with a 0.64 percentage point increase in gender equality in youth employment in Africa as a whole and 0.51 percentage point in SSA countries. However, it is positively insignificant in the North African case. The ratio of female to male population has positive and highly statistical significant (at one percent level) association with gender equality in youth employment in all-Africa data and Sub-Saharan Africa samples. Thus, the higher the proportion of women in a nation's total population, the higher the level of gender equality in youth employment in that country.

Furthermore, our results suggest that rising population growth rates have no statistically significant effect on gender equality in youth employment in both Africa, SSA and North Africa. These results fail to support the positive results of Eastin and Prakash (2013) for gender gaps in labor force participation.

Infrastructure/Telephone Subscription

Our results show that the coefficient of the ICT infrastructure variable is negative and statistically significant in only the overall Africa data. Thus, overall, we can conclude that our results indicate that improvements in the level of the ICT (telephone) infrastructure tends not to lead to improvements in gender equality in youth employment. This result is not consistent with those of Chen (2004) who used five different indicators of ICT infrastructure (the number of computers per 1,000 persons, the number of Internet users per 1,000 persons, the number of telephones per 1,000 persons, ICT expenditure as a share of GDP and ICT expenditure per capita) to estimate their effects on the ratio of the female to male labor activity rates.

Oil-Exporting Effects

Our results also show that net oil exporting countries in Africa (overall, SSA and North Africa) generally have more gender equality in youth employment compared to net oil-importing countries. This result suggests that, holding other factors constant, net oil-exporting countries in Africa experience higher levels of gender equality in youth employment than net oil-importing countries. In this sense, our results do not lend support to the hypothesis advanced by Inglehart (1997) and Ross (2008) that oil-exporting

nations tend to increase gender inequality by excluding women from the formal economy.

Youth Unemployment Rate

Increasing youth unemployment rate is found to be negatively and statistically associated with decreasing gender equality in youth employment in Africa, especially, IN Sub-Saharan Africa. As seen in Table 2, this effect is statistically significant at the one percent level in the overall Africa and Sub-Saharan African cases. Indeed, the results show that a one percentage point increase in youth unemployment rate is associated with a high of 0.96 percentage point decrease in gender equality in youth employment in Africa as a whole and 0.84 percentage point in SSA countries.

Culture/Religion

One of the coefficients associated with culture — as proxied by countries with a majority Muslim population — is found to be negative in sign and statistically significant at the 1 percent level in the overall Africa and Sub-Saharan Africa samples. Holding the other variables in the model constant, countries with a majority Muslim population experience more gender gap than countries with majority Christian population. Our results indicate that a one percentage point increase in the population that are Muslim is associated with a 0.16 percentage point reduction in gender equality in youth employment in Africa as a whole and 0.24 percentage point in SSA countries. These results confirm the findings of Forsythe et al. (2000), Spierlings et al. (2008), and Inglehart and Norris (2003) that the Muslim-majority countries have more gender gap than less-Muslim majority ones. In spite of the statistically significant relationship we find in the paper, the result potentially masks large differences between Muslim countries. For instance, Muslim-majority nations vary widely in their geography, abundance of natural resources, per capita GDP, and their interpretation and application of Sharia law. For example, as the case of Tunisia demonstrates, legislation can codify social norms and "gendered beliefs" into gender-equalizing education and employment practices.

VI.   Conclusion and Policy Recommendations

Our empirical estimates, using available cross-sectional data over the period, 1991 and 2011 suggest that in the all-Africa sample, quadratic levels of real per capita GDP, greater gender equality in primary education, greater trade openness, higher FDI inflows, higher political globalization, higher economic growth, increased urbanization, higher female share of the population, and being a net oil-exporting country are significantly positively associated with increased gender equality in youth employment while higher level of real GDP per capita, higher equality in secondary education, higher gross domestic investment, greater access to ICT (telephone) infrastructure, higher youth unemployment rate, and being a predominantly Muslim country tend to lower it. In Sub-Saharan Africa,

the factors that are positively associated with gender equality in employment include the quadratic levels of real per capita GDP, greater gender equality in primary education, higher FDI inflows, higher economic growth, increased urbanization, higher female share of the population, and being a net oil-exporting country.

