

A Longitudinal Analysis of the Relationship Between Female Labour Force Participation and Political Representation - The Case For Sub- Saharan Africa

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Abstract

Keywords:

Introduction

While over half of the world's population consists of women, only 23.6% of the members of parliament around the world are female (Krook, 2010: 1; IPU, 2017). The root of this discrepancy in political representation finds its origins in socio-economic, political and cultural factors which either inhibit or promote female political representation. Though there has been progress in numerous countries over the preceding few decades, substantial cross-national variation in female political representation still exists (Hughes, Paxton & Painter, 2010: 25).

Economic researchers such as Barro and McCleary (2003), argue that explanations for economic development should be broadened to include social and cultural dimensions. The status of women in many societies is contingent on the adherence to the prevailing formal and informal institutions of a society. If we accept the premise that social and economic development benefits from gender equality (Jayachandran, 2014:1-48; Mikkola, 2007; OECD, 2008; Revenga & Shetty, 2012), then it can be posited that a lack of gender parity in a society may inhibit its economic and social development.

It is clear from existing literature on female political representation that institutional factors, such as the presence of quota legislation and the use of a proportional election system are associated with higher levels of women in government. However, there remains a lack of consensus within academic literature as to the relative impact of other socio-economic, political and cultural factors. Much has been written about the relationship between female labour force participation and female political representation, with its impact varying markedly (Stockemer & Byrne, 2011). This paper aims to clarify the relationship within the sub-Saharan African context.

The primary research question examines the relationship between female political representation in the lower/single house of national legislatures and female labour force participation. This hypothesis is tested using time-series data from 42 sub-Saharan African countries over 24 years, covering the period from 1992-2015. In doing so, I hope to provide insight into why the cross-national variation in female political representation exists, within the context of sub-Saharan Africa.

The paper adopts the following structure: In the first section, global and African trends in female political representation are examined. This is followed by an overview of past academic literature, paying close attention to their methodologies, scope and findings. In the third section, the dependent and independent variables are defined, and an explanation for the control variables, as well as their operationalisation is put forward. The control variables are sorted into three categories, namely, socio-economic, political and cultural variables. The fourth section explains the methodological approach

employed while the final section focuses on the results and a discussion thereof. The paper concludes with a summary of the main findings and by offering insight into possibilities for future research.

1. Background

1.1 Global Trends in Female Political Representation

Women are largely underrepresented in national legislatures around the world. According to the Inter-Parliamentary Union (IPU) the global participation rate of women in the lower or single house of national legislatures stands at 23.6% as of July 2017 for the 189 countries that are recorded by the organisation. While this figure falls far short of gender parity, it nonetheless represents a significant improvement in comparison to the early 1990s, as in 1992 only 11% of legislators from 144 member countries recorded by IPU were female (Matland, 1993: 1). Over the preceding 20 years the number of single and lower houses in which more than 30% of seats are held by women, increased from just five countries to 47 (IPU, 2017). There are currently two national legislatures which consist of more than 50% women, namely Rwanda (61.3%) and Bolivia (53.1%) (IPU, 2015: 1-3).

Figure 1 below contrasts female political representation in 1997 to 2016 and disaggregates the data by region. The figure reveals that considerable gains in representation have been achieved in Arab States (3.3% to 18.9%), the Americas (12.9% to 28.3%), Europe (12.3% to 26.4%) and in Sub-Saharan Africa (10.1% to 23.8%) over the period in question.

