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Foreign Direct Investment and Gender Inequalities in Labour Force Participation in African Countries

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Foreign Direct Investments (FDI) has been described as a mechanism to promote employment. Recent research suggests that FDI could even impact gender inequalities in labour force participation. The purpose of this paper is to investigate whether and how FDI inflow is affecting African countries' gender differences in the labour force participation in the agriculture, industry, and service sector. Drawing on cross-sectional data from the World Bank, the United Nations Development Program and the Quality of Government database, this analysis reveals that FDI has a heterogenous impact on gender inequalities in labour force participation in 41 African countries. Although increasing gender equality in the agriculture sector, FDI decreases inequalities in the industry and service sector. The findings emphasize the characteristics of the countries' labour force, educational level and literacy level to be the most determinising factors to whether inequalities are going to increase or decrease in a sector. FDI´s greatest impact concerns the unskilled labour force. Women represent the majority of the unskilled labour force, which is why they should be benefiting most from FDI. In conclusion, governments in African countries could regulate the increase of labour force participants by promoting FDI.

Keywords: FDI, gender inequality, labour force participation, trade, economic growth, income inequality and education

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Acronyms

FDI – Foreign Direct Investments
ILO – International Labour Organization
IMF- international monetary fund
UN - United nations
UNCTAD - The United Nations Conference on Trade and Development
UNDP – United Nations Development Program
SDG - Sustainable Development Goal
TNC – Transnational Companies
WB - World Bank
WTO - World Trade Organisation

1. Introduction

There has been a slow shift on the view of economic development among African politicians (Financial Times 2018). From previously being aid focused, more and more countries are shifting towards trade and private capital as a mean for economic development (Moyo 2010). Ghana's current President Nana Akufo-Addo has publicly criticized foreign aid to Africa by claiming that it has created aid dependency concerning their economic policies (Financial Times 2018). Clemens et al (2012) argues that when governments' budgets are financed by more than 15-20 per cent with foreign aid, negative effects such as aid dependency starts to evolve (Clemens et al 2012).

This has made African nations pass new trade laws, created special economic zones, and wanting to attract foreign capital (Farole 2011). However, FDI may play both a positive and negative role in developing countries labour force participation and economy. FDI´s positive role is expressed as increases in capital flow, raises in host countries trade export, increased wages, and decreased unemployment levels (Cetin 2019; Farole 2011).

Cetin´s (2019) study found that "*Foreign direct investments are not only important for economic growth process but also crucial for employment due to the creation of new job opportunities.*" (Cetin 2019: 13). But FDI may also play a negative role where it increases local competition, gender inequal wages and increases gender differences in labour force participation (Moss et al 2004; Lipsey & Sjöholm 2004; United Nations Economic Commission for Africa 2019). Therefore, has FDI two sides. To attract more foreign investments African governments have improved infrastructure quality, increased investments in human capital, improved the business climate, and tried to establish good governance. The changes have been promoted by the international monetary fund (IMF), World Trade Organisation (WTO) and the United Nations (UN) (Abed & Gupta 2002).

The research question formulated for the thesis is: *does FDI affect African countries gender differences in the labour force participation.* The purpose with this study is to investigate whether FDI have any impact on lowering gender differences concerning labour force participation on a sectorial level. The sectors that are going to be included in this study are the agriculture, industry and service sector. To answer the research question 41 African countries

are going to be analysed through an ordinary least square (OLS) cross sectional analysis during the year of 2016. There are no previous studies that has considered all three sectors simultaneously. Instead previous studies have focused either on the general labour force participation or, on the general labour force participation and have included two sectors, most typically the industry and/or agriculture sector. Consequently, various previous research results and theories have been applied to analyse this studies research results.

The majority of African women participating in the labour force are working in the agriculture sector, small-scale household farming, or the informal sector and generally hold a higher share of the unskilled jobs compared to men. Women are over-represented concerning both adult and youth unemployment in Africa (World Bank Indicator 2016). Gender inequality has affected all levels of the labour market in Africa, from the input of labour force participants to the output of wages. FDI is empirically proven to create new jobs, but if the labour force participation is uneven from a gender perspective, more men compared to women will be benefitted from the FDI. FDI may even reinforce the gender differences. Standings (1999) research results concluded that that FDI lowered women labourers barging power while Gaddis and Pieters (2012) research results concluded that trade liberalisation lowered women´s labour force participation (Standing 1999; Gaddis & Pieters 2012). Therefore, it is possible that FDI also could increase gender differences.

There are a number of research papers investigating the reason why women are not participating in the labour market to the same extent as men. Cultural, social, economic and other reasons are presented, but one of the most frequent conclusions is the inequality in access to education. Females have lower school enrolment and lower literacy rate compared to men which has halted women's integration into the labour market. Therefore, increasing access to education would increase women's labour force participation. Consequently, more women would benefit from the FDI that is allocated to the country. What could potentially determine how well a country and the sectors will absorb FDI are characteristics such as institutional development, trade, GDP per capita level and their labour force education level (Nunnenkamp and Spatz 2012). Although, it is also proven that a gender segregated labour force could benefit African nations in a short-term perspective when attracting FDI (United Nations Economic Commission for Africa 2019).

Having an equal labour force participation between men and women is not enough; working conditions are also of great importance. Previous experiences of sweatshop production in Bangladesh, India and Pakistan have though us that that FDI prefers countries with little or no laws protecting workers right, low wages and few environmental laws. Therefore, African countries need learn from the South-East Asian experiences and implement laws that protects their workers. Additionally, the United Nations (UN) have promoted decent work and included it as Sustainable Development Goal (SDG), target number eight in goal number eight is entirely focused on protecting labour right, with an emphasis on women.

1.1 Purpose and research question.

Estimating the correlation of FDI on gender differences in the agriculture, industry and service sector is important since the majority of the previous research regarding gender inequality has been focusing on the total labour force participation. This study focuses instead on gender differences concerning labour force participation on a sectorial level.

Foreign aid to Africa has encountered criticism from scholars and governments and as an alternative have FDI and trade in Africa have been encouraged (Financial Times 2018; Moyo 2010). Foreign aid is proven to increase African countries' GDP growth modestly, although the scale of the relationship is weak (Clemens et al 2012). Furthermore, Clemens et al's research results criticizes foreign aid due to the dependency governments have created towards foreign aid. When governments' budgets are financed by more than 15-20 per cent with foreign aid, negative effects such as dependency starts to evolve. Short term dependency on foreign aid is not a problem, but long-term dependency has been suggested to lead to lower tax efforts, undermine accountability, weaken decision making and dilute capacity (Bräutigam and Botchwey 1999; Clemens et al 2012). Ghana's current President Nana Akufo-Addo has publicly criticized foreign aid by claiming it has created an aid dependency regarding their economic policies. What is implied is that African countries' economic policies are contingent on how much aid the EU and the United States provide. As a result, Africa´s aid dependency has halted Africa's development on the long run (Financial Times 2018).

According to Pekarskiene and Susniene (2015), FDI is the strongest manifestation of globalization (Pekarskiene and Susniene 2015). However, the positive effects of FDI in Africa have been taken for granted by assuming that it will automatically increase labour force

participation, lower poverty and increase gender equality (Quak 2008). The purpose of this study is to investigate if FDI have any effect on gender differences concerning labour force participation on a sectorial level. The sectors that are going to be included in this study are the agriculture, industry and service sectors. In order to fulfil the purpose of this study, the following research question was formulated: *Does FDI affect African countries gender differences in the labour force participation?*

2. Previous Research and Theoretical Background

2.1 FDI and trade in Africa

This chapter will present theories and previous research concerning the relationship between Foreign direct investments and Africa. As will be discussed below there have been a number of different perspectives applied when investigating what attracts FDI, such as economic, political or socio-political perspectives, but also the effects of FDI. There is a great deal of studies concerning FDI and the potential benefits it has for developing countries, including employment opportunities, transfer of technology and economic growth. However, only a few studies adopt a regional perspective and even fewer concerning Africa.

Many African countries have a history of poorly preforming economic growth, which has halted the arrival of FDI. The average GDP per capita growth in the continent was only 1.5 per cent during the 1980´s and decreased to 0.4 per cent in the beginning of 1990 until the end of 1994. However, the GDP per capita growth increased substantially after 1995 and continued into the 2000´s. After the decolonialization and liberation movements in the 1960´s in Africa, FDI was practically non-existing and very politized. This trend kept far into the 1980´s where the FDI eventually increased from 1.9 billion US dollars in 1983 to more than 75 billion US dollars in the end of 1995 (UNTCTAD 1999). The FDI net inflow in relation to GDP has continued to increase in Africa, but is still lower than South American and Asian countries in terms of dollars.

The characteristics of FDI have also changed over time. From previously being resource-oriented (excavating natural resources and agricultural land), the FDI has become more industry and service sector focused. The largest investor in Africa in terms of nation 2017 was France, followed by the Netherlands, United states and the United Kingdom. China have also increased its investments in Africa substantially during the last 10 years and are soon to become the top investor in the continent (UNCTAD 2019). Thanks to the increases in GDP per capita growth, the middle class in Africa will increase in number of people and consume more goods and products.

There are many variables affecting the FDI net inflow to Africa, thus making it a very volatile source of investment. As an example, the Republic of Congo had an FDI net inflow (per cent of GDP) of 50 per cent in 2015, then aggressively decreasing to 0.56 per cent in 2016 and then increasing again to 51 per cent in 2017 (World Bank Indicator 2020). The decrease could also be observed in there total GDP that was 37.9 billion US dollar in 2015, then decreasing to 37.1 billion US dollar in 2016 and increasing again to 38.02 billion US dollar in 2017 (World Bank Indicator 2020).

Trade similar to FDI is also a volatile source of capital**.** Many of the African nations are trade depended exporting agricultural products such as, oil and minerals. It generates a lot of income to the nations but also makes their economy sensitive for commodity price changes. This could for example be observed in Nigeria in 2016. Nigeria is one of Africa's oil-richest nations and the export of oil constitutes 86 per cent of total export revenue of the country (OPEC 2018). When the crude oil prices fell in 2015 with more than 50 per cent, Nigeria's trade (per cent of GDP) fell from 31 per cent in 2015 to 21 per cent in 2016. This decline of GDP was due to the declining value of their export product. The same phenomenon has also been observed concerning the cacao prices in Ghana, Sierra Leone and Madagascar. Beside the trade of commodities, an increased number of African nations are becoming more industrialized and are exporting manufactured products which have a higher value compared to export of commodities, and consequently increasing trade (per cent of GDP) and GDP growth.

Wahid et al (2009) conducted a panel data analysis study between the periods of 1990 – 2005 using 20 African countries. According to the World bank classification 24 African nations

classified as having an oil and mineral dependent export i.e natural resources. These countries obtained on average 75 per cent of the annual FDI inflow between the years of 1989 to 2009, while the bottom half of the FDI receiving countries revived less than 5 per cent combined. In conclusion, is the distribution of FDI allocated within the continent of Africa uneven, especially when analysing the issues from a sectors perspective.

Following the peak of FDI in Africa 2001, there was a substantial increase in commodity prices and many transnational corporations (TNC) expanded their resource excavation operations in Africa, in particular concerning the oil, gas and mining industries. Although, in recent years there have been a greater diversification of the allocation of FDI in Africa (Wahid et al. 2009). According to Wahid et al's study, domestic market size, availability of natural resources and human capital all had statistically significant effects on increasing FDI inflow (Wahid et al 2009).

Onyeiwu and Shrestha (2004) elaborate that although African countries are affected by conflicts, low infrastructure quality and autocratic governments, FDI is still flowing into the continent – but is unevenly distributed among the countries. Their research study used a panel dataset consisting of 29 African countries covering the period between 1975 – 1999 and concluded that previous economic growth, inflation, trade openness, and availability of natural resources was stronger determining factors than political stability and infrastructure quality (Onyeiwu & Shrestha 2004).

This is to some extent similar to Pigato (2000) research results. Her research results concluded that when Ghana in 1992 and Tanzania in 1986 started their economic reforms and adopted new trade and tax policies, FDI started flowing into the country. Privatization of national companies also seems to have played an encouraging role in attracting FDI. Besides Ghana and Tanzania, South Africa, Zambia and Lesotho also opted for privatization of national companies. Consequently, these countries received the highest number of FDI in relation to their GDP in Africa during the early 2000´s. It also led to an increased number of people in the labour force (Pigato 2000).

Du et al (2011) conducted a study in using firm-level data covering the years 1998 – 2007 concerning China´s manufacturing sector, analysing the impact of FDI on China´s economic growth. Their study indicated a positive impact on employment, increased productivity levels and increased exports. The accomplishments of the Chinese economy were not only due to

FDI but also a result of trade reforms and tax policies adopted by the Chinese government. These newly developed governmental policies are considered as spill over effects of FDI. There are however methodological difficulties in measuring spill over effects of FDI on the host economy and in sorting out which effects are due to FDI directly or indirectly (Du et al 2011).

Dar et al (2004) studied the causality and long-term relationship between FDI and economic growth in Pakistan between the years of 1970 – 2002. They conclude that it was a mix of economic and political factors that attracts FDI. Unemployment rate, political stability and exchange rate were identified as determinants of the allocations of FDI (Dar et al 2004). The combination of economic and political reforms aimed at attracting FDI is also pointed out by Asiedu (2005). She argues that it is a combination of political and economic factors that attracts FDI. The variable FDI policies (which is an operationalized variable for policies that encourages FDI) had the strongest effect while being statistically significant. The second strongest was literacy rate, which also had a statistically significant effect (Asiedu 2005).

In conclusion, the majority of previous research argues that FDI have a statistically significant positive relationship with economic growth. However, that does not mean that FDI automatically will guarantee economic growth, and there is no clear consensus on what attracts FDI to a country. Attracting FDI have been subjected to a number of different researches through economic, political or socio-political perspectives (UNCTAD 2005). Some research results suggest that macroeconomic policies, labour cost and natural resources are more important than political stability (Wahid et al 2009; Onyeiwu & Shrestha 2004). Other studies argue that political stability, infrastructure quality and corruption levels are more important factors when determining when allocating FDI (Du et al 2001; Pigato 2000). Yet others propose socio-political factors such as environmental laws, political stability, corruption and violence between ethnic groups to be the most relevant (Dar et al 2004; Asiedu 2005).

Researchers that oppose that FDI generates economic growth believe that the reason for this is that FDI is allocated to sectors that have a low spill over effect. These sectors are typically resource intensive sectors such as oil, gas and mining sectors and are especially prevailing in Africa and South America. Ultimately, the FDI that is allocated to Africa have been profoundly volatile and have increased and decreased dramatically the last 30 years. That in

combination with the fact that Africa already accounts a very small part of the total FDI net inflow in the world and is unevenly distributed among the countries and sectors may be the reason why some researcher opposes FDI growth.