Those factors that are significantly negatively associated with gender equality in employment in SSA are higher level of real GDP per capita, higher equality in secondary education, higher government consumption expenditure, higher gross domestic investment, higher youth unemployment rate, and being a predominantly Muslim country. However, North Africa is different. The North African specific sample results indicate that while the level of real GDP per capita, greater gender equality in secondary education, and increased government consumption expenditure tend to increase gender equality in youth employment, being an oil-exporting country and higher youth unemployment rate tend to lower gender equality in youth employment in the sub-region.

What are the implications of these results for African countries? Our results point to promoting the attainment of higher economic development (national incomes) beyond a certain point (about real per capita GDP of US$6,313.4 million) as one of the most effective ways to achieving relatively more gender equality in youth employment in Africa as a whole. To increase per capita income and economic growth, African countries must deepen macroeconomic and structural reforms to increase their competitiveness, create increasing and more quality jobs and hence increase participation in economic activity, dismantle existing structural bottlenecks to private and public investment, scale-up investments in hard and soft infrastructure, check rapid population growth, and increase productivity, especially in agriculture, through creating incentives and opportunities for the private sector and increasing government support to small farm holders in terms of finance, formalization of land ownership, and technical advice.

From our results, one of the most effective ways towards achieving relatively more gender equality in youth employment is greater equality in primary education. This calls for active social intervention, including targeted and high-quality education and training policies. Actions to equalize opportunities in formal education need to ensure that all children acquire at least a basic level of skills necessary to participate in society and in today's global economy. As the World Bank (2005) had argued, greater access should be complemented by supply-side policies (to raise quality) and demand-side policies (to correct for the possibility that parents may under-invest in the education of their children for various reasons). Supply side policies would include increasing teachers' incentives, enhancing the basic quality of schools' physical infrastructure, and researching and implementing teaching methods to increase the learning performance of students who do not do well when left to their own devices. On the other hand, demand side policies would include scholarships conditional on attendance, bringing in excluded groups and to bring up those left behind through remedial education, and developing the

accountability of schools and teachers to students, parents, and the broader society to help ensure effective service provider behaviour (World Bank, 2005; Burnett et al, 2013).

Trade openness is found to be significantly and positively associated with greater gender equality in youth employment in Africa as a whole. Efforts to expand African trade for gender equality in youth employment will include eliminating tariffs and non-tariff barriers, enhancing mutually advantageous commercial relations through trade liberalization schemes, the adoption of comprehensive and harmonized regional trade policies. In addition, there will be need to intensify cooperation in regional infrastructure development projects not only to increase access to and reduce the cost of provision of these facilities, but also to help to lower transactions costs, boost trade, and increase the attraction of the Continent to investors. In addition, full implementation of the plan to boost intra-African trade during the January 2012 African Union Summit of Heads of State and Government will be very critical. But African countries need to add value to their exports along the value chain while augmenting capacity to produce higher-technology products.

Since FDI inflows promote gender equality in youth employment, to attract increased FDI to Africa, high priority should be given to improvements in governance systems and human capital development. Efforts should be made to improve the efficiency and effectiveness of public institutions, while increasing investment in human capital so as to generate the skills required in a competitive global environment. In addition, governments should respect private property rights, allow the rule of law to prevail, be accountable for their actions as well as improve the legal, judicial, and regulatory, and infrastructural environment.

Political globalization is seen to be significantly associated with gender equality in youth employment in Africa as a whole. This implies that African countries not only increase their engagement in international political activities but also raise the African voice in international political organizations such as the United Nations. Full and effective implementation of ratified international agreements and conventions, such as those aimed at the elimination of all forms of discrimination against females, will be imperative.