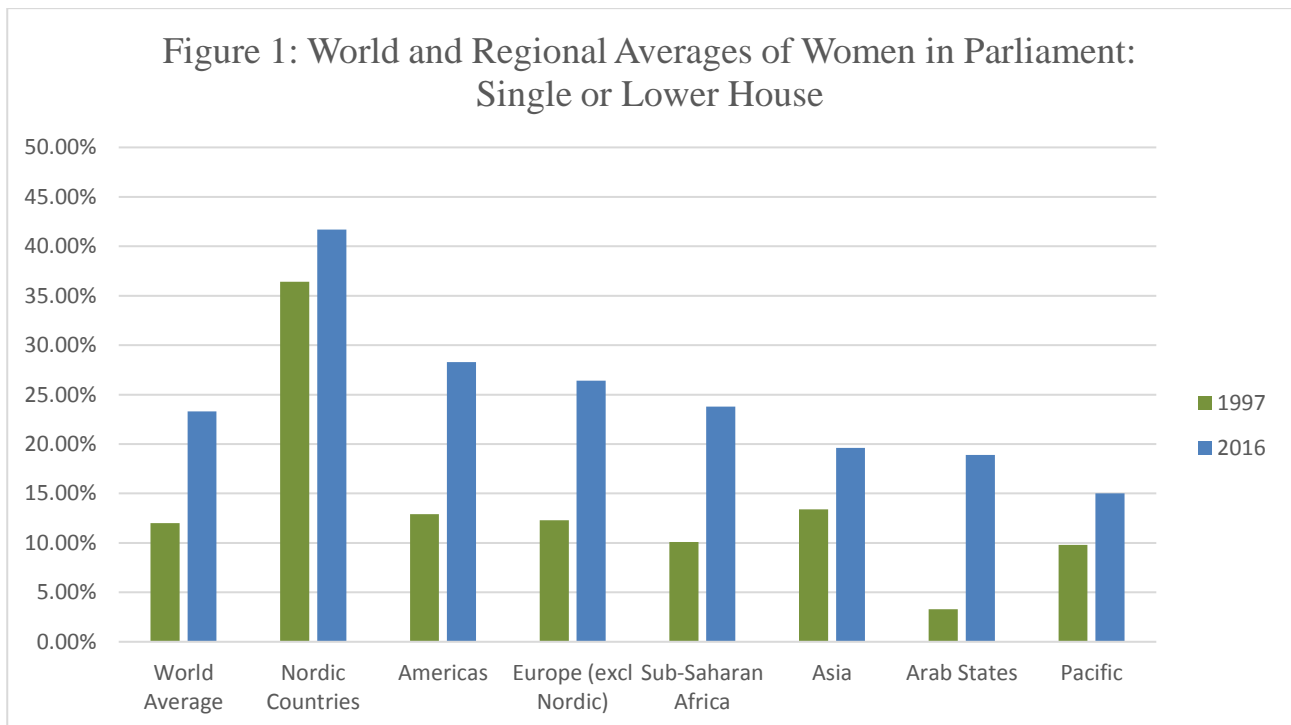


Figure 1: World and regional averages of women in parliament: single or lower house. (United Nations Entity for Gender Equality and the Empowerment of Women 2016)

There has been a marked difference in the rate at which female political representation has increased in developing economies in comparison to developed economies. In the early 1990s the majority of nations that had the highest rates of female political representation in national legislatures were all either Nordic or Western European countries, this is in stark contrast to the present, as 13 of the 20 countries with the highest levels of female representation in the lower house of national legislatures are classified by the IMF as developing economies. It should be noted that the faster growth in developing countries compared to developed countries over the period in question is partially a result of a lower baseline (Tripp, 2013).

1.2 Trends in Female Representation in Africa

Over the preceding two decades, African countries have experienced rapid growth in female political representation. This new trend towards gender parity is driven by a variety of factors, such as the breakdown of traditional gender roles, the formulation of new constitutions that include provisions for women's rights, the adoption of both voluntary and legislated quotas for women, improvements in both access to education for women and their outcomes as well as the proliferation of women's movement groups (Mutale & Ndlovu, 2013: 72-75).

The intervention of international organisations that promote and aid female political representation has contributed towards the increase of women in African politics. These organisations have facilitated the delivery of donor funds to local organisations that support women's political activities. Additionally, an array of conventions such as the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), the Beijing Declaration of 1995, the Convention on Civil and Political Rights (CCPR) and the Millennium Declaration of 2000, have all played a complementary role in mollifying gender inequality in political participation in Africa (Mutale and Ndlovu, 2013: 75). Moreover, supranational organisations such as the Southern African Development Community (SADC) and the African Union (AU) have contributed towards gender parity in government, with the latter strictly enforcing a 50/50 Gender Parity Principle in all AU structures (African Union, 2008: 3-19).