2.2 Sectorial allocation of FDI in Africa and its impact

There is no consensus in previous empirical studies concerning which sector (agriculture, industry and service sector) have the strongest positive effects on GDP per capita growth when FDI is allocated to an African country. Alfaro (2003) found that FDI overall have a positive effect on GDP per capita growth when analysing the impact on GDP per capita growth caused by FDI using in 47 developing countries. Nonetheless, when looking at a sectorial level, FDI allocated to the manufacturing sector saw the strongest positive effects on GDP per capita growth, while FDI allocated to the primary sector (such as agriculture) saw negative effects. The impact of FDI when allocated to the service sector was uncertain (Alfaro 2003). Analysing the impact of FDI on the mean growth rate on 12 Asian countries, Wang (2009) similarly found that when FDI is allocated to the nonmanufacturing sector the median growth rate became negative, while becoming significantly more positive when allocated to the manufacturing sector. The effects were even more profound compared to when FDI was allocated to the country overall (Wang 2009). On the contrary, Inekwe (2014) research results demonstrated that FDI allocated to the manufacturing sector had a negative association to growth but a positive association to employment rate, while the service sector had a positive associated to growth but a negative association to employment rate (Inekwe 2014). Inekwe (2014) examined the relationship between FDI, economic growth and employment rate in Nigeria concerning the manufacturing and servicing sectors between the years of 1990 to 2009 (Inekwe 2014).

Based on the purpose and allocation of the foreign investment, have the previous researches created different categorizations. Some investments are aimed to excavate natural resources, other companies have the purpose to find cheap labour cost, while other foreign investments have the purpose of increasing their market shares in a certain country. The different kinds of FDI types are categorized as *resource-seeking FDI, market - seeking FDI and efficiency-seeking FDI* (Farole and Winklers 2014; Nunnenkamp and Spatz 2012; Selhausen 2009).

Cetin (2019) research results stated that FDI had a stimulating effect on women´s labour force participation and moreover that general GDP growth had a statistically significant positive correlation with female labour force participation (Cetin 2019). Cetin conducted a longitudinal study on 16 emerging markets countries (countries such Brazil, China, India, Pakistan etc are labelled as emerging markets) between the period of 2001 to 2006 (Cetin 2019). She additionally found that female education level and urbanization have a positive impact in encouraging women´s participation in the labour market. As mentioned above, the previous research results are ambiguous regarding which sector that has the strongest effect on growth and employment and little studies have been conducted in Africa. Therefor the South-East Asian experiences of FDI are important to learn from for African countries, so that they may harness the positive impacts of FDI.

The manufacturing sector in Africa has a great potential to become a driver for economic growth and employment rate for the continent. As African countries are continuing to develop their manufacturing sector, the countries' value of production increase and become higher than agriculture products. Furthermore, the manufacturing sector offers more employment opportunities and most often also offer a higher wage compared to work associated to the agriculture sector (United Nations Economic Commission for Africa 2019).

In 2019 the manufacturing sectors labour force in Africa only consisted of 38 per cent women. Women generally hold low-wage and labour-intensive employment within the textile, electronics and garment while men's employment is within the oil and gas, chemical and wood manufacturing sector, thus having a higher status and better wages (United Nations Economic Commission for Africa 2019). FDI may play a negative role in increasing gender differences regarding employment, wage differences and labour market segregation, but it may also diminish those differences. An example is when African nations create export zones. Women consist between 50– 90 per cent of the labour force in these zones (United Nations Economic Commission for Africa 2019). It is positive that the women receive new employment opportunities in the export sector, but it also leads to a clustering of women in low-skilled and low-wage jobs. In the long-term this leads to a "race-to-the bottom" regarding wages and working contracts. For that reason, the United Nations Economic Commission for Africa (2019) advocated for African governments to develop gender specific polices to ensure that women also benefit from FDI. The interventions should also consist of guidelines for FDI to promote equal employment opportunities for men and women. In conclusion, the report

recognizes that in a short-term perspective, having a segregated labour market may lead to an increase of FDI (United Nations Economic Commission for Africa 2019).

In 2014 the service sector constituted of 60 per cent of Africa's GDP despite agriculture being the most common occupation for women in Africa. The service sector along with the manufacturing sector has great potential to employ a greater number of women (United Nations Economic Commission for Africa 2019). Although, the service sector is still at an early stage in Africa. Many African countries are increasing their investments in the tourism industry, which is also part of the service sector. The tourism industry has a potential to play a catalytic role in increasing women's participation in the labour force with higher wages compared to the agriculture sector. But comparably to the situation in the manufacturing sector, women hold lower paying jobs, lower positions and lesser possibilities to advance in their workplace compared to men. Therefore, the United Nations Economic Commission for Africa advocated for countries to adopt policies and guidelines concerning gender equality in the service sector (United Nations Economic Commission for Africa 2019).

The previous research concerning FDI shows that depending on what kind of FDI arrives to a developing country, different effects will be manifested in the host economy. There are three kinds of FDI, *resource-seeking*, *market-seeking* and *efficiency-seeking FDI* (World Bank 2015). *Resource-seeking FDI* normally have an in interest in accessing and exploiting natural resources and is associated to the agriculture sector. Selhausen (2009) conducted a panel analysis covering 72 developing countries, whereas 33 are located in Sub-Sahara Africa, between the period of 1997 – 2006, which aimed to understand the difference in impact between resource seeking FDI and non-resource seeking FDI. Selhausen's conclusion was that as long as resource seeking FDI dominates in Sub-Sahara Africa little benefits can actually be drawn from the FDI. The positive impact resource seeking FDI has on for example employment rate, technology transfer and increased revenues for the African government are lower compared to non-resource seeking FDI. Additionally, resource seeking FDI generates the least jobs, least spill over effects and is generally characterized as unsustainable economic growth (Selhausen 2009). Selhausen draws parallels to the Chinese experience related to the manufacturing sector, which states that the economic impact is much greater when manufacturing related FDI is allocated to a developing country. Lastly, resource seeking FDI appears to have the possibility to pave the way for manufacturing companies (Selhausen 2009).

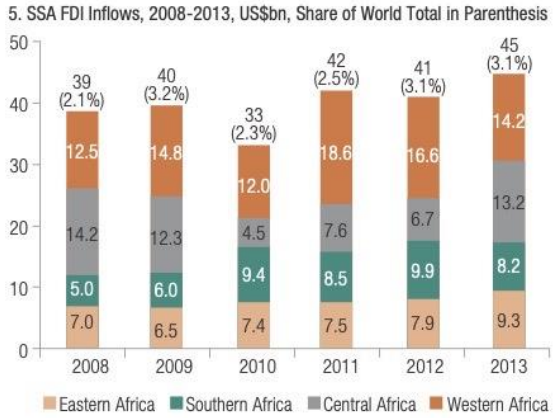
The research results regarding *market - seeking FDI* are rather mixed. Market-seeking FDI could possibly have a positive impact on the economy through creating employment opportunities, according to Farole and Winklers (2014). However, their study concerning the apparel sector in Kenya, Lesotho and Swaziland, ultimately concluded that market-seeking FDI skew local competition and could in a worst-case scenario put the local companies in bankruptcy, leading them to lose their labour force (Farole & Winklers 2014). A cross-country multiple regression analysis study using data from the World Bank Nunnenkamp and Spatz (2012) likewise concluded that the increased competition between foreign and local companies did not benefit the host economy and likely the employment rate. *market – seeking* is normally associated to the service sector.

The third type of FDI is *efficiency-seeking FDI*, which seeks to benefit from factors to enable competition in the international market, for example by lower labour costs. Efficiency–seeking FDI has stronger positive effects on economic growth than market-seeking FDI, according to Nunnenkamp and Spatz research results from 2012. They conclude that efficiency–seeking FDI had a greater likelihood to bring new technology, foreign exchange and greater spill over effects compared to market-seeking FDI and is normally associated to the industry sector. Efficiency-seeking FDI additionally created the most employment opportunities, although Nunnenkamp and Spatz (2012) research results concluded that it may be more important to analyse the characteristics of the sector and country the FDI is allocated to, because depending on those factors different economic growth may be observed. The important characteristics are: per capita levels, education, institutional development and trade (Nunnenkamp and Spatz 2012).

In 2015 The world bank published a rapport called “Manufacturing FDI in Sub-Sahara Africa: Trends, Determinants and Impact” where UNCTAD conducted a geographical analysis of the FDI´s distribution in Africa. As observed in figure 1 illustrating the geographical differences below, in 2013 Africa received 3.1 per cent of the total FDI in the world. Of these 3.1 percent, Western Africa (14.2 per cent) and Southern Africa (13.2 per cent) almost received an equivalent sum of the share, while southern Africa merely received 8.2 of the FDI allocated to Sub-Sahara Africa. Between the years of 2008 and 2013 Central Africa has seen great changes regarding the amount of FDI allocated to the region. From receiving 14 per cent in 2008, the amount then decreased to 5 per cent in 2010. In other words, the FDI allocation

dropped with over 200 per cent within a couple of years, and the region has still not recovered from it. Between the years of 2008 – 2013 Sub-Sahara Africa's FDI then only rose 1 per cent, from 2 per cent in 2008 to 3 per cent of the total FDI in the world.

Figure 1 – Geographical distribution of FDI 2008 - 2013



Source: *The World Bank, Mnufacturing FDI in Sub-Sahara Africa: Trends, Determinants and Impact 2015 page. 4 (World Bank 2015)*

In conclusion, there is no consensus in previous empirical studies concerning which sector (agriculture, industry/manufacturing and service sector) has the strongest positive effects on GDP/GDP per capita growth when FDI is allocated to it. According to the findings by Alfaro (2003) and Wang (2009), FDI allocated to the manufacturing sector saw the strongest positive effects on the economy, while observing negative effects when allocated to the primary sector (such as agriculture) (Alfaro 2003; Wang 2009). Inekwe (2014) and Alfaro (2003) research results concluded that FDI´s effect when allocated to the service sector was uncertain. However, did Inekwe´s (2014) research result suggest, when FDI is allocated to the manufacturing sector negative growth is associated to it. Inekwe (2014) additionally explains that when FDI is allocated to the manufacturing sector employment rate increase while, when FDI is allocated to the service sector employment rates are decreasing.

The service sector is still young in Africa but have the possibility to increase the employment rate when a higher number of Africans become middle class since this will contribute to

higher consumption rates (United Nations Economic Commission for Africa 2019). Cetin (2019) concluded that when FDI inflow increase, women´s labour force participation increase synchronously, without analysing a specific sector (Cetin 2019). Due to the gender differences in regards of opportunities in attaining an education, FDI may play a negative role in increasing gender differences regarding employment, wage differences and labour market segregation (United Nations Economic Commission for Africa 2019). Therefore is the United Nations Economic Commission for Africa (2019) encouraging African nations to adopt gender specific polies to increase women´s access to education as well as employment (United Nations Economic Commission for Africa 2019).

FDI in Africa was extremely resource-oriented between the years of 1990 to 2005, but there has been a minor shift from a majority of foreign companies being resource-seeking to more companies being market- and efficiency-seeking. This should according to the previous research results lead to an increase in employment (Nunnenkamp and Spatz 2012). However, Nunnenkamp and Spatz (2012) research results also concluded it may be more important to analyse the characteristics of the sector and country the FDI is allocated to, to be able to determine the effect on the economic growth Nunnenkamp and Spatz (2012) suggested the characteristics are GDP per capita levels, education, institutional development and trade (Nunnenkamp and Spatz 2012).

2.3 FDI and inequality

The effects of FDI on economic inequality and increased class differences have previously been researched on to a great extent, particularly in regard to the effects of globalization regarding inequality in Europe and the United States. Manufacturing jobs were previously located mainly in these two continents, but during the 1970´s many companies offshored their manufacturing to Southeast Asia and South America. Therefore, has the number of manufacturing jobs in Europe and the United States declined. Subsequently has inequality increased due to fewer unskilled jobs for unskilled people. The FDI' effect on inequality in Africa, South-East Asia or South America has however not yet been thoroughly researched on, and even less research has been conducted concerning gender inequality. This is presumably due to academia taking the positive effects of FDI for granted. There is currently

very little cross-country studies and the ones that exist reach different conclusions. In this section some of the research that have been conducted will be presented.

Couto (2018) has investigated whether FDI could have lowered income inequality between the period of 1990 – 2013. Couto had a sample of 96 countries, spread throughout every continent in the world. The countries were divided into sub-groups depending on their Gross National Income per capita (high-income -, upper-middle-, lower-middle and low-income countries). The main dependent variable for the study was the Gini coefficient (a measure of income distribution where 0 represents perfect equality and 1 represents perfect inequality). Couto (2018) recognized early in the text that the relationship between FDI and inequality is complex and unclear, depending on many different factors such as political stability, inflation, human capital and obviously FDI (Couto 2018). Couto´s research results suggest that the countries will be affected by income inequality regardless of their economic advancement except for the lower-income countries. The level of inequality will vary greatly depending on the economic status of the country.

For low-income countries such as Mozambique, Ethiopia and Angola will the income inequalities will decrease, while lower-middle income countries and upper-middle countries observed higher inequalities when the net inflow of FDI was increased. The reason why an increase was observed in more economically advanced countries is due to two reasons. First and foremost, FDI in these countries is directed at the manufacturing sector, while in lower-income countries a large part of the FDI is directed at the agriculture sector. Therefore, one can conclude that FDI generates more unskilled labour employments in low-income countries, which increase the labour force participation generally in the population and consequently decrease the inequality in those countries. Secondly, manufacturing jobs at the lower-middle income countries attract skilled labour and offer high salaries, which leads to a higher degree of inequality between people working with skilled labour compared to unskilled labour (Couto 2018). High-income countries such as the U.S, Sweden and The Netherlands observed increased income inequality due to the fact that unskilled-labour was shipped to low-income and lower-middle income countries. To lower the inequality Coutos suggests that lower-middle income countries and upper-middle countries invest more in education to increase the skilled labour force (Couto 2018).

Similar to Couto´s (2018) research study, Dollar and Gotti (1999) applied a gender perspective when conducting a study trying to observe the correlation between gender inequalities and GDP per capita income growth. Dollar and Gotti's (1999) study consisted of 100 countries, including both developing and developed ones. Secondary education enrolment, life expectancy, religion and the percentage of women in parliament was also included in the study (Dollar & Gotti 1999). One of the main conclusions that were made was that gender inequality in secondary education was bad for GDP per capita income growth. When increasing the number of women enrolling to secondary education, Dollar and Gotti noted that the GDP per capita income growth increased by 0.2 per cent (Dollar & Gotti 1999; Couto 2018).