Given our finding that government consumption expenditure tends to reduce gender equality in youth employment in Sub-Saharan Africa, achieving government expenditure effectiveness must remain as an active goal of governments in the sub-region. Adoption of high level best practice principles to inform the development of these processes will help Sub-Saharan African governments achieve this. Those broad principles should include the following key elements: a nationally coordinated approach to the development of significant strategic projects and programs; the promotion of competitive markets; decision-making based on rigorous cost-benefit analysis to ensure the highest economic and social benefits to the nation over the long term; a commitment to transparency at all stages of the decision-making and project implementation processes;

and a public sector financial management regime with clear accountabilities and responsibilities. To reduce waste, fraud, and corruption, Sub-Saharan African countries should embrace and fully implement Transparency International's (2009) "Integrity Pacts", that set out rights and obligations to the effect that neither side in contracts will pay, offer, demand or accept bribes, or collude with competitors to obtain the contract, or while carrying it out.

Relatedly, given our finding that domestic investment reduces gender equality in youth in employment in Africa (especially in SSA countries), achieving investment effectiveness will be also be an active goal of governments. All actors, from governments to civil society, share responsibility for making investment more productive, efficient and effective and preventing one of its main breakdowns: corruption. Political will and good governance, strengthening accountability and transparency as well as enlarging civil society space as a 'watch dog" are critical in this direction. Attention should be paid to both the design, implementation, and monitoring and evaluation phases of projects and programs. At the design stage, the aim should be to create achievable and quantifiable targets and to have all-stakeholder ownership through the collaboration of governments, the private sector, civil society and other development agencies. All stakeholders must follow through to ensure that projects and programs are implemented as designed. Also, stakeholders must ensure that those projects and programs are regularly monitored and evaluated against indicators established in the design phase and that are agreed on by the development partners.

To enable urban areas play more critical role in promoting gender equality in youth employment, a well-planned, well-connected and heavily funded African cities is imperative. To achieve cities' potential, policymakers must address key issues, including land, transport, public finance, and regulation, in particular, putting municipal development at the center of urban policy. In addition, African governments need efficient, multi-tiered coordination mechanisms to support their urban development processes. Therefore, African governments and their development partners should support innovative urbanization initiatives necessary for sustainable and transformative cities in the continent.

Our results point to very strong youth unemployment depressing association with gender equality in youth employment hence urgent actions are required to tackle the youth unemployment crisis. Actions will include, improvements in the diversification, competitiveness and value addition of African export commodities; encouragement of entrepreneurship and access to financing (including credit targeting) for the youth, including training in entrepreneurship; and up-skilling, better training and education for the low-skilled workforce, educational reforms that conform to industry needs will not only help to increase youth employment but will also help address the skills mismatches existing in many African countries. In addition, African governments and their development partners need to tackle weak aggregate demand and boost job creation for

the teeming youth population; introduce cost-effective active labor market measures such as job-search assistance, counselling, and entrepreneurship programs; tackle demand-side barriers to the employment of low-skilled youth such as high labor costs; reshape labor market policy and institutions to facilitate access to employment and tackle social exclusion; encourage employers to introduce or expand quality apprenticeship and internship programs; reform and strengthen the education system and prepare the youth for the world of work by emphasizing skills development rather than rote learning; strengthen the role and effectiveness of technical and vocational education and training; provide incentives for labor-intensive growth.

We have also shown in this study that being a net oil exporting country promotes gender inequality in youth employment in North Africa. Thus, efficient management of oil and other natural resources in North Africa requires actions throughout the value chain (awarding of contracts for exploration and extraction, monitoring of operations, collection of taxes and royalties, distribution/sharing of revenues, and utilization of revenues). In particular, a new natural resources management framework is needed for better governance, sectoral linkages, economic growth and human, capacity and infrastructure development – with strong parliamentary legislation, oversight, and representation throughout the resources value chain.

Policies to transfer cultural/social norms and practices, especially in predominantly Muslim countries, are essential. In particular, the process of rapid urbanization in African nations that is currently underway brings with it the possibility of newly defined roles for men and women, as traditional social norms and production relations become more relaxed and new parameters regarding appropriate forms of behavior are formed. The education system should also be used as an important means to change gender inequality and promote social norms from a young age. Indeed, the integration of gender equality principles into the school and professional curricula can tackle the value system of children early on and challenge discriminatory social norms. In addition, promoting women's voice and participation in public settings and increased information obtained from exposure to enlightened television programming also play a critical role in changing social norms.