African countries are at the forefront of advocating for gender parity in national governments. Rwanda currently has the highest ratio of women in parliament in the world, with 61.3% of parliamentary seats held by women. In other African countries such as the, Ethiopia, Namibia, South Africa, Senegal, Mozambique, Angola, Tanzania and Burundi over 35% of legislative seats are held by women (Tripp, 2013).

Figure 2 below provides a regional breakdown of the number of women in government according to the UN classification of geographical regions. The chart reveals that female representation in African

parliaments remains more prevalent in Eastern and Southern Africa than in Northern, Central and Western Africa. Bauer (2012: 373) ascribes this distribution to the effect of cultural diffusion.

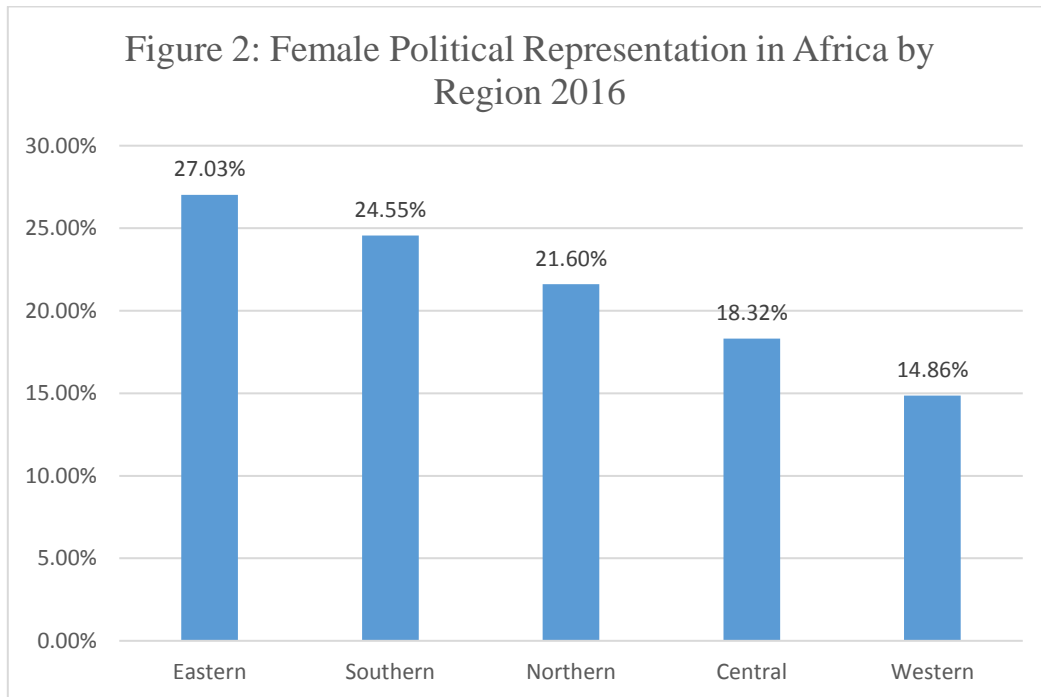


Figure 2: Female Political Representation in Africa by Region 2016. (IPU PARLINE database)

2. Female Representation in Government: A Review of Past Studies

To build on the existing literature, an investigation into the foundations upon which this paper rests must be undertaken. Table 1 below provides a summary overview of existing academic literature which examined the relationship between female labour force participation and female political representation.

The Papers by Oakes & Almquist (1993), Ross (2008), Iversen & Rosenbluth (2008) and Stockemer & Byrne (2011) found statistically significant, positive relationships between the variables. This is in contrast with the findings of Matland (1998), Kenworthy & Malami (1999), Yoon (2004) & Viterna *et al* (2007) who found no statistically significant relationship between female labour force participation and female political representation.