FDI inflow have been proven to boost GDP/GDP per capita growth and depending on sector also boost the labour force participation (Wang 2009; Alfaro 2003; Inekwe 2014). Economic growth per se may however have a positive impact in increasing women´s labour force participation as well. Çağatay and Özler (1995) conducted a cross-country analysis using 165 countries investigating the correlation between long term economic growth, macroeconomic policies and women's share in the labour force participation. Çağatay and Özler (1995) concluded economic growth correlated positively with women´s labour force participation. According to their research results, macroeconomic policies that encouraged for liberalisation and privatization also have positive impacts concerning women´s labour force participation (Çağatay & Özler 1995). Luci (2009) conducted a cross-country longitudinal analysis as well, including 184 countries between the years of 1965 to 2004. Luci´s study aimed to investigate the relationship between GDP growth and female labour force participation. Luci´s research results conclusion was in line with Çağatay and Özler; economic growth is appearing to have a positive correlation with women´s labour force participation, whereas economic growth functions as a catalyst for women´s labour force participation (Luci 2009). Applying the same research question Tam (2011) investigated the relationship between GDP per capita growth and female labour force participation for 130 countries between the periods of 1950 to 1980. The sum total was that GDP per capita growth has a positive impact in increasing women´s labour force participation (Tam 2011). Mujahid et al. (2013) studied the relationship in Pakistan between the years of 1980 to 2010, and their research results concluded that GDP growth has had a positive role in increasing women´s labour force participation in Pakistan (Mujahid et al. 2013).

Lastly, the positive effects of economic growth on women's labour force participation have also been observed on a provincial level in Turkey. Tansel (2001) studied 67 of provinces in three different years and observed that when the provincial GDP increased, so did women´s labour force participation (Tansel 2001). As observed, economic growth both concerning GDP and GDP per capita have positive impacts on women´s labour force participation. It is proven from a nation's perspective but also from a provincial level that GDP/GDP per capita growth has positive effects for women´s labour force participation (Çağatay & Özler 1995; Luci 2009; Tam 2011; Tansel 2001).

In conclusion, low-income countries appears to lower income inequalities while lower-middle income countries and upper-middle countries observes higher inequalities when the net inflow of FDI is increased (Couto 2018). Increases in income inequalities was also proven to lower per capita income, when including controls for secondary education enrolment, life expectancy, religion and the percentage of women in the parliament (Dollar and Gotti 1999). Dollar and Gotti additionally noted that when the number of women enrolling secondary education increases, there is an increase in the GDP growth as well.

It is also proven that GDP/GDP per capita alone have positive impacts on women´s labour force participation (Çağatay & Özler 1995; Luci 2009; Tam 2011; Mujahid et al 2013; Tansel 2001). In other words, FDI may affect employment rate directly as observed in the United Nations Economic Commission for Africa (2019) report and Cetin´s (2019) research results, however FDI can also impact employment rate indirectly, through the GDP/GDP per capita growth it generates (Wang 2009; Alfaro 2003; Inekwe 2014). As a consequence of the GDP/GDP per capita growth more women are able to participate in the labour force (Çağatay & Özler 1995; Luci 2009; Tam 2011; Tansel 2001).

2.4 FDI and Gender income Inequality

Previous research results concerning FDI´s effect on gender wage differences are not unanimous. Rasekhi and Hosseinmardi's (2012) empirical study using 21 developing countries in a panel regression between the period of 2000 to 2007 drew the conclusion that FDI inflow reduced gender wage differences. This was due to more women accessing

employment and the fact that the new employment generates a higher wage than the previous employment (Rasekhi & Hosseinmardi 2012).

On the contrary, Vijaya and Kaltani (2007) found that FDI increased gender wage gaps. The study was based on 19 countries located in Europe, South-America and South-East Asia and research paper tried to observe the relationship between FDI and wages in the manufacturing sector. Vijaya and Kaltani (2007) concluded that women´s wages experienced a negative impact due to the nature of the FDI, which searches for cheap labour, and that women have lower barging power compared to men.

Segunio (2000) investigated the relationship between gender inequality and GDP growth while drawing parallels to gender wage gaps. The dataset consisted of semi-industrialized countries between the years of 1975 – 1995 in mainly South-east Asian countries, where all countries were export-oriented, with mainly female labour force (Segunio 2000). The research result concluded that there is a positive correlation between increased gender wage gaps and GDP growth (Segunio 2000). The results additionally confirmed that increased FDI inflow have a positive correlation with increased gender wage differences. Seguino´s research study did oppose many empirical studies concerning the positive relationship between gender inequality and economic growth, but at the same time did the research results confirm that governments need to adopt gender specific guidelines for FDI to harness it negative effects on gender differences (Segunio 2000).

Kremer and Maskin (2006) found, using China as an example, that globalization has been accompanied by growing income inequalities. China's Gini index has increased from 0.3 during the 1980s to 0.45 in 2006, yet the direction of the effects of inequality is complex and differs depending on whether the individual belongs to the skilled or unskilled labour force group in developing and developed countries. If the developing country´s main exports are agriculture products and important manufacturing products, then there will be a rise in wages for the unskilled labour force group, while the skilled labour force within the developing country will see a decrease in their wage. The opposite is happening in developed countries where unskilled jobs disappear due to jobs being offshored and the wages of skilled labour increases. Furthermore, for countries with a high proportion of medium-skill labour force employed in the manufacturing sector, both decreases and increases in inequalities were observed (Kremer & Maskin 2006). The research reached the conclusion that FDI in terms of globalization increases inequality, however this is not solely due to increased wage gaps but

also to developing countries trading with developed countries. In conclusion, if developing countries mainly exports agriculture products in combination with the products being consumed by the workers in the country, then these products will increase in price, making it more expensive to consume it (Kremer & Maskin 2006). According to Kremer and Masking the inequalities that occur by globalization does not only manifest itself by increases or decreases in wages but also consumption.

UNCTAD published a report authored by Tran-Nguyen and Zampetti called "Trade and Gender: Opportunities and Challenges for Developing Countries" (2004) following much of Kremer and Maskins argument, expressing that globalization could increase wage differences. Additionally, a gender perspective was applied to further nuance the issue. Tran-Nguyen and Zampetti argues that countries having a high number of unskilled labour force working the in the export industry will observe a greater wage difference between the unskilled labour force and the skilled labour force (Tran-Nguyen & Zampetti 2004). Furthermore Tran-Nguyen and Zampetti argue that the skilled labour force consists of mostly men, while the unskilled labour force consists mostly of women. The reason women are the majority in the unskilled labour force is due to gender differences regarding education level, job accesses and employer's general preference to hire men instead of women. When looking at the kind of jobs women hold in the export industry, they generally have lower wages, little to no social protection, poor working conditions, short term contract and jobs associated with long working hours. Skilled jobs in the export industry on the other hand have better working conditions and higher wages, advantages thereby claimed by men. Also, export companies pay higher wages then domestic companies, and due to men´s salaries being higher and increasing in relative terms faster than women's, the gender wage gaps are continuing to increase (Tran-Nguyen & Zampetti 2004).

In conclusion, the literature on FDI, gender income inequality and growth need to be more explicitly linked. There are some general trends such as that growth caused by FDI, globalization and TNC leads to lowering of gender income inequality (Rasekhi & Hosseinmardi 2012), however other research results suggest that gender income inequality are increasing and this may attract FDI (Kremer & Maskin 2006; Segunio 2000; Vijaya & Kaltani 2007). Tran-Nguyen & Zampetti 's (2004) research result showed that even though FDI may offer new employment opportunities for women, it most often does not include skilled jobs due to educational difference between men and women. Consequently, the unskilled labour

force consists mainly of women (Tran-Nguyen & Zampetti 2004). Additionally, the new type of employment associated to FDI may also have worsen working conditions in the informal and agriculture sector. Sub-Saharan African governments need to harness the effects of FDI by implementing guidelines for TNC´s and FDI to promote female employment as mentioned in the report by United Nations Economic Commission for Africa (United Nations Economic Commission for Africa 2019).

2.5 Encouraging female labour force participation with FDI and education

In this chapter elaboration about the previous research regarding the connection between FDI, female labour force participation and education will be continued. Most empirical studies concerning FDI and gender differences only use one measurement for inequality, such as wage differences or labour force participation. Given these circumstances it is not possible to draw a uniform conclusion about FDI´s impact on gender differences.

FDI may in many aspects promote female labour force participation through the offering of new employment opportunities and possibly higher wages. Simultaneously, female employment is associated with being more exposed to global competition, commodity prices and import dependency, hence more variables are affecting women's labour force participation compared to men´s. There is also a greater risk for women to lose their jobs due to globalization, which is also the same reason women´s labour force participation was raised in the first place (Zheng-Zheng et al 2019). Having more trade could potentially increase women´s labour force participation, although according to Zheng-Zheng et al's (2019) research result the relationship non-linear is, meaning that after a certain level of import dependency, trade on the contrary tended to harm women´s labour force participation. Accordingly, the effects of trade are both positive and negative in regards of women´s labour force participation (Zheng-Zheng et al 2019). To decrease the gender differences in the labour market through FDI, Sub-Saharan African countries generally need to increasing women's education level, literacy rate and labour force participation. These measures have also shown to increase developing countries' economic growth caused by FDI (Aguayo-Téllez 2012; Idowu & Owoeye 2019).

To understand driving mechanisms for increasing women´s labour force participation Idowu & Owoeye (2019) research results concluded that GDP per capita growth, education and fertility level have statistically significant positive relationship with increasing women´s labour force participation in Africa. By conducting a time-series regression analysis on 20 African countries between the period of 1990 – 2018 (Idowu & Owoeye 2019).

Stephene Klasen (1999) studied this phenomenon during the periods of 1960 – 1992, finding that gender inequality in education (female-to-male ratios of total years of schooling) lowered growth and investments (proxy variable for FDI) substantially. Each step towards increased gender equality in Sub-Saharan African and South-East Asian countries resulted in an increase of GDP per capita growth by 0.9 per cent. The research additionally extends to including FDI, stating gender differences in education and employment hypothetically also lower the FDI inflow. Klasen argues that due to gender differences in education level, women are not able to attain certain employments and positions. However, the increase of women's education level would lead to more women being able to find employment. This would solve the gender differences regarding employment as well as increasing women´s representation in managerial positions. An analysis by Kucera (2001) found, agreeable with Klasen's result, a positive relationship between FDI and gender differences in attaining education, literacy rate and female´s in managerial positions (Kucera 2001). The research concluded that greater gender inequality leads to slower growth and lower FDI inflow and found that FDI increased gender differences among labour force participants due to gender differences when attaining education, literacy rate and female employment in managerial positions (Klasen 1999; Kucera 2001).

Previous empirical research has used different measurements as proxies for education level, such as human capital, literacy rate and years of education. The empirical research has been very clear on the fact that the level of education, no matter what kind of proxy variable used for education, have been proven to boost FDI relative to GDP. This is also seen in a study by Borensztein et al (1998) which found that FDI had a positive correlation with economic growth: *"the effect of FDI on economic growth is depended on the level of human capital available in the host economy. There is here is a strong positive interaction between FDI and the level of educational attainment (our proxy for human capital)"* (Borensztein et al 1998:134).

Miyamoto's (2003) research results also claimed that increases in human development has a positive relationship in increasing FDI to a country. Miyamoto (2003) applies a holistic view of the relationship between human capital and FDI in developing countries. The conclusion was that the majority of developing countries invest too little on human capital (education, life expectancy, literacy rate etc) although the level of human capital is closely associated with the level of FDI (Miyamoto 2003). For developing countries to increase the FDI relative to GDP, it is crucial to invest more money to enhance the population's human capital in general, and education level in particular.

Lastly, Akin and Vlad's (2011) empirical research paper studied the relationship between education and FDI during 1980 to 1999 (Akin & Vlad 2011). Developing and developed countries were categorized in four categories; low-income, - lower-middle, - upper-middle- and high-income countries. According to the research paper FDI was considerably higher in countries with higher education levels. Converted to years of schooling, both secondary and tertiary education had a statistically significant and positive effect on FDI. Demonstrated as inverse U-shape, the relationship between education level and FDI differ depending on countries income; low-income and high-income countries had a weaker relationship, while lower-middle and upper-middle countries had the strongest relationship. In general, if education level were to increase with 10 per cent, FDI would increase by 0.2 per cent. The same increase in education level for an upper-middle income country would result in a 1 per cent increase of FDI (Akin & Vlad 2011).

In conclusion, there are more variables affecting if women's labour force participation is going to increase or decrease compared to men, however FDI may in many aspects promote female labour force participation. According to Zheng-Zheng more openness would increase women´s labour force participation, although their research result also pointed out that the relationship was non-linear and that after a certain degree of openness, it would lower women's labour force participation. To decrease gender differences in the labour force participation, African nations has to invest more money on women's education level, literacy rate and labour force participation. These measures have also shown to increase developing countries' economic growth caused by FDI (Aguayo-Téllez 2012). Klasen concluded that greater gender inequality leads to slower growth and lower FDI inflow and Kucera concluded that FDI increased gender differences among labour force participants due to gender differences when attaining education, literacy rate and female employment in managerial

positions (Klasen 1999; Kucera 2001). Increasing women´s literacy rate and education level is also proven to increase FDI net inflow and GDP and GDP per capita growth (Akin & Vlad 2011; Miyamoto 2003; Borensztein et al 1998)

3. Hypotheses

Based on the previous discussion the following six hypotheses have been formulated:

- H_{1A}: When FDI increases in an African country, the gender differences in the agriculture sector will decrease.
- H_{0A}: There is no relationship between FDI and gender differences in the agriculture sector in African nations

- H_{1B}: When FDI increases in an African country, the gender differences in the industry sector will decrease.
- H_{0B}: There is no relationship between FDI and gender differences in the industry sector in African nations

- H_{1C}: When FDI increases in an African country, the gender differences in the service sector will increase.
- H_{0C}: There is no relationship between FDI and gender differences in the service sector in African nations

There are no research studies that focus on FDI´s correlation with the agriculture sector specifically, although according to Tran-Nguyen and Zampetti (2004) and Couto's (2018) research results increases of FDI had a positive correlation with increased employment rates for unskilled workers. Due to the gender differences in educational level, the majority of the unskilled workers in Africa are women (Tran-Nguyen and Zampetti 2004; Couto 2018). The agriculture sector is predominantly associated with the unskilled-labour force, and therefore FDI should lower gender differences in the agriculture sector based on the previous research and theory.

Regarding the correlation between FDI and gender differences in labour force participation in the industry sector the previous research is not coherent. According Inekwe (2014), FDI allocated to the industry sector should have a positive relationship with employment rate. This was also demonstrated in Du et all's (2011) research paper, which concluded that the manufacturing sector in china expressed a positive impact concerning employment growth. Lastly, the United Nations Economic Commission for Africa (2019) have mixed opinions regarding FDI allocated to Africa. On one hand FDI may decrease gender differences in the industry sector when FDI is allocated to it, but on the other hand the gender differences may also increase. Efficiency-seeking FDI is the closest associated to the industry sector and according to Nunnenkamp and Spatz (2012), it should also express positive correlation to employment growth. Nunnenkamp and Spatz (2012) also emphasise the countries sectors characteristics should be analysed to determine if efficiency-seeking FDI is going to have a positive or negative impact on employment growth.

Nunnenkamp & Spatz (2012), claimed that market-seeking FDI increases competition between foreign and local companies and therefore will likely not benefit the employment rate in host countries (Nunnenkamp & Spatz 2012). Although, Inekwe (2014) did not explicitly state that FDI increases gender differences in the service sector. His research results concluded that FDI had a negative relationship to employment rate in the service sector (Inekwe 2014). Based on the previous research and theory FDI is likely to increase gender differences in the service sector.