References

Aguirre, D., Hoteit, L., Rupp C., and Sabbagh, K. (2012), Empowering the Third Billion: Women and the World of Work in 2012, Booz and Company, New York.

Antecol, H. (2000), "An Examination of Cross-Country Differences in the Gender Gap in Labor Force Participation Rates", Labour Economics 7: 409–426.

Anyanwu, John C. (2013), "Characteristics and Macroeconomic Determinants of Youth Employment in Africa," African Development Review, Vol. 25(2), June, pp. 107-129.

Anyanwu, John C. and Augustine, D. (2013), "Gender Equality in Employment in Africa: Empirical Analysis and Policy Implications", African Development Review, Vol. 25(4), December, pp.400-420.

Barsh, J. and Yee, L. (2012), "Unlocking the Full Potential of Women at Work," McKinsey & Company.

Becker, G.S. (1971), The economics of discrimination (University of Chicago Press, second edition).

Black, S. E. and Brainerd, E. (2004), "Importing equality? The impact of globalization on gender discrimination", in Industrial and Labor Relations Review, Vol. 57, No. 4, July, pp. 540-559.

Blackburn, S. (2004), Women and the State in Modern Indonesia, Cambridge University Press: Cambridge.

Bloom, D., Canning, D., Fink, G., and Finley, J. (2009), Fertility, female labor force participation and the demographic dividend, Journal of Economic Growth, 14: 79-101.

Boserup, E. (1970), Women's Role in Economic Development, St. Martin's: New York.

Burnett, N., Guison-Dowdy, A. and Thomas, M. (2013), A Moral Obligation, An Economic Priority: The Urgency of Enrolling Out of School Children, Educate A Child, Results for Development Institute.

Campa, P. et al (2011), Gender Culture and Gender Gap in Employment, CESifo Economic Studies, Vo. 57, No.1, March, 156-182.

Center for Advanced Human Resource Studies (CAHRS) (2011), Re-Examining the Female Path to Leadership Positions in Business, Cornell University, Ithaca.

Chaudhuri, S. (2009), "Economic Development and Women's Empowerment", Working Paper, University of Wisconsin – Eau Claire.

Chen, D. H. C. (2004), Gender equality and economic development: The role for information and communication technologies, World Bank Policy Research Working Paper 3285, Washington DC: The Knowledge for Development Program.

Choudhry, M. T., Marelli, E. and Signorelli, M. (2012) Youth unemployment rate and impact of financial crises, International Journal of Manpower, Vol. 33, Issue 1, pp.76 – 95.
Cipollone, A., Patacchini, E. and Vallanti, G. (2012), Women Labor Market Performance in Europe: Trends and Shaping Factors, Centre for European Policy Studies, Brussels, September.

Committee for Economic Development (CED) (2012), Fulfilling the Promise: How More Women on Corporate Boards Would Make America and American Companies More Competitive, CED, Washington, D. C.

Cuberes, D. and Teignier, M. (2012), Gender Gaps in the Labor Market and Aggregate Productivity, Sheffield Economic Research Paper SERP 2012017.

Deszo, C. and Ross, D. (2011), Does Female Representation in Top Management Improve Firm Performance? A Panel Data Investigation, RHS Research Paper 06-104.

Dollar, D. and Gatti, R. (1999), Gender Inequality, Income, and Growth: Are Good Times Good for Women?, World Bank Gender and Development Working Paper No. 1, World Bank, Washington, D. C.

Dreher, A., Gaston, N. and Pim Martens, P. (2008), Measuring Globalization - Gauging its Consequence, Springer, New York.

Eastin, J. and Prakash, A. (2013), "Economic development and gender equality: Is there a Gender Kuznets Curve?", World Politics, 65(1) (forthcoming).

Elborgh-Woytek, K., Newiak, M., Kochhar, K., Fabrizio, S., Kpodar, K., Wingender, P., Clements, B., and Schwartz, G. (2013), Women, Work, and the Economy: Macroeconomic Gains From Gender Equity, IMF Staff Discussion Note SDN/13/10, September.

Ernesto, A-T. (2011), The Impact of Trade Liberalization Policies and FDI on Gender Inequalities, Background Paper for the World Development Report 2012, The World Bank, Washington, DC.