Table 1: Findings from a selection of previous studies on the impact of female labour force participation on female political representation¹

Study	Timeframe	Countries covered	Findings
Oakes & Almquist (1993)	1990	73 countries (n=73)	Positive, (p<0.001)
Matland (1998)	1997	16 developing countries (n=16)	Negative, (p > 0.1)
Kenworthy & Malami (1999)	1998	146 countries (n=146)	Positive, (p > 0.1)
Ross (2008)	2002	161 countries (n=161)	Positive, (p<0.001)
Yoon (2004)	1990-2001	24 countries (n=24)	Positive, (p > 0.1)
Viterna, Fallon & Beckfield ² (2007)	1998	146 countries (n=146)	Positive, (p > 0.1)
Iversen & Rosenbluth (2008)	1945-2000	23 developed countries (n=241-266)	Positive, (p < 0.05)
Stockemer & Byrne (2011)	1995-2010	120 countries (n=421)	Positive, (p < 0.01)

The first important consideration that needs to be addressed in the extant literature is the variance in sample selection. While some papers focused exclusively on either developed or developing economies, other papers included both developing and developed countries in their analysis. This poses a methodological problem, as the drivers of female political representation in industrialised countries do not necessarily exert the same effect in industrialising countries. Another component that requires discussion is that a large proportion of existing studies restrict their analysis to cross-section analysis. These papers can therefore provide no explanation for the growth in variables (Stockemer & Byrne, 2011: 808-810).

¹ The structure of the table is an adjusted version of a table that appears in Stockemer & Byrne (2012: 808)

² The paper by Viterna, Fallon and Beckfield replicates the study undertaken by Kenworthy & Malami (1999)

3.1 Dependent, Independent and Control Variables

3.1.1 The Dependent Variable

The dependent variable is female representation in national legislatures. The variable is measured as the percentage of women elected to the lower/single house of national assemblies. All data for the dependent variable were sourced from the Inter-Parliamentary Union (IPU, 2017).

3.1.2 The Independent variable

Our independent variable is female labour force participation. The variable, is measured as the female share of the total labour force. A value of 0 indicates that no women form part of a nations labour force, whereas a value of 50 indicates gender parity vis-à-vis labour force participation.

3.2 Socio-economic Explanations for Female Political Representation

3.2.1 The Relationship Between the Female Labour Force Participation Rate and Female Political Representation

Globally, female representation in the lower houses of parliament has experienced a concurrent rise with female labour force participation rates over the preceding three decades (Verick, 2014: 4-7). Figure 3 below illustrates the relationship between female political representation and labour force participation in 42 sub-Saharan African countries using data from 2015. The scatter plot reveals the existence of a weakly positive linear relationship between the two, and testing for correlation returns a coefficient of 0.2343.