If the variable *FDI net inflow (% of GDP)* significance level assumes a value less than or equal to the significance level $p<0.1$, the null hypothesis will be rejected.

4. Empirical analysis

The sectors chosen for this study were based on previous research, theory and data availability and the period for analysis was chosen only due to data availability. This section contains information regarding the data collection, limitations, data descriptions and methodology.

4.1 Data collection

All data used for this empirical research study was collected from three sources: The World Bank (WB); Quality of Government (QoG) and the United Nations Development Program (UNDP).

The number of African nations that originally was included in the sample were 53 nations, but due to data availability the number of nations included in the models were limited to 41. Furthermore, only variables that have been collected and estimated by international organizations such as International Labour Organization (ILO), The World Bank (WB) and United Nations Development Program (UNDP) have been applied. To increase the data reliability only international estimates have been applied in this study. The reason for not using national estimates are due to poor data quality in developing countries and different ways collecting data, as well as the low number of observations in national estimates. Since national and international estimates should not be applied in the same models national data has consequently been eliminated from this study.

4.2 Variables

No independent variable has been subjected to any transformations; all dependent variables have however been exposed to transformations. Each variable will be elaborated more extensively below.

4.3 Dependent variable

Gender differences in agriculture sector (% of total in sector)

The two original variables presented *males (per cent of male employment)* and *females (per cent of female employment)* between the ages of 15-64 years old, employed in the agriculture sector, separately. By subtracting the variable concerning female's share of employment in the agriculture sector with men´s share of employment in the agriculture sector, did the new variable express the differences in the labour force participation for both genders in the agriculture sector. For example, in the case of Angola, was the share of females employed in the agriculture sector divided with the share of males in employed in the agriculture sector.

Therefore, will the newly created variable express it´s correlation as differences between the genders labour force participation in the agriculture sector. One issue with the variable is that only people who work in the formal sector will be included as labour force participants. Therefore, will individuals who work on their private household farm not be included as an observation. This is an issue especially in an African context due to many African women working in the small-scale household farms. When looking at the figures 2 & 3 regarding women´s and men´s share of employment in the agriculture sector. One can see that women have a higher share of employment compared to men in the agriculture sector. Burundi has the highest shares of females employed in the agriculture sector consisting of 96 per cent, while South Africa have the lowest shares being only 3 per cent. For a full description of the dependent variable look at table 1.

Gender differences in industry sector (% of total in sector)

The same method was applied to calculate *Gender differences in industry sector (% of total in sector)* as for the variable *Gender differences in agriculture sector (% of total in sector).* But in this case, data concerning the industry sectors share of employment was applied. The distribution of women´s and men´s shares of employment within the industry sector in Africa can be seen in figures 4 & 5 in the appendix. There is higher share of men compared to women whom are employed in the industry sector in Africa. Mauritius, Tunisia and South Africa have the highest shares of employed men (32 per cent) while Burundi (3 per cent) has the lowest share.

Gender differences in service sector (% of total in sector)

The last variable measures the gender differences in employment in the service sector. There is a higher share of women than men employed in the service sector in Africa. South Africa is the country with the highest shares of men (61 per cent) and women (84 per cent) employed in the service sector, as see figures 6 & 7. Unlike the agriculture and industry sector – the service sector has individuals with a greater variation of educational background. For example, might some work in coffee shops, restaurants or with tourists also known as unskilled labour force. While there are also jobs that requires university degrees such as financial service or lawyers also known as high-skilled labour force.

4.4 Independent variable

In relation to the review of the previous research and availability of data, I will measure gender difference in the agriculture, industry and service sector by applying the independent variables *FDI net inflow, (% of GDP); GDP per capita growth, (annual %); Trade (% of GDP); Literacy rate, adult total (% of people ages 15 and above); Unemployment, total (% of total labour force) (modelled ILO)* and *Inequality adjusted income index.*

FDI net inflow, (% of GDP)

The FDI variable calculates the net inflow of foreign capital in proportions of GDP. The variable is originating from the World Bank Indicator. Because the variable measures FDI in proportions of GDP, the changes in the variable can come from two directions. First, the value of the variable may increase due to a country attracting more FDI or, that there is a decrease in GDP which would increase FDI´s proportions to the GDP. However, the variable does not display to which sector FDI is allocated to, only that FDI has been allocated to a country. As seen in figure 8, Mozambique received the highest FDI new inflow (per cent of GDP) having 28.7 per cent while one country (*Burundi)* had an FDI of zero and three countries (*Angola; Gambia* and *Togo)* had a negative FDI net inflow. In table 2 we see that the mean of *FDI net inflow, (per cent of GDP)* on Africa 2016 was 3.6 per cent. The range between the African countries FDI inflow is high, with an interval between -1.1 per cent to 28.7 per cent. For a full description of the distribution of FDI among the African countries can be seen at figure 8 found in the appendix. For a full description of all the dependent variable look at table 2.

GDP per capita growth, (annual %)

The second independent variable will be measured as *GDP per capita growth, (annual per cent)*. The African countries with the highest annual GDP per capita growth in per cent are Guinea (7.9 per cent), Ethiopia (6.5 per cent) and Cote d'Ivoire (5.3 per cent). While both Chad (-9.2 per cent) and Angola (-5.8 per cent) had a regressive growth. As seen in table 2 the variable *GDP per capita growth, (annual per cent)* the mean value is .88 per cent. The range of the variable is quite high, with an interval from - 9.16 per cent to 7.9 per cent with a standard deviation of 3.4 per cent.

Trade (% of GDP)

The variable *Trade (per cent of GDP)* is the sum of exports and import of goods and services as a share of the GDP. The three countries that had the highest share of trade in relation to GDP are Congo (152.1 per cent), Lesotho (123.6 per cent) and Liberia (121.7 per cent). If trade (per cent of GDP) is more than 100%, it would indicate that the countries total value of trade surpasses their total amount of GDP. The countries with the lowest shares of trade (per cent of GDP) are Nigeria (20.7 per cent) and Sudan (22.4 per cent). One reason for Nigeria having the lowest shares of trades even though it is one of the oil richest country in Africa may be due to the fall of oil prices in 2016. Which lead to the lowest oil price between 2010 – 2020 with an average price of 43.3 US dollars.

Literacy rate, adult total (% of people ages 15 and above)

The variable *Literacy rate, adult total (per cent of people ages 15 and above)* will in this study be used as a proxy for education level. The increased number of enrolments to school have caused a rise in literacy rate in Africa. But due to the high shares of children per woman, the absolute number of adult illiteracies have continued to slowly rise. In 2007 an estimated 61% of adults in Sub-Sahara Africa are able to read and write (UNESCO 2007). The countries with the highest shares in literacy rate among adults are Mauritius (93 per cent), Zimbabwe (89 per cent) and Eswatini (88 per cent). While the countries with the lowest literacy rates are Chad (22 per cent) and Guinea (32 per cent). There is a great variation in literacy rate in Africa between the countries, which explains the high standard deviation of 18.4 per cent and the broad interval between the minimum (22.3 per cent) and maximum (93.7 per cent) values. The variable mean is 65.5 per cent.

Unemployment, total (% of total labour force) (modelled ILO)

The variable *Unemployment, total (per cent of total labour force) (modelled ILO)* is a good measurement to understand to what degree citizens are integrated to the formal labour market. However, is there only one issue concerning the variable. Women often face cultural and economic discrimination in the labour market. Due to these reasons, are women perhaps fit to participate in the labour market but are discouraged to apply for an employment. This may lead to an unnecessarily high shares of unemployed women. The countries that have the highest shares of unemployed are South Africa (26 per cent) and Lesotho (24 per cent). While

the countries with the lowest unemployment rates are Rwanda (1 per cent) and Burundi (2 per cent).

Inequality adjusted income index

The variable *Inequality adjusted income index* will measure income inequality. The Gini Index could not be applied in this study due to the great loss of observations it would result. The Variable *Inequality adjusted income index* was created by the UNDP, through the HDI income index adjusted for inequality in income distribution. The variable has an interval between 0 – 1, were as the lower the number the greater the income inequality distribution it is, and the higher the number the more equal it is. The countries with the highest income inequality distribution are Mauritius (.65) and Gabon (.61). while the countries with the lowest number are Central African Republic (.15) and Comoros (.21). For a full description of the variable *Inequality adjusted income index* is found in figure 9.

Table 1 - **Descriptive statistics of dependent variables**

Variables	*N*	*Mean*	*Std. Dev*	*Min*	*Max*
Gender differences in agriculture sector (% of total in sector)	41	-2.37	12.21	-30.16	18.60
Gender differences in industry sector (% of total in sector)	41	7.31	6.86	-3.39	24.31
Gender differences in service sector (% of total in sector)	41	-4.94	10.55	-28.58	18.32

a. **Data source:** World Bank

***Table 2* - Descriptive statistics of independent variables**

Variables	*N*	*Mean*	*Std. Dev*	*Min*	*Max*
FDI net inflow, (% of GDP)	41	3.68	5.32	-1.05	28.71
GDP per capita growth, (annual %)	41	.88	3.40	-9.16	7.94
Trade (% of GDP)	41	67.62	30.93	20.72	152.14
Literacy rate, adult total (% of people ages 15 and above)	41	65.54	18.43	22.31	93.16
Unemployment, total (% of total labour force) (modelled ILO)	41	7.86	6.57	1.03	26.55
Inequality adjusted income index	41	.35	.10	.15	.65

a. **Data source:** World Bank; UNDP and QoG

4.5 Methodology

The underlying assumption in comparative studies using statistical analysis is that, general events and facts in the world can be compared and analysed (Landman 2008; Schneider et al 2010). This study applies both theoretical and empirical examples. The OLS (ordinary least square) cross sectional analysis aims to estimate the effects of FDI on gender differences in labour force participation in the agriculture, industry and service sector during the year of 2016. For explaining why, the differences exist in the sectors, previous research, theory and empirical evidence will be presented (Burnham et al 2008).

This study will apply the OLS method because it is used frequently as a tool in social science studies with a statistical analysis approach. It also gives the opportunity to study the correlation of between one or more independent variables with a dependent variable. The estimates from the regression models are most optimal when the coefficients from the regression model have expected value estimates of the population when they are normally distributed (Stock & Watson 2012; Schneider et al 2010).

All equations are based on the study's hypotheses and the variables that will be included. All regression models will be run with the same set of variables and observations. This is done through the creation of a filter variable, that filter out observations that do not have observations in all independent and dependent variables. This is done so that all regression analysis tables have a coherent number of observations and that it is the same set of countries that are analysed throughout the study. All independent variables will be inserted in the regression models stepwise, meaning that I will first include the variable *FDI net inflow (per cent of GDP)* and then add the variable *GDP per capita growth, (annual per cent)* and so forth. The regressions models equations can be observed below.

Gender differences in agriculture sector (per cent of total in sector) = β_1*FDI net inflow (per cent of GDP)* + β_2 *GDP per capita growth, (annual per cent)* + β_3 *Trade (per cent of GDP*) + β_4 *Literacy rate, adult total (per cent of people ages 15 and above)*+ β_5 *Unemployment, total (per cent of total labour force (modelled ILO)* + β_6 *Inequality adjusted income index* + e

Women represents a higher share of the labour force participants in the agriculture sector, therefore should FDI increase women's labour force participation in this sector. In particular because women represent a higher proportion of unskilled - labour participants. While men represent a higher proportion of the skilled – labour force participants. According to the bivariate correlation table 5, FDI have a statistically insignificant negative correlation with *Gender differences in agriculture sector (per cent of total in sector)*. Although the correlation is insignificant the direction of the correlation is in line with previous research, according to Tran-Nguyen and Zampetti (2004), Couto (2018) and the report United Nations Economic Commission for Africa (2019), should gender differences in the labour force participation in the agriculture sector should decrease (Tran-Nguyen and Zampetti 2004; Couto 2018; United Nations Economic Commission for Africa 2019).

Gender differences in industry sector (% of total in sector) = β_1FDI net inflow (per cent of GDP) + β_2 *GDP per capita growth, (annual per cent)* + β_3 *Trade (per cent of GDP*) + β_4 *Literacy rate, adult total (per cent of people ages 15 and above)*+ β_5 *Unemployment, total (per cent of total labour force (modelled ILO)* + β_6 *Inequality adjusted income index* + e

According to the United Nations Economic Commission for Africa (2019); Inekwe (2014); Du et al (2011) and Nunnenkamp and Spatz (2012) should FDI allocated to a country increase the employment rate in the industry sector. Men are currently the majority of the labour force participants in the industry sector, according to the bivariate correlation table 5, FDI have a statistically insignificant positive correlation with *Gender differences in industry sector (% of total in sector)*.

Gender differences in service sector (% of total in sector) = β_1FDI net inflow (per cent of GDP) + β_2 *GDP per capita growth, (annual per cent)* + β_3 *Trade (per cent of GDP*) + β_4 *Literacy rate, adult total (per cent of people ages 15 and above)*+ β_5 *Unemployment, total (per cent of total labour force (modelled ILO)* + β_6 *Inequality adjusted income index* + e

According to Inekwe (2014) does FDI not increase labour force participation in the service sector, while the United Nations Economic Commission for Africa (2019) meant that FDI could lower gender differences in the labour force participation in the service sector. The service sector is not fully developed in Africa and there are no unanimous research results concluding if FDI increases or decreases gender differences labour force participation. This study has therefore little theoretical assumption regarding the relationship between FDI and gender differences in service sector. According to table 5, FDI have a statistically insignificant positive correlation with *Gender differences in service sector (% of total in sector).*

The independent variables *GDP per capita growth; (annual per cent); Trade (per cent of GDP) and Literacy rate, adult total (per cent of people ages 15 and above)* should according to the previous research have a negative relationship with all the dependent variables.

There is no coherent research result or empirical evidence regarding the relationship between the dependent variables and the independent variable *Unemployment, total (per cent of total labour force*). But due to the educational differences between men and women - that is mentioned in the previous research section. Should women be more sensitive of rising

unemployment levels compared to men. Meaning that the variable should have a positive correlation with the dependent variables.

The last control variable is *Inequality adjusted income index.* The independent variable could potentially both increase and decrease gender differences in labour participation (without specifying a specific sector), thus having a positive and negative relationship with the dependent variable (United Nations Economic Commission for Africa 2019).