Fernández, R. (2010), "Does Culture Matter?", NBER Working Paper No. 16277.

Fernández, R. and Fogli, A. (2005), Fertility: The Role of Culture and Family Experience, National Bureau of Economic Research Working Paper Series, Cambridge, MA.

Fernández, R., Fogli, A. and Olivetti, C. (2004), "Mothers and Sons: Preference Formation and Female Labor Force Dynamics", Quarterly Journal of Economics 119 (4): 1249–99.

Forsythe, N., Korzeniewicz, R. P. and Durrant, V., 2000. Gender Inequalities and Economic Growth: A Longitudinal Evaluation. Economic Development and Cultural Change, Vol. 48(3), pp. 573-617.

Gallaway, J. H. and Bernasek, H. (2004), "Literacy and Women's Empowerment in Indonesia: Implications for Policy", Journal of Economic Issues 38.

Goldin, C. (1995), The U-shaped female labor force function in economic development and economic history, In Investment in Women's Human Capital, ed. T. P. Schultz. Chicago, IL: The University of Chicago Press.

Gomez-Salvador and Leiner-Killinger, N. (2008), An Analysis of Youth Unemployment in the Euro Area, European central Bank Occasional Paper Series N. 89, June.

Gray, M. M., Kittilson, M. C., and Sandholtz, W. (2006), "Women and Globalization: A Study of 180 Countries, 1975-2000", International Organization, Vol. 60, Issue 02, April, pp. 293-333.

Hegre, H., Ellingsen, H., Gates, and Gleditsch, N. P. (2001), Towards a democratic civil peace? Democracy, political change, and civil war, 1816-1992, American Political Science Review 95 (1): 33 – 48.

Heintz, J. (2006), Globalization, Economic Policy and Employment: Poverty and Gender Implications, International Labour Organization, Geneva.

Inglehart, R. (1997), Modernization and postmodernization: cultural, economic and political change in 43 countries. Princeton, NJ: Princeton University Press.

ILO (2011), World of Work Report 2011: Making Markets Work for Jobs, ILO & IILS, Geneva.

ILO (2012), Global Employment Trends: Preventing a Deeper Jobs Crisis, ILO, Geneva.

ILO (2015), Global Employment Trends for Youth 2015: Scaling Up Investments in Decent Jobs for Youth, ILO, Geneva.

IMF (2012), Country Report No. 12/208, Japan, IMF, Washington D. C.

Inglehart, R. and Norris, P. (2003), Rising tide: gender equality and cultural change around the world, Cambridge, UK: Cambridge University Press.

Klasen, S. (1999), "Does Gender Inequality Reduce Growth and Development? Evidence from Cross-Country Regressions", Policy Research Report on Gender and Development Working Paper Series, No. 7, November, World Bank, Washington, D. C.

Lin, Y-F. (2012), The Effect of Technical Changes on Japanese Gender Employment Gap, The University of Sheffield, October.
http://yagi.doshisha.ac.jp/LifeRisk/Jointworkshop/Papers/Ying-Fen%20Lin%20_Uni%20of%20Sheffield_.pdf

Loko, B. and Diouf, M. A. (2009), Revisiting the Determinants of Productivity Growth: What's New?, IMF Working Paper 09/225, IMF, Washington, D. C.

Lord Davies of Abersoch (2013), Women on Boards 2013: Two Years On, Government of the United Kingdom, April.

Mammen, K. and Paxson, C. (2000), "Women's Work and Economic Development", The Journal of Economic Perspectives 14(4), pp. 141-164.

Marshall, M. G. (2013), Major Episodes of Political Violence (MEPV) and Conflict Regions, 1946-2012, Center for Systemic Peace, Vienna, April 30.

McKinsey Global Institute (MGI) (2015), The Power of Parity: How Advancing Women's Equality Can Add $12 trillion to Global Growth, McKinsey Global Institute (MGI), McKinsey & Company, September.

Miller, G. (2008), "Women's Suffrage, Political Responsiveness, and Child Survival in American History", The Quarterly Journal of Economics, August, pp.1287-326.