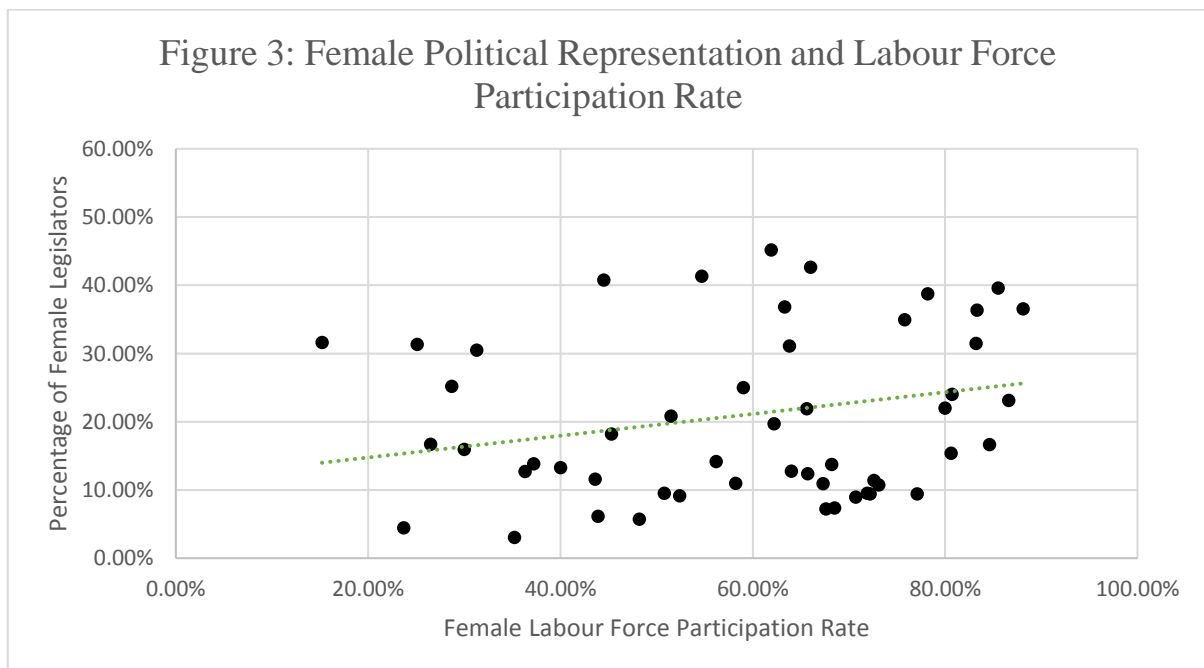


Figure 7: The relationship between female labour force participation and female political representation. (The World Bank 2015)

Examining the relationship over the period covered by the study, i.e. between 1992-2015, returns a correlation coefficient of 0.2297. However, the econometrician's axiomatic mantra that 'correlation doesn't imply causation' should be adhered to. A multiplicity of factors, both on the demand and supply side can be used to explain the relationship between the two.

Examining the correlation from the demand side, reveals that the primary outcome of an increase in the female labour force participation rate is the breakdown of traditional societal views towards gender roles. Increased female labour force participation translates into more intra-household bargaining power for women (Rodgers, 2001: 171-182). This increase in bargaining power facilitates the breakdown of entrenched norms regarding gender specialisation (Iversen & Rosenbluth, 2008: 1).

Women who are part of the labour are more likely to vote than those who are not and exhibit voting preferences that vie for increased government services, such as education, child and elderly care spending, that ease the burden of familial responsibilities. These familial responsibilities are exerted to varying degrees depending on embedded socialisation norms regarding gender roles.

Therefore, an increase in female employment translates into a voting gap between men and women, where women who are part of the labour force exhibit a preference for voting on the left of the political spectrum³ (Inglehart & Norris, 2000: 441-463; Welch 1977). Political parties on the left are more inclined than those on the right to transfer tasks that used to be assigned to women, to the state⁴. Left party policy is more likely to result in a larger public sector, which provides further opportunity for female employment. Additionally, left leaning political parties tend to have a higher number of female candidates that stand for political office, as opposed to more conservative "traditional values" orientated parties on the right (Caul, 1999: 80-90). This further contributes towards a rise in female political representation.

When inspecting female political representation, one should view holding political office as a separate labour market in of itself (Iversen and Rosenbluth, 2007: 1-3). In developing economies female labour market participation is typified by a large proportion of women working in the primary, agricultural sector, which does not necessarily translate into female empowerment and more women in political office (Matland, 1998).

³ It can be argued that employed women's preference for voting on the left is diminished by the presence of religious conservatism

⁴ Liberal political organisations are, *a posteriori*, more likely to adopt progressive policies regarding women's roles and representation within society than conservative political organisations.

The supply-side relationship, i.e. examining the number of women who are suitably qualified to stand as candidates, reveals that it is not labour market participation *per se*, but rather suitable experience in professional and managerial work that contributes towards female political participation. Research carried out by Kenworthy & Malami (1999) on the cross-national variation of female political representation in the lower house of national legislatures affirms the afore-mentioned hypothesis that the proportion of women in managerial and professional positions is a strong correlate to female representation in government.

Women's labour force participation is measured using the female share of the total, paid labour force. This variable is measured as a percentage of the total labour force. There is a methodological benefit to using the share of the labour force rather than the female labour force participation rate, in that it is a net measure, and thus allows for the comparison of women's economic involvement irrespective of a nation's level of development (Stockemer & Byrne, 2012: 809-810). Data for the indicator was sourced from the World Bank.