Table 5 - Bivariate correlation table

	Gender differences in agriculture sector (% of total in sector)	**Gender differences in industry sector (% of total in sector)**	**Gender differences in service sector (% of total in sector)**
FDI, net inflow (% of GDP)	-.204	.089	.178
N	41	41	41

a. **Data source:** World Bank

As seen in table 4 in the appendix. The regression model applied the dependent variable *Gender differences in labour force participation (% of total population)*. The variable *FDI net inflow (% of GDP)* has a statistically insignificant negative correlation with the dependent variable. The only independent variables that have a statistically significant correlation with the dependent variable are *Literacy rate, adult total (% of people ages 15 and above); Unemployment, total (% of total labour force) (modelled ILO)* and *Inequality adjusted income index*. When looking at column seven which only includes statistically significant variables, one can see that *Literacy rate, adult total (% of people ages 15 and above)* have a negative correlation with *Gender differences in labour force participation (% of total population*. Meaning that increased literacy rates lowers the gender differences in labour force participation. Both the variables *Unemployment, total (% of total labour force) (modelled ILO)* and *Inequality adjusted income index* have a positive correlation with the dependent variable. Meaning that when unemployment rates are increasing or the income inequality is

increasing, the gender differences in labour force participation are also increasing. The R^2 value for the last column is .303 (30.3 per cent) meaning that the model explains 30.3 per cent of the variance in the dependent variable caused by the independent variables.

4.6 Model diagnostic

All regression models have been subjected to model diagnostics. The purpose with model diagnostic is to evaluate and asses if the assumptions of linear regression models holds true.

Multicollinearity have been controlled for in all models (As seen in table 3). No model or variable indicated a Variance Inflation Factor (VIF) value above 5, which is the threshold for identifying multicollinearity (Kroll & Song 2013). If multicollinearity was detected in the models, it would increase the standard error of the coefficients therefore affecting the estimation precision of the model (Asterious & Hall 2006).

The models have also been tested for normality by creating a plot of standardized residuals for all dependent variables. All models are aligned with the theoretical diagonal. All multiple regression model has a Skew and kurtosis which is within the acceptable critical value +/- 1. The variable *Gender differences in service sector (% of total in sector)* is a little bit more skewed compared to the other depend variables, however, it is still within the acceptable critical value range of +/- 1.

Concerning the linearity. When the residual predicted value plot was created (a fit line was applied) it demonstrated that the predictions and the residuals were flat and linear.

Outliers have also been tested, by creating a scatterplot using the dependent variables and *FDI net inflow (% of GDP)*. There were two observations (Mozambique and Guinea) that had high shares of FDI in relation to their GDP. However due to its only being two countries they will not cause any issues.

When looking at the Anova F-test, based on the squared residuals of the dependent variables and reusing the independent variables. No regression model had a statistically significant value, indicating that there is no heteroscedasticity expressed in the regression models. Both concerning the multiple regression models scatterplot and the bivariate scatterplots between

FDI net inflow (% of GDP) and the dependent variables. When observing the scatterplot consisting of standardized residuals and the predicted values, one can see that the observations have a roughly equal variation at all values of the predicted values. Meaning that the spread is homoscedastic.

5. Results

Results from the regression analyses are presented in three separate tables. The tables are showing the predicted unstandardized coefficients and their corresponding standard error in parenthesis. The value of the coefficient should be interpreted as a correlation with the dependent variable. A positive value is interpreted as a positive correlation concerning the dependent variable, while a negative is interpreted as a negative correlation. The gender differences are expressed as labour force participation i.e if gender differences are increasing in the agriculture sector, it means that fewer women are employed in the labour force in the agriculture sector, and vice versa if gender differences are increasing in a certain sector. The adjusted R^2 value is interpreted as the proportion of explained variance in the dependent variable caused by the independent variables. The R^2 value ranges between 0 - 1, the lower the value the smaller the proportion of the variation can be explained by the model, and the higher the value indicates the more is the model able to explain (Draper & Smith, 1998; Shively 2009).

5.1 Agriculture sector

The first dependent variable in the set of multiple linear regression models is *Gender differences in agriculture sector (per cent of total in sector). FDI, net inflow (per cent of GDP)* was statistically significant at a $p<0.05$ level in the third (3) column and continued to have statistically significant negative correlation in the following columns, meaning when the FDI net inflow increases in a African country, the gender differences in the agriculture sector decreases by - .950. FDI´s correlation with the depended variable increases and reaches its peak in column five (5) with a statistically significance at $p<0.01$ level, and with a correlation of - 1.113. The variables *GDP per capita growth, (annual per cent)* and *Trade (per cent of*

GDP) both had statically significant positive correlations with the dependent variable gender differences in the agriculture sector. Although, the significance level of the variable *GDP per capita growth, (annual per cent)* is only significant at a $p<0.1$ level. The variable *Trade (per cent of GDP)* have a higher significance level but with a much lower correlation with the dependent variable. The variable *Literacy rate, adult total (per cent of people ages 15 and above)* had a significance of $p<0.1$ level, also having a negative correlation. Meaning that when the literacy rate of adults (being 15 years plus) increases in Africa, gender differences in the agriculture sector decreases with -.183. Both the variables *Unemployment, total (per cent of total labour force) (modelled ILO)* and *Inequality adjusted income index* had statistically insignificant relationship to gender differences in the agriculture sector. The Adj R^2 for the last column is .208 (20.8 per cent) meaning that this model explains 20.8 per cent of the variance in the dependent variable caused by the independent variables. Furthermore, when checking for multicollinearity between the variables for all columns, no variables VIF value exceed 5 (full VIF table 3 in appendix) meaning that they are below the critical value of 5 (Asteriou & Hall 2011).

Table 6 - Dependent variable: Gender differences in agriculture sector (% of total in sector)

	1	2	3	4	5	6	7
FDI, net inflow (% of GDP)	-.468 (.359)	-.560 (.361)	-.950** (.375)	-1.110*** (.372)	-1.113*** (.387)	-1.110*** (.390)	-1.110*** (.372)
GDP per capita growth, (annual %)		.797 (.564)	.958* (.535)	1.015* (.518)	1.016* (.526)	1.008* (.529)	1.015* (.518)
Trade (% of GDP)			.155** (.064)	.180*** (.063)	.181*** (.067)	.173** (.069)	.180*** (.063)
Literacy rate, adult total (% of people ages 15 and above)				-.183* (.097)	-.182* (.105)	-.205* (.110)	-.183* (.097)
Unemployment, total (% of total labour force) (modelled ILO)					-.010 (.310)	-.047 (.316)	
Inequality adjusted income index						14.665 (19.193)	
Adj R^2	.017	.042	.152	.208	.185	.175	.208
N= Cases	41	41	41	41	41	41	41

*** p<0.01; ** p<0.05; *p<0.1

a. The standard error is expressed within the parenthesis.

b. **Data source:** World Bank; UNDP and QoG

5.2 Industry sector

The dependent variable for the second hypothesis is, *Gender differences in industry sector (per cent of total in sector)*. The variable *FDI, net inflow (per cent of GDP)* became statistically significant on a p<0.1 level in the fifth (5) column. Interpreting the correlation of FDI net inflow in column seven, is that when FDI net inflow increases to an African country, gender differences in the industry sector will increase with .398. Only one variable had a statistically significant negative correlation with the dependent variable, which was the variable *Trade (per cent of GDP).* Meaning that when *Trade (per cent in GDP)* increase,

gender differences in the industry sector decreases. Both the control variables *Literacy rate, adult total (per cent of people ages 15 and above)* and *Unemployment, total (per cent of total labour force) (modelled ILO)* had a positive correlation with the dependent variable. Although *Literacy rate, adult total (per cent of people ages 15 and above)* only was statistically significant in column four. The variables *GDP per capita growth, (annual per cent)* and *Inequality adjusted income index* were statistically insignificant. The Adj R^2 for the last column was .115 (11.5 per cent) meaning that this model explains 11.5 per cent of the variance in the dependent variable caused by the independent variables. No variable had a VIF value exceeding 5 meaning that they are below the critical value (Asteriou & Hall 2011).

Table 7 - Dependent variable: Gender differences in industry sector (% of total in sector)

	1	2	3	4	5	6	7
FDI, net inflow (% of GDP)	.115 (.205)	.122 (.211)	.227 (.233)	.334 (.230)	.427* (.229)	.426* (.232)	.398* (.221)
GDP per capita growth, (annual %)		-.064 (.331)	-.107 (.333)	-.145 (.320)	-.170 (.311)	-.169 (.315)	
Trade (% of GDP)			-.042 (.040)	-.059 (.039)	-.081** (.040)	-.080* (.041)	-.078* (.039)
Literacy rate, adult total (% of people ages 15 and above)				.121** (.060)	.080 (.062)	.084 (.066)	.079 (.062)
Unemployment, total (% of total labour force) (modelled ILO)					.330* (.183)	.335* (.188)	.326* (.181)
Inequality adjusted income index						- 2.085 (11.446)	
Adj R^2	-.017	-.043	-.040	.041	.097	.071	.115
N= Cases	41	41	41	41	41	41	41

*** p<0.01; ** p<0.05; *p<0.1

a. The standard error is expressed within the parenthesis.

b. **Data source:** World Bank; UNDP and QoG.

5.3 Service sector

The dependent variable for the last regression model is *Gender differences in service sector (per cent of total in sector).* The variable *FDI, net inflow (per cent of GDP)* became statistically significant at column three when the variables *GDP per capita growth, (annual per cent)* and *Trade (per cent of GDP)* were added. *FDI, net inflow (per cent of GDP)* had a positive correlation with gender differences in the service sector, meaning that when FDI net inflow increases to African countries, gender differences in the service sector will increase as well. The expressed correlation between the variables have an interval of .684 (column six) to

.777 (column four) which is quite high. The variables *GDP per capita growth, (annual per cent)* and *Trade (per cent of GDP),* were the only variables with statistically significant negative correlation with the dependent variable. Meaning that when the annual GDP per capita growth increases or when trade in relation to GDP increases, gender differences in the service sector will decrease by -.851 and -.113 respectively. No other variable had a statistically significant relationship with the dependent variables. The Adj R^2 for the last column was .110 (11.0%) meaning that this model explains 11 per cent of the variance in the dependent variable caused by the independent variables.

Table 8 - Dependent variable: Gender differences in service sector (% of total in sector)

	1	2	3	4	5	6	7
FDI, net inflow (% of GDP)	.353 (.312)	.437 (.312)	.722** (.332)	.777** (.343)	.687* (.351)	.684* (.353)	.722** (.332)
GDP per capita growth, (annual %)		-.733 (.488)	-.851* (.473)	-.870* (.477)	-.845* (.476)	-.839* (.479)	-.851* (.473)
Trade (% of GDP)			-.113* (.056)	-.122** (.058)	-.100 (.061)	-.092 (.062)	-.113* (.056)
Literacy rate, adult total (% of people ages 15 and above)				.062 (.089)	.102 (.095)	.122 (.100)	
Unemployment, total (% of total labour force) (modeled ILO)					-.321 (.281)	-.288 (.286)	
Inequality adjusted income index						-12.581 (17.398)	
Adj R^2	.007	.038	.110	.097	.104	.092	.110
N= Cases	41	41	41	41	41	41	41

*** p<0.01; ** p<0.05; *p<0.1

a. The standard error is expressed within the parenthesis.

b. **Data source:** World Bank; UNDP and QoG.

When looking at table 9 in the appendix, concerning the Pearson R correlations table. One can observe that no independent variable has a bivariate correlation with the dependent variable. Meaning that if the variable *FDI, net inflow (per cent of GDP)* would express a correlation with the dependent variables, it would require the support of another variable. Meaning there is another variable, that need to be included, for FDI inflow to exercise an influence on the dependent variables. The only variable that correlates are *FDI, net inflow (per cent of GDP* and *trade (per cent of GDP),* in the Pearson r correlation table. Therefore, could one conclusion be that if FDI should express a relationship with the dependent variables, trade needs interact as well. However, this does not imply that the correlation with gender differences are going go to a specific direction, instead this means that FDI does not alone have any correlation with the dependent variable.

6. Discussion of empirical findings

The purpose of this paper was to investigate if gender differences in Africa are increasing or decreasing in the agriculture, industry and service sector when FDI is allocated to an African country. Controlling for *GDP per capita growth, (annual %); Trade (% of GDP); Literacy rate, adult total (% of people ages 15 and above); Unemployment, total (% of total labour force)* and *Inequality adjusted income index.* This Sub-chapter aim to put the study's results in relation to previous research and theory.

6.1 Agriculture sector

Hypothesis H1A and H1B aims to study the correlation between the dependent variable *Gender differences in agriculture sector (% of total in sector)* and the independent variable *FDI, net inflow (% of GDP)* and controlling for the relation with a set of control variables. When looking at figure 2**,** according to the dataset, the total employed women in the agriculture sector in Africa are on average representing 50.24 per cent of the labour force in the agriculture sector while the total employed men are representing 47.78 per cent (figure 3). Based on the regression model results the null hypothesis (H_{0A}) is rejected.

FDI net inflow (% of GDP) had a negative correlation with women´s labour force participation. This means that when FDI net inflow increases to an African country, gender differences in the agriculture sector decreases. The results of the regression models go in line with Tran-Nguyen and Zampetti's (2004) research results, which observed a correlation between FDI and an increased number of unskilled people in the labour force being employed. This may explain the reason for the lowering effect FDI have on gender differences in the agriculture sector (United Nations Economic Commission for Africa 2019). Additionally, Couto (2018) argued that FDI generates more unskilled jobs in low-income countries compared to skilled jobs. Which could explain the result of the regressions model concerning the fact that FDI net inflow is lowering of gender differences in the agriculture sector but not in the industry and service sector (Couto 2018). Furthermore, Couto´s research result indicated that when FDI is allocated to low-income countries there is an increase among female labour force participants and a decrease regarding income inequality.

The type of FDI that is allocated to the agriculture sector is mainly resource-seeking FDI (Quak 2008). Africa has 60% of the world's uncultivated farmland, and although Selhausen (2009) meant that resource-seeking FDI generates little employment compared to the other types of FDI, their study did not specifically look at the agriculture sector (Plaizier 2016; Selhausen 2009). The type of resource-seeking FDI that have previously been allocated to Africa have typically been in the oil, gas and mineral sectors rather than agricultural. This may explain why Mozambique and Liberia (in figure 8) have amongst the highest number of FDI net inflow in Africa. Mozambique have the world's third largest gas reserves in combination with having one of Africa's largest agricultural lands, while Liberia is rich in natural resources such as rubber and logging.

The reason why more women are part of the unskilled labour force compared to men could perhaps be explained by the gender differences concerning educational attainment in Africa. More men compared to women are enrolled in secondary and tertiary education, also having a higher literacy rate. This could explain why women are in the majority amongst the unskilled labour force participants in the continent, and by extension are in the majority of the labour force participants in the agriculture sector (United Nations Economic Commission for Africa 2019). The fact that men are receiving higher education to a greater extent than women in Africa, also makes it understandable why FDI is causing increased gender differences in the industry and service sectors, since these sectors require higher education compared to the

agricultural. Consequently, more men compared to women are able to be employed in skilled jobs when FDI is allocated to the country. Literacy rate have a negative relationship concerning gender differences in the agriculture sector, as seen in table 6. This is in line with Idowu & Owoeye (2019) research results, that concluded that increases in women´s education level, increases women´s labour force participation. Subsequently decreasing gender differences in the labour force participation in the agriculture sector. It is also proven that increased literacy rates increases the total FDI inflow to African nations (Akin and Vlad 2011; Miyamoto 2003; Borensztein et al 1998). For this reason, a positive circle emerges on how to approach the issue concerning gender differences in the agriculture sector. By increasing the literacy rates, African countries are able to decrease gender differences in the agriculture sector as well as attracting more FDI, which is also proven to lower gender differences in the agriculture sector.