Moghadam, V. (1994), Introduction: women and identity politics in theoretical and comparative perspective, In Moghadam, V. ed., Identity politics and women: cultural reassertions and feminisms in international perspective, Boulder, CO: Westview.

OECD (2012a), Closing the Gender Gap: Act Now, OECD, Paris.

OECD (2012b), Gender Equality in Education, Employment and Entrepreneurship: Final Report to the MCM 2012, C/MIN(2012)5, OECD, Paris.

Ogawa, K. and Masuma, A. (2007), "Female Labor Force Participation in Indonesia", Journal of International Cooperation Studies 14 (3): 71-108.

Oostendorp, Remco, (2009) "Globalization and the Gender Wage Gap," World Bank Economic Review, Oxford University Press, vol. 23(1), pages 141-161, January.

Parpart, J. L., Connelly, M. P. and Barrideau, V. E. eds. (2000), Theoretical perspectives on gender and development, Ottawa, Canada: Commonwealth of Learning.

Psacharopoulos, G. and Zafiris, T. (1989), "Female Labor Force Participation: An International Perspective,", World Bank Research Observer, Oxford University Press, vol. 4(2), 187-201, July.

Richards, D. L. and Gelleny, R. (2007), "Women's Status and Economic Globalization", International Studies Quarterly 51, no. 4: 855–876.

Ross, M. (2008), Oil, Islam, and women. American Political Science Review 102 (1): 107 – 123.

Sajid, S. (2014), "Political Economy of Gender Equality: Case Study of Pakistan", International Journal of Gender and Women's Studies, Vol. 2, No. 2, June, pp. 309-340.

Sakellariou, C. (2011), Determinants of the Gender Wage Gap and Female Labor Force Participation in EAP, Paper commissioned for the EAP Gender Report.

Seguino, S. (2006), "The Great Equalizer?: Globalization Effects on Gender Equality in Latin America and the Caribbean", MPRA Paper No. 6509.
Online at http://mpra.ub.uni-muenchen.de/6509/

Shukri, S. J. A. (1996), Arab women: unequal partners in development, Brookfield, VT: Avebury.

Spierlings, N., Smits J. and Verloo, M. (2008), "On the compatibility of Islam and gender equality: effects of modernization, state Islamization, and democracy on women's labor market participation in 45 Muslim countries", Social Indicators Research 90 (3): 503–522.

Steinberg, C. and Nakane, M. (2012), Can Women Save Japan?, IMF Working Paper 12/48

IMF, Washington, D. C.

Stivens, M. (2006), Family Values and Islamic Revival: Gender, Rights and the State Moral Project.

Tam, Henry (2011), "U-shaped female labor force participation with economic development: some panel data evidence", Economic Letters, Vol. 110, Issue 2.

Transparency International (2009), The Integrity Pact: A powerful tool for clean bidding, Transparency International, Berlin.

Tseloni , A., Tsoukis , C. and Emmanouilides, C. (2011), Globalization, Development, and Gender Inequality across the World: A Multivariate Multilevel Approach , Quantitative and Qualitative Analysis in Social Sciences, Volume 5, Issue 1, 1-25.

Wamboye, E. F. and Seguino, S. (2015), "Gender Effects of Trade Openness in Sub-Saharan Africa", Feminist Economics, 21:3, 82-113.

Ward, K. (1984), Women in the world economic system: its impact on status and fertility, New York, NY: Praeger.

Ward, J., Lee, B., Baptist, S. and Jackson, H. (2010), Evidence for Action Gender Equality and Economic Growth, Chatham House (The Royal Institute of International Affairs), London.

World Bank (2005), World Development Report 2006: Equity and Development, World Bank, Washington, D. C.

World Bank (2010), Women, Business and the Law, 2010, The World Bank: Washington, DC.

World Bank (2012a), Toward Gender Equality in East Asia and the Pacific, A Companion to the World Development Report *2012*, World Bank East Asia and Pacific Regional Report, Washington, DC.

World Bank (2012b), World Development Report 2013: Jobs, World Bank, Washington, D.C.

World Bank (2015), World Development Indicators 2015, Washington, DC, World Bank.