Trade, interestingly enough, has a positive correlation with gender differences in the agriculture sector, showing that when trade as per cent of GDP is increasing in an African country, the gender differences in the agriculture sector will simultaneously increase. This contradicts to some extent the previous research, where trade been seen to increase women´s labour force participation and lower gender differences. However, this may be due to the previous research result often analysing the gender differences in the total labour force or merely the manufacturing sector, and not specifically the agriculture sector. However, according to Zheng-Zheng et al (2019) research results, demonstrated that the relationship between openness regarding trade and women´s labour force participation is non-linear. Zheng-Zheng et al (2019) did not mention a specific degree of trade openness when it should negatively impact women´s labour force participation. Their research results also concluded that women´s labour force participation also is affected by global competition, changes in commodity prices and import dependency. This could potentially explain the increase in gender differences in labour force participation in the agriculture sector.

The variable *GDP per capita growth, (annual %)* expressed statistically significant positive correlation, which means that when the GDP per capita is increasing, gender differences in the agriculture sector are increasing as well. This does not go in line with the previous research proposed by Çağatay & Özler (1995); Luci (2009); Tam (2011) and Tansel (2001). According to their research results, increasing GDP per capita growth should be seen to stimulate women´s labour force participation. Their research did however not investigate any

specific sector, instead their research focused on the general labour force participation among women.

Because women generally have lower labour force participation rates than men, are men affected to a greater extent by increases in unemployment rates than women. Although the relationship is not statistically significant, this fact may explain the negative correlation with the dependent variable. This is a hypothetical guess that is not proven but could potentially explain the direction of the relationship.

In conclusion, it is mainly resource-seeking FDI that is allocated to the agriculture sector. When this type of FDI net inflow increases to an African country, gender differences in the labour force participation decreases. This goes in line with what is mentioned by Couto (2018), suggesting that FDI generates more unskilled jobs in low-income countries compared to skilled jobs (United Nations Economic Commission for Africa 2019; Couto 2018). Trade should theoretically lower gender differences in the labour force participation, but as Zheng-Zheng et al (2019) have mentioned, trade openness after a certain degree will lead to a decline in the labour force participation instead. This will perhaps explain the reason gender differences are increasing in the labour force participation when trade is increasing. However, Zheng-Zheng et al did not mention a specific degree of openness of trade that causes women's labour force participation to decrease (Zheng-Zheng et al 2019).

When African countries observe increases in the literacy rate, the gender differences in the labour force participation in the agriculture sector decreases. It is also proven that increased literacy rates, increase the total FDI inflow increases to African nations (Akin and Vlad 2011; Miyamoto 2003; Borensztein et al 1998). For this reason, a positive circle emerges on how to approach the issue concerning gender differences in the agriculture sector. By increasing the literacy rates, African countries are able to decrease gender differences in the agriculture sector as well as attracting more FDI, which is also proven to lower gender differences in the agriculture sector.

6.2 Industry sector

Based on the regression model results the null hypothesis (H_{0B}) is rejected. Next, FDI inflow had a statistically significant relationship with gender differences in the industry sector but

did not follow the hypothesis H_{1B}. The manufacturing sector in Africa have the possibility to become a driver for economic growth and promoting new occupations for both men and women. Also, as more African nations are liberalizing their economy, creating export zones and receiving more FDI the manufacturing sector in Africa is becoming bigger and are employing more people. Although allocating FDI to the manufacturing sector has positive effects on countries GDP growth (Alfaro 2003; Wang 2009). The manufacturing sector is consisting of a mix of unskilled- and skilled employments and consequently employing less women compared to the agriculture sector. This is illustrated when observing figure 4**;** the total employed women in the industry sector in Africa, according to the dataset, only representing on average 8.8 per cent. As a comparison, the total employed men in the labour force of the industry sector in Africa are representing twice as much (16.1 per cent), as seen in figure 5. FDI net inflow had a positive correlation with gender differences in the manufacturing sector in Africa, showing that when the FDI net inflow increases to an African country, gender differences in the manufacturing sector are increasing.

The regression model follows the results from the report by United Nations Economic Commission for Africa (2019) which claimed that an increase in FDI may lead to increased gender differences in labour force participation concerning industry sector. Consequently, as a result of the increased gender differences in the labour force participation in the industry sector, gender inequality will likewise increase. This conclusion is in line Tran-Nguyen & Zampetti's (2004) research results, which argues that the manufacturing sector consists mainly of skilled labour, due to more men having higher literacy rate and higher number of school enrolments, more men than women are qualified for a position in the sector. As a consequence, when FDI is allocated to an African country more men than women will be employed in the manufacturing sector, and the manufacturing sector will become gender segregated between unskilled labour force (women) and skilled labour force (men).

To decrease the gender differences in labour force participation in the manufacturing sector, African countries would have to increase women's educational level and literacy rate. This would in the long run also increase the FDI net inflow to the countries (Aguayo-Téllez 2012; Borensztein et al 1998; Akin & Vlad 2011). Increasing women's educational level and literacy rate would also reduce the probability of a gender segregated manufacturing sector and increase women´s position in managerial positions (Kucera 2001). From a short-term perspective, a gender segregated labour force could as a matter of fact be a positive attribute

when attracting FDI, according to the United Nations Economic Commission for Africa (2019). Their experiences concerning gender segregation in the labour force in Africa shows that women typically receive low-skilled and low-wage jobs within the apparel manufacturing industry. However, having a too deep of a gender segregation for a too long might also lead to a "race-to-the bottom" regarding wages, which would negatively affect the country's GDP growth (United Nations Economic Commission for Africa, 2019). To conclude, increasing the literacy rate would theoretically lower the gender differences in the industry sector. Although the variable literacy rate had a statistically insignificant relationship with the dependent variable. Increasing the literacy rate would also benefit African countries FDI inflow from a long-term perspective.

According to Nunnenkamp and Spatz (2012), *efficiency-seeking FDI* has positive effects on economic growth and employment rate, although the positive effects on employment rate and economic growth were conditional to the characteristics of the countries and sectors. They meant that depending on the characteristics of the labour force and sector in the country, FDI´s positive and negative effects will be expressed differently. If countries for example have gender differences in education level and literacy rate, it will be harder for the sector and country to absorb the FDI and the effect on the economic growth and employment rate will potentially be negative. According to Nunnenkamp and Spatz's (2012) research results, GDP per capita, education, institutional development and trade are important characteristics to observe. The regression models result in table 8, could potentially confirm Nunnenkamp and Spatz's (2012) notion that it is more important to observe and asses the countries' characteristics and sectors instead of focusing on what type of FDI is allocated.

Trade is also an important variable in lowering gender differences in the industry sector and had a statistically significant correlation with the dependent variable in the regression model. When Tanzania (1986) and Ghana (1992) adopted new trade laws their trade increased with other countries and therefore also observed an increase in FDI net inflow, and most importantly an increased number of people within the labour force (Pigato 2000). One reason why trade decrease gender difference in the industry sector. May be due to the occupations associated with export from low-income and low-middle income countries. These occupations are low-wage, labour-intensive and export-oriented companies within the textile, electronics and garment and typically attract more women than men. They are therefore per se often gender segregated and puts women in a cluster (United Nations Economic Commission for

Africa 2019). This may explain the reason why trade has a negative correlation with the dependent variable *Gender differences in the industry sector*.

As mentioned above did Pigato (2000) argue that when Tanzania and Ghana adopted new trade laws, they as well observed increased FDI, increased trade and finally an increased labour force participation. When also looking at the bivariate Pearson r correlation in figure 10, FDI inflow had a statistically significant positive correlation with trade, meaning that when FDI net inflow increases, so does trade per cent of GDP. Therefore, FDI might initially have a negative correlation with gender differences in the labour force participation in the industry. But if it would result in increased trade, it could potentially lower gender differences in the industry sector.

Income inequality did not have any statistically significant correlation with the dependent variable, but the direction of the correlation followed the previous research. When income inequality increased in an African country, the gender differences in the manufacturing sector decreased, in other words more women were getting employed. This means that increased income inequality lowers gender differences in the labour market; women get employed to a greater extent in cases of un-equal pay. The regression models result follows United Nations Economic Commission for Africa's (2019) argumentation regarding the "race-to-the bottom" amongst female labour force participants. Mozambique, having the highest FDI share in the dataset, is also among the countries with the highest income inequality, from scoring the 7th lowest ranking concerning income equality (in the context of the Gini Index). Although increased Income inequality did not have a significant correlation with gender differences in the industry sector, Mozambique is an empirical example that confirms that wide Income inequalities attracts FDI.

Unemployment rate had a statistically significant positive correlation with gender differences in the industry sector. This may be explained by the fact that women in general have lower education levels and literacy rates compared to men. This puts women in a situation where they become more sensitive to increasing unemployment, meaning that if unemployment increases in an African country, women´s labour force participation in the industry sector will likely decline faster compared to men. Thus, the gender differences in the industry sector will increase. Zheng-Zheng et al (2019) also argued that due to global competition, commodity

prices and important dependency, there are more variables that could increase and decrease women´s labour force participation.

In conclusion, mainly efficiency-seeking FDI is allocated to the industry sector. Efficiency-seeking FDI is also the type of FDI with the most positive impact concerning employment rate compared to the other FDI seeking types (Nunnenkamp & Spatz 2012). FDI net inflow had a positive correlation with gender differences in the manufacturing sector in Africa. This means that when the FDI net inflow increases to an African country, gender differences in the manufacturing sector increases. The explanation of the rise in gender differences is that the manufacturing sector, unlike the agriculture sector, is men having higher literacy rate and higher number of school enrolments women, and therefore are more men qualified for a position in the sector. Important to remember is however that increased FDI net inflow have positive effects on countries GDP growth and GDP per capita growth beside creating new jobs (Alfaro 2003; Wang 2009). Increased trade was also proven to lower gender differences in the industry sector, which is in line with Pigato (2000) research results. Another note-worthy fact is that men are currently represented twice as much as women as labour force participants in the industry sector, and this means that for every increase in labour force participation in per cent, more men compared to women increases the participation rate in absolute terms. GDP per capita growth, literacy rate and Income inequality had a statistically insignificant relationship with gender differences in the industry sector.

6.3 Service sector

Based on the regression model results, the null hypothesis (H0C) is rejected. The total employed women in the service sector in Africa, according to the dataset, are representing on average 39.7 per cent of the labour force in the service sector while the total employed men are representing 34.6 per, as seen in figure 6 and 7. As mentioned in the previous research, the service sector, similar to the manufacturing sector, contained a great variation of unskilled- and skilled-jobs, and due to educational and literacy level differences between the genders, more women work with unskilled-jobs associated to the service sector compared to men. This could explain the reason why FDI net inflow increases gender differences in the service sector in Africa. The FDI that is allocated to African countries could possibly be associated with

high-skilled jobs such as banking, financial services, media and call centres. These kinds of positions would not be accessible for women due to educational differences.

In general, the service sector is still at an early stage in Africa. Today more and more African countries are increasing their investments in the tourism industry, which also constitutes as a part of the service sector. Employment within the tourism industry do not require as high of an education level as employment associated to banking and financial services. Therefore, may the tourism industry potential play a catalytic role in increasing women's labour force participation in the service sector. Women would earn higher salaries working in the service sector compared to the agriculture sector. Although, similar to the the manufacturing sector, women would probably still hold lower paying positions and lesser possibilities to advance in their workplace compared to men. It is therefore crucial to adopt policies and guidelines aiming to increase gender equality concerning both education level and employment opportunities, before FDI is allocated to the service sector. Ensuring women´s employment is not enough if women cannot access employment due to low educational levels (United Nations Economic Commission for Africa 2019).

The type of FDI that is mostly associated with the service sector is market-seeking FDI. There are not many market-seeking FDI companies in Africa today, but the trend is on the rise. More people are accessing employment, earning a wage, and a growing number of people are belonging to the middle class. This will result in an increased consumption of products and services, also leading to a higher number of market- seeking FDI allocating investments to Africa. Africa currently has a population of 1.2 billion people, and 123 million of them are categorized as middle class with an estimated consumer spending of 1.4 trillion US dollar. The middle class is expected to increase to 1.1 billion people in 2060, with a substantial increase in consumer spending as a result (UNDP 2017). This will subsequently create more jobs and possibly lower gender differences concerning labour force participation in the service sector. This goes in line with Farole and Winklers (2014) research results. Which stated that, market seeking FDI has a positive impact on labour force participation.

Nunnenkamp and Spatz (2012) also concluded that market-seeking FDI could potentially create new employment opportunities. However, did market-seeking FDI also increase competition between local and international companies, the local companies would not benefit from the competition and in worst-case scenario be forced to close down their

businesses and lose their labour force (Nunnenkamp and Spatz 2012). According to Inekwe (2014) research result also concluded that FDI have a negative relationship with employment growth in the service sector.

The direction of the correlation between the variable *Trade (per cent of GDP)* and *Gender differences in the service sector* had the same direction of correlation as for the industry sector. Yet the relationship between the variables are not explicitly linked in the previous research compared to the relationship, FDI has with the industry sector. The United Nations Economic Commission for Africa (2019) confirmed that trade increases employment rates in low-income and low-middle income countries but did not specifically mention the service sector. It is also unclear what type of jobs in the service sector are created when trade is increased in Africa, one example of jobs could be within the logistics and transportation division.

The variable *GDP per capita growth, (annual per cent)* expressed statistically significant negative correlation, meaning that when the GDP per capita is increasing, gender differences in the service sector decreases. This goes in line with the previous research proposed by Çağatay & Özler (1995); Luci (2009); Tam (2011) and Tansel (2001), who all found that increases in GDP per capita growth stimulate female labour force participation. Therefore, an increase of GDP per capita growth could potentially indicate that more people would be able to consume goods. At the same time, business owners within the service sector would become in need of more employees, which in this case would indicate a decrease in gender differences in the service sector.

FDI inflow have in previous research been proven to have a positive correlation with GDP/GDP per capita growth while GDP/GDP per capita growth also been proven in previous research to have a positive correlation with increasing female labour force participation (Cetin 2019; Çağatay & Özler 1995; Luci 2009; Tam 2011; Tansel 2001). Although FDI inflow have a positive correlation with gender differences in the service sector, the variable GDP per capita growth expresses negative correlation with the dependent variable. Therefore, the lowering effects of gender differences by FDI inflow might be expressed indirectly through GDP per capita growth.

The direction of the correlation of the variable income inequality follows the results of the United Nations Economic Commission for Africa´s (2019) argumentation regarding the "race-to-the bottom" among female labour force participants (United Nations Economic Commission for Africa 2019). However, the correlation with the dependent variable is statistically insignificant.

In conclusion, it is mainly market-seeking FDI that is connected to the service sector. FDI net inflow had a positive correlation with the dependent variable. Market-seeking FDI also had a negative effect on the increased competition between local and international companies (Nunnenkamp & Spatz 2012). Previous research has proved that increased trade increases labour force participation, this study also proved that increased trade could lower gender differences in the service sector. The variable *Literacy rate, adult total (% of people ages 15 and above)* had statically insignificant correlation with the dependent variable, the direction of the correlation did not follow the previous research. Women are currently the majority of the labour force participants in the service sector and the number of female labour force participants within the service sector is expected to increase due to the GDP per capita growth (Çağatay & Özler 1995; Luci 2009; Tam 2011; Tansel 2001). An increased number of people is also expected to become part of the middle-class in Africa. Which will increase the consumer spending tendency and catalyse the development of a tourism industry as well as more market-seeking FDI are going to allocate their investments in Africa. This will undoubtedly increase the labour force participation all over Africa, especially women's labour force participation.

7. Conclusion

The purpose with this study was to investigate whether FDI has an impact on gender differences in sector-specific labour force participation in African countries. The study applied an OLS (ordinary least square) cross sectional analysis method based on 41 African countries during the year of 2016. All models have been tested for model diagnostics and the assumption of linear regression holds true.

Based on the result, FDI have an heterogenous correlations with the gender differences in labour force participation concerning the agriculture, industry and service sector. Therefore,

should governments develop gender specific policies aimed to promote women's educational level and give women access to equal employment opportunities. Adopting these measures are suggested to have a decreasing impact on gender inequality in labour force participation. This is to ensure that more women would benefit from the FDI. These solutions are also proven to increase countries GDP/GDP per capita growth and both domestic and international companies' productivity (United Nations Economic Commission for Africa 2019; Tran-Nguyen & Zampetti 2004; Klasen 1999; Kucera 2001; Borensztein et al 1998 & Akin & Vlad 2011).

The reason why only the agriculture sector observed a substantial decrease in gender difference in the labour force participation may be explained by the level of literacy rate. The agriculture sector compared to the industry and service sector may not require as high literacy levels among their workers and considering the fact that there are more unskilled jobs in the agriculture sector (Wood 1991). Moreover, having a gender segregated labour force could benefit African nations in a short-term perspective when attracting FDI (United Nations Economic Commission for Africa 2019). However, having a too gender segregated labour force for too long could lead to a lowering of FDI due to gender differences in the labour force (Klasen 1999). From a sectorial perspective the industry and service sector followed the research results of the United Nations Economic Commission for Africa (2019) but contradicted Inekwe (2014) research results.

Theoretically, should resource-seeking, market-seeking and efficiency-seeking FDI increase labour force participation, although to different extents. However, the research results in this thesis could potentially confirm Nunnenkamp and Spatz (2012) notion, that it is the characteristics of the country and the sector that determines the FDI´s positive and negative impact on the labour force participation (Nunnenkamp and Spatz 2012).

The notion of income inequality was also widely discussed in the previous research and theory section. The cases of Mozambique and Liberia, which are among the countries with the greatest income inequalities (as seen in figure 9) while still having the highest shares of FDI net inflow in Africa (as seen in figure 8). Confirms that a certain degree of income inequality is good for attracting FDI – due to the notion "race-to-the bottom" (United Nations Economic Commission for Africa 2019). But instead of increasing income inequalities to attract more FDI, nations should decrease gender differences in access to education and increase the

literacy rate. This would in the long haul also increase the FDI net inflow to the African countries (Borensztein et al 1998 & Akin & Vald 2011).

However, this study has not investigated the direction of inequality in the labour force participation for men and women separately. Are there more women whom are hired or are more men leaving their jobs or been promoted to higher positions? The positive aspect is that a large proportion of employment in the agricultural and service sector are women, yet it does not express what kind of positions they hold. Based on the previous research, women appear to have a fewer years in school and lower literacy rates compared to men. This would mean that men with higher education levels could take on higher paid skilled jobs while women take lower paid unskilled jobs. If the direction of the development were to continue in terms of the inequalities in access to education and employment opportunities, it would lead to the creation of gender-segregated social classes, where men have high paying skilled jobs while women have low paying unskilled jobs.

Future studies are recommended to conduct a time-series regression analysis, since this would give the researcher the possibility to observe changes concerning gender differences in the labour force participation over time. This would be especially interesting in Africa due to the rapid increases and decreases in FDI net inflow. An interesting question might be how the rapid increases and decreases are affecting the gender differences in labour force participation. There are also more African nations making school enrolment mandatory, how does that effect the FDI net inflow and the gender differences in the labour force participation? Are there going to be more women employed in the industry sector or are there other explanatory variables for women´s low labour force participation? As previously mentioned, there are a number of different factors affecting women's labour force participation rate.

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Dataset source:

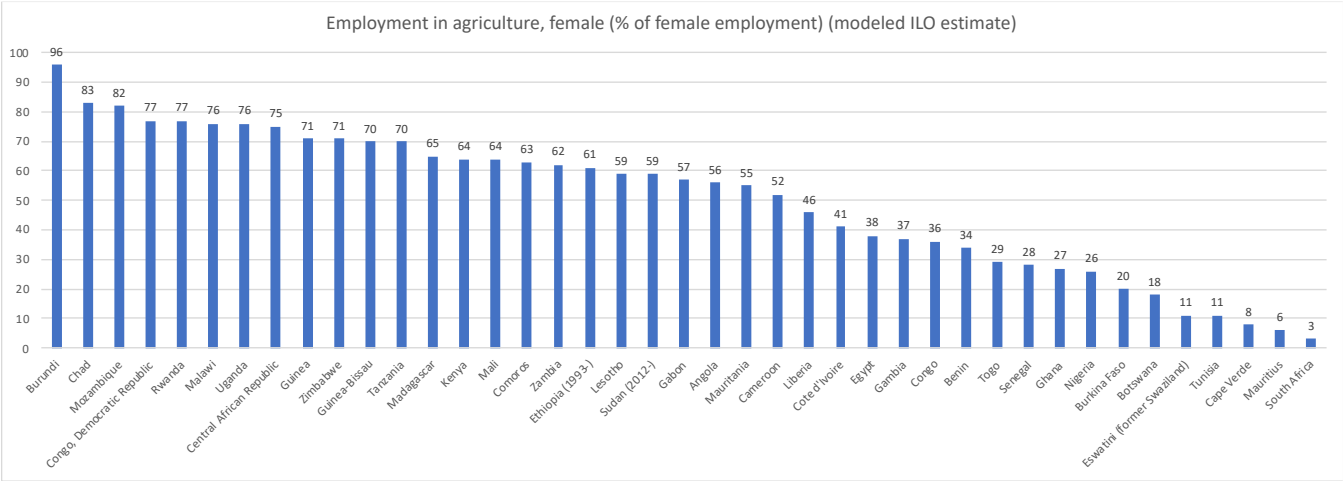
Quality of Government: https://qog.pol.gu.se/data/datadownloads/qogstandarddata
World Bank Indicator: https://data.worldbank.org/indicator
UNDP: http://hdr.undp.org/en/content/inequality-adjusted-income-index

Countries used in this study:
Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Congo, Democratic Republic
Cote d'Ivoire
Egypt
Eswatini (former Swaziland)
Ethiopia (1993-)
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau

Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Niger
Rwanda
Senegal
South Africa
Sudan (2012-)
Tanzania
Togo
Tunisia
Uganda
Zambia
Zimbabwe

Appendix

Figure 2 – Employment in agriculture, female (% of female employment)

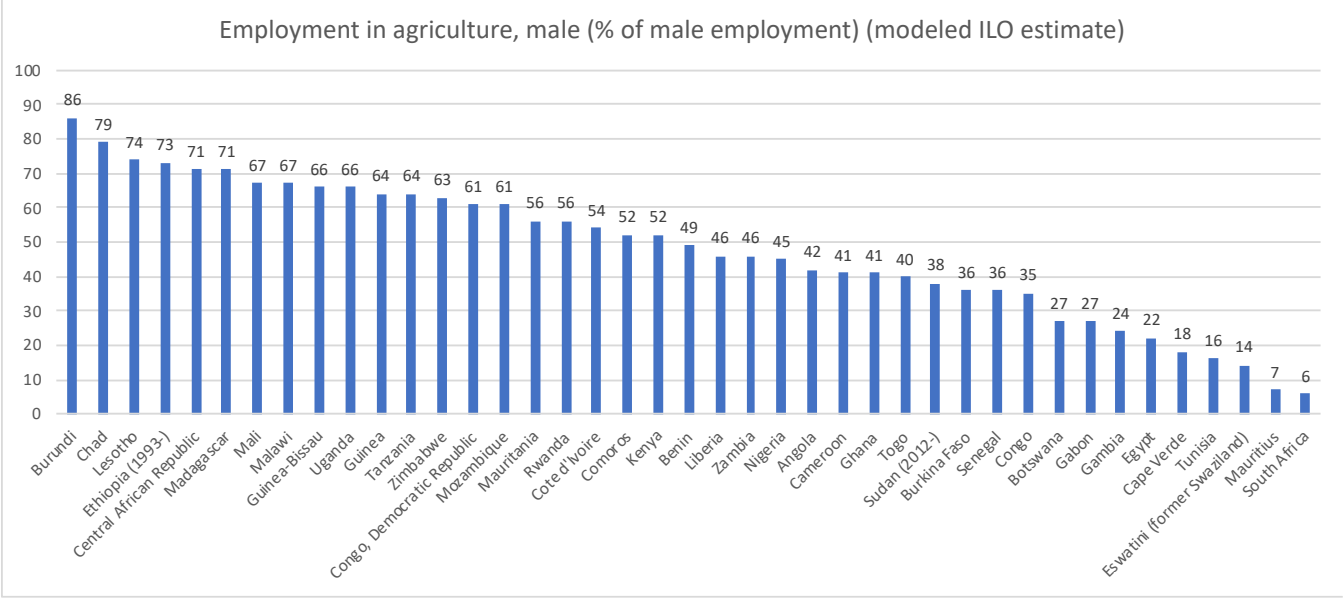


Description: Female´s employment in the agriculture sector in relation to the total number of employed female's expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 3 - Employment in agriculture, male (% of male employment)

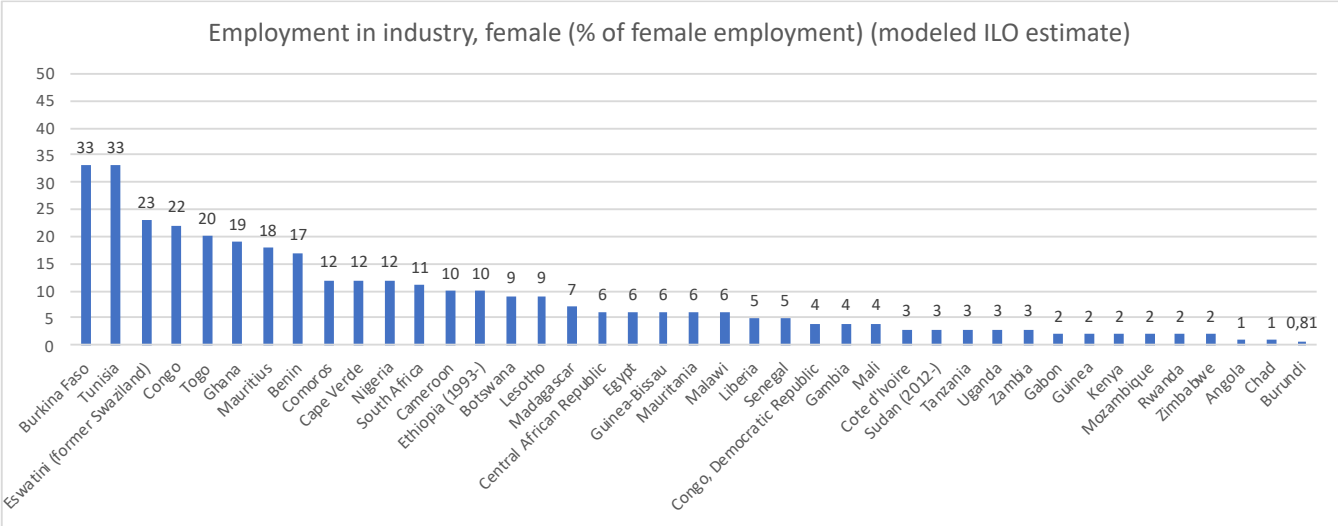


Description: Men´s employment in the agriculture sector in relation to the total number of employed men expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 4 - Employment in industry, female (% of female employment)

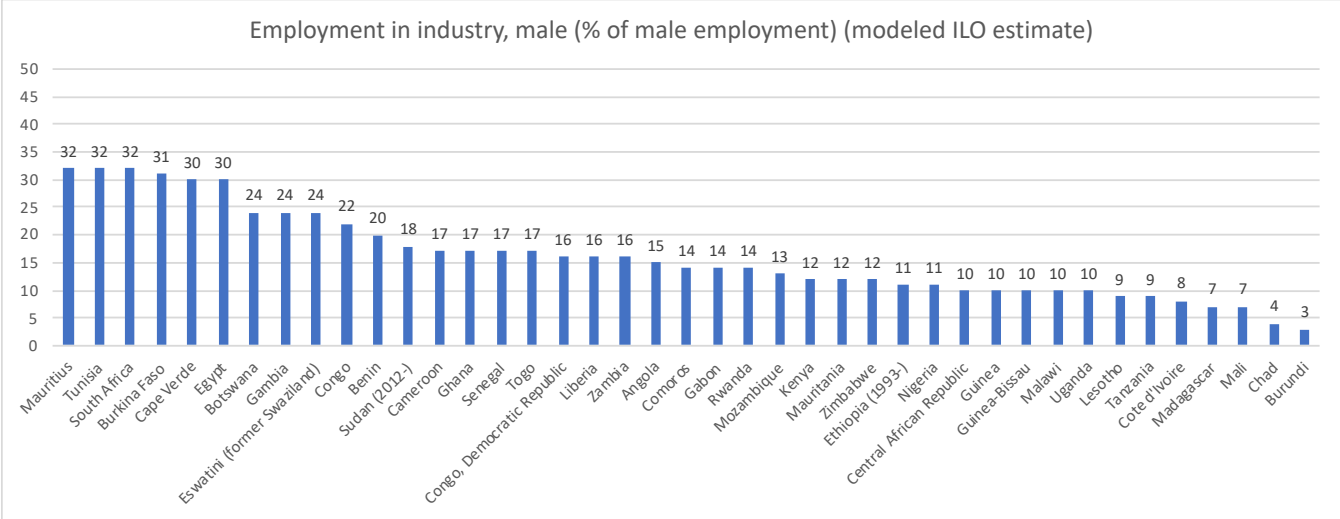


Description: Female´s employment in the industry sector in relation to the total number of employed female's expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 5 Employment in industry, male (% of male employment)

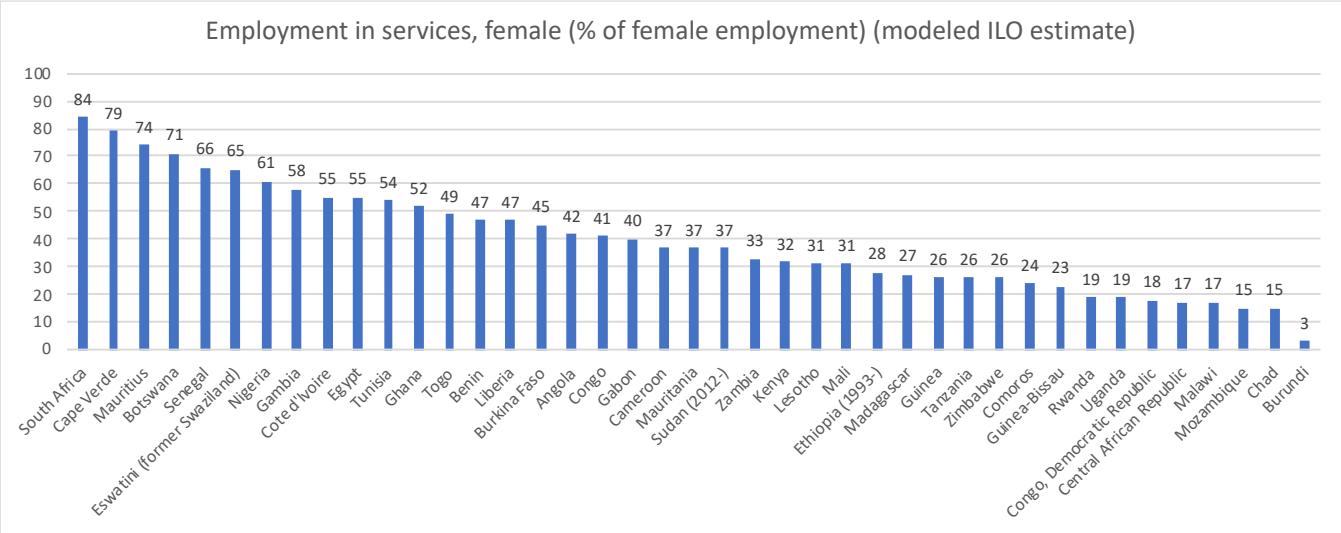


Description: Men´s employment in the industry sector in relation to the total number of employed men expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 6 - Employment in service, female (% of female employment)

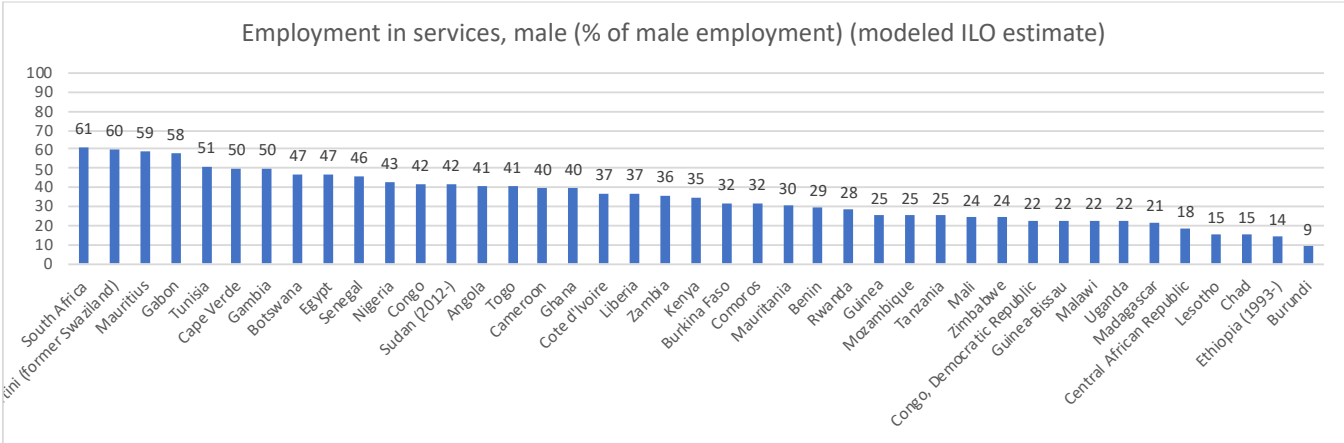


Description: Female´s employment in the service sector in relation to the total number of employed female's expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 7 - Employment in service, male (% of male employment)

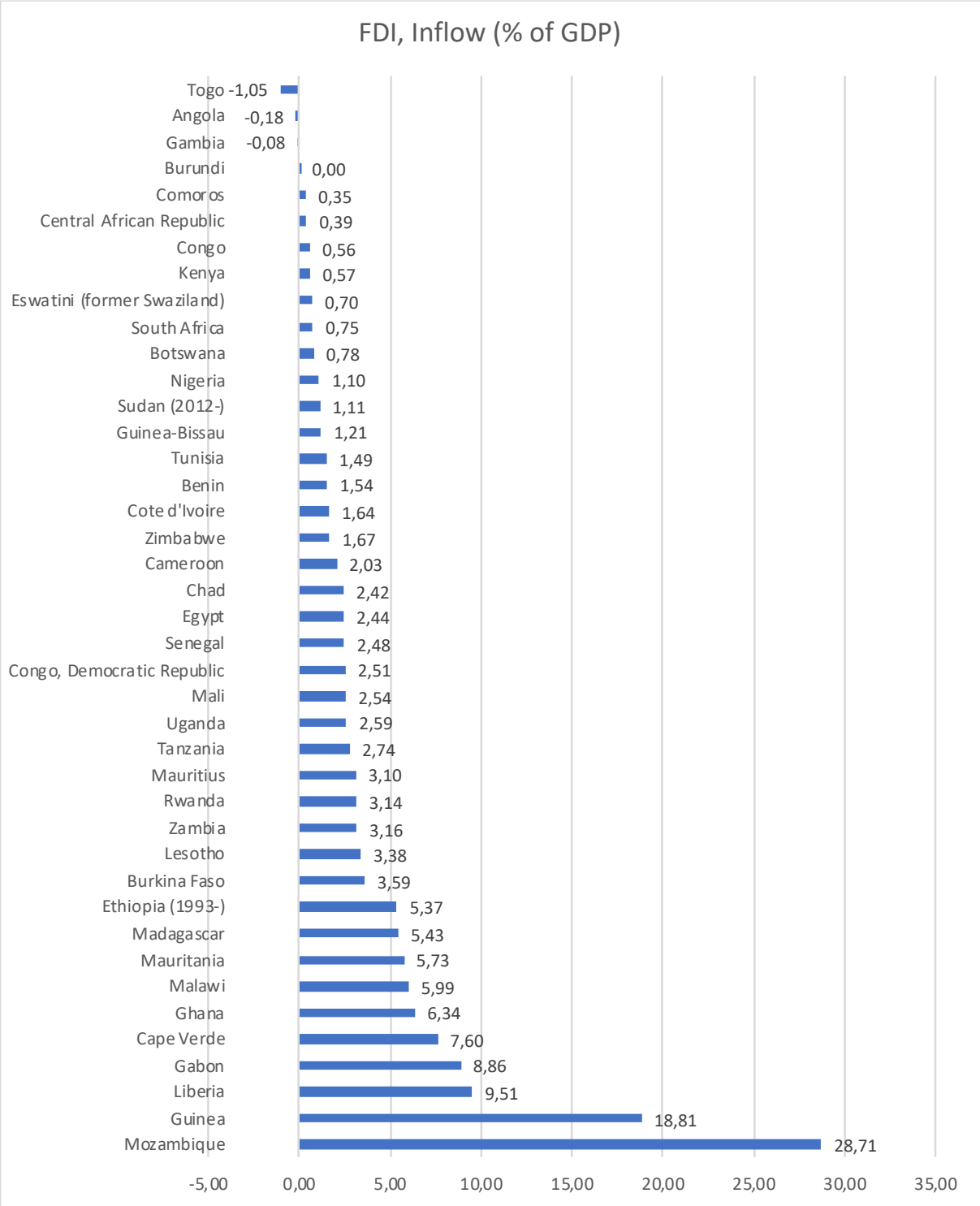


Description: Men´s employment in the service sector in relation to the total number of employed men expressed as per centage during the year of 2016.

Data source: World Bank Indicator

N: 41

Figure 8 – FDI, inflow (per cent of GDP)



Description: Distribution of FDI net inflow in relation to the total GDP expressed in per centages, during the year of 2016.

Data source: World Bank Indicator

N: 41

Table 3 - Variance Inflator Factor (VIF) concerning all regression models.

Independet variabels	VIF
Foreign direct investment, net inflows (% of GDP)	1.40
GDP per capita growth (annual %)	1.05
Trade (% of GDP)	1.46
Literacy rate, adult total (% of people ages 15 and above)	1.34
Unemployment, total (% of total labor force) (modeled ILO)	1.40
Inequality Adjusted Income Index (UNDP)	1.26

Description: The VIF values are based on the agriculture, industry and service sector multiple regression models. Which have been created to observe if there is any multicollinearity is occurring between the independent variables.

Data source: World Bank Indicator; UNDP and QoG.

N: 41

Table 9 - Pearson r correlation

Correlations

		Gender differences in agriculture sector (% of total in sector)	Gender differences in industry sector (% of total in sector)	Gender differences in service sector (% of total in sector)	Foreign direct investment, net inflows (% of GDP)	GDP per capita growth (annual %)	Trade (% of GDP)	Literacy rate, adult total (% of people ages 15 and above)	Unemployment, total (% of total labor force) (modeled ILO)	Inequality_adjusted_income_index_UNDP
Gender differences in agriculture sector (% of total in sector)	Pearson Correlation	1	-.507**	-.828**	-.204	.178	.213	-.147	.068	.109
	N	41	41	41	41	41	41	41	41	41
Gender differences in industry sector (% of total in sector)	Pearson Correlation	-.507**	1	-.064	.089	-.015	-.114	.254	.262	.071
	N	41	41	41	41	41	41	41	41	41
Gender differences in service sector (% of total in sector)	Pearson Correlation	-.828**	-.064	1	.178	-.197	-.172	.004	-.249	-.172
	N	41	41	41	41	41	41	41	41	41
Foreign direct investment, net inflows (% of GDP)	Pearson Correlation	-.204	.089	.178	1	.180	.412**	-.148	-.138	-.003
	N	41	41	41	41	41	41	41	41	41
GDP per capita growth (annual %)	Pearson Correlation	.178	-.015	-.197	.180	1	-.036	.003	-.012	.008
	N	41	41	41	41	41	41	41	41	41
Trade (% of GDP)	Pearson Correlation	.213	-.114	-.172	.412**	-.036	1	.124	.275	.249
	N	41	41	41	41	41	41	41	41	41
Literacy rate, adult total (% of people ages 15 and above)	Pearson Correlation	-.147	.254	.004	-.148	.003	.124	1	.423**	.382*
	N	41	41	41	41	41	41	41	41	41
Unemployment, total (% of total labor force) (modeled ILO)	Pearson Correlation	.068	.262	-.249	-.138	-.012	.275	.423**	1	.336*
	N	41	41	41	41	41	41	41	41	41
Inequality_adjusted_income_index_UNDP	Pearson Correlation	.109	.071	-.172	-.003	.008	.249	.382*	.336*	1
	N	41	41	41	41	41	41	41	41	41

**. Correlation is significant at the 0.01 level (2-tailed).

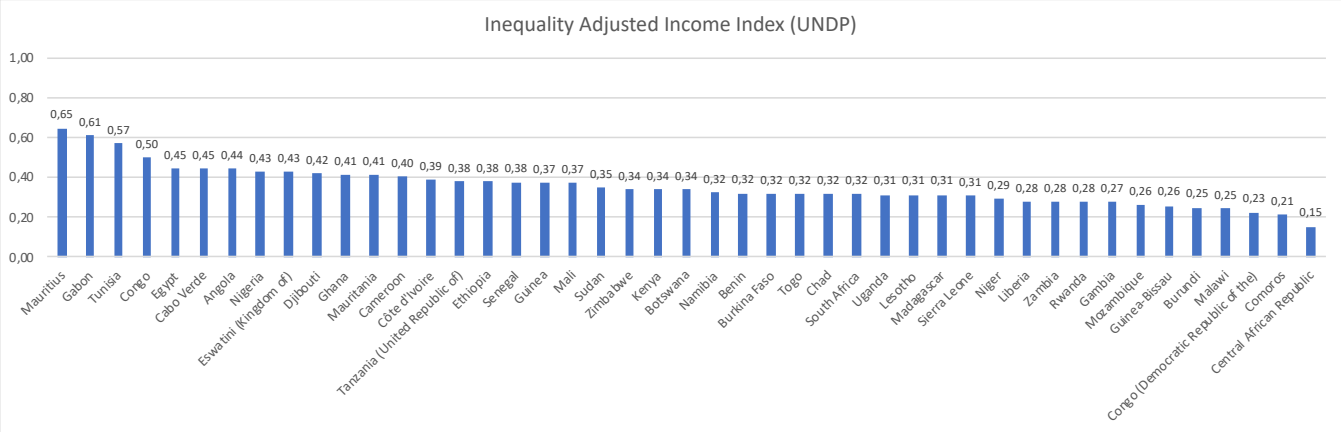
*. Correlation is significant at the 0.05 level (2-tailed).

Description: Pearson r is a bivariate correlation analysis. The concerning variables are all the dependent and independent variables. Pearson R has an interval between +1 and −1, where 1 indicates positive linear correlation while 0 indicates no linear correlation.

Data source: World Bank Indicator; UNDP and QoG.

N: 41

Figure 9 – Distribution of income inequality



Description: The figure demonstrates the distribution of income inequality among the countries included in the study, during the year of 2016.

Data source: UNDP

N: 41

Table 4 **- Dependent variable: Gender differences in labour force participation (% of total population)**

	1	2	3	4	5	6	7
FDI, net inflow (% of GDP)	-.256 (.189)	-.293 (.192)	-.297 (.215)	-.296 (.224)	-.142 (.202)	-.136 (.179)	
GDP per capita growth, (annual %)		.322 (.300)	.323 (.306)	.323 (.311)	.281 (.274)	.266 (.243)	
Trade (% of GDP)			.002 (.036)	.001 (.038)	-.037 (.035)	-.053 (.032)	
Literacy rate, adult total (% of people ages 15 and above)				.001 (.058)	-.067 (.055)	-.113** (.051)	-.103* (.053)
Unemployment, total (% of total labour force) (modelled ILO)					.547** (.162)	.474*** (.145)	.425** (.146)
Inequality adjusted income index						28.674*** (8.811)	25.149** (9.147)
Adj R^2	.020	.024	-.002	-.030	.202	.374	.303
N= Cases	41	41	41	41	41	41	41

*** p<0.01; ** p<0.05; *p<0.1

b. The standard error is expressed within the brackets.

c. **Data source:** World Bank; UNDP and QoG