3.2.2 The Relationship Between the Service Sector and Female Political Representation

The expansion of the service sector in African economies has precipitated a change in the dynamic of labour markets on the continent. The service sector contributed 49% to African countries' real output in 2012, and its share of real output continues to rise (United Nations, 2015: 8-10). Rendall (2014: 2) found that countries with large service sectors also have a larger proportion of females participating in the labour force. The relationship between service sector expansion and increased female labour market participation is resultant of, "*The diminution of the male brawn premium that existed for millennia of agrarian history and that continued to play a role in manual labour intensive manufacturing*" (Iversen & Rosenbluth, 2008: 11). Employment in services is more reliant on social rather than manual skills and a large proportion of elected officials are drawn from occupations that fall under the service sector (Kenworthy & Malami, 1999:240).

The preceding assertions warrant the need to control for the extent to which the service sector affects female political representation. The variable is measured as the value added, of services as a percentage of total GDP. Data for this indicator was compiled using World Bank data.

3.2.3 Education and Female Political Representation

Low levels of education have been shown to inhibit citizens from participating in the electoral process and contributes towards voter apathy (Ballington, 2010: 6). Uneducated women are less likely to be

financially independent and participate in paid work, and are thus unable to accumulate the requisite capital, both financial and social, to stand for elected office. (Watt, 2000: 44).

Improved access to education and a higher incidence of female enrolment in tertiary education have contributed significantly to female political representation. Schlozman, Burns and Verba (2001: 286) contend that female education levels exhibit a causal relationship with political representation. Education has a supply-side effect, increasing the pool of suitably qualified females who run as candidates. Education provides female candidates with requisite resources, knowledge and social networks to successfully stand for elected office (Mutale & Ndlovu, 2013: 75).

Low levels of educational attainment exhibit a causal relationship with a higher Total Fertility Rate (Bittencourt, 2014: 1). Education affects fertility through the incentive effect; in which women with higher levels of education associate higher opportunity costs with having children (Pradhan, 2015). High fertility rates increase the burden of familial responsibilities thus making it difficult for women to participate in both the formal economy and the political arena (Adsera, 2003: 1-2). A high TFR, spurred on by a lack of female educational attainment, provides a further reflection of the status of women in a society.

Fertility data and female political representation data covering the period from 1992-2015 reveals that African countries which have a TFR of 6 or higher have a mean female political representation rate of 10.18% (n=301), whereas countries with an average TFR of 4.5 or lower have a mean representation rate of 17.33% (n=219).

Women's educational attainment is measured using the Gender Parity Index for the gross enrolment ratio in tertiary education. The variable provides a ratio of women to men enrolled at the tertiary level. Using a net measure as opposed to solely examining female enrolment in tertiary education, allows for analysis of women's involvement in education irrespective of a nation's level of development (Stockemer & Byrne, 2012: 809-810). Data for the variable was sourced from the World Bank and cross-referenced with data from the Barro-Lee education database.

3.3 Political Determinants of Female Political Representation

3.3.1 Election Rules and Female Political Representation

In cross-national research on female political representation, the importance of electoral systems has been the most consistently-demonstrated finding (Paxton, et al, 2009: 2). One of the primary reasons scholars who study female political representation exhibit such an interest in electoral rules, is that unlike entrenched cultural biases, or a nation's level of development, changes to electoral rules are

relatively easy and happen frequently (Matland, 2005). Electoral systems can be categorised into three major groups, namely, majoritarian, proportional and mixed election systems.

Electoral systems should be viewed as the mechanism whereby votes are translated into seats. Fraenkel (2009: 63-64), notes that the way in which elections are structured can impede or promote female political representation. Proportional representation electoral systems are designed so that the number of seats that a party receives is contingent on the proportion of votes that the party received in each electoral district (Warioba, 2011: 7). Proportional representation systems typically have some threshold that allow political parties to secure seats in government, for example, in South Africa the threshold is 0.5% of the vote (Fraenkel, 2009: 71).

Proportional representation systems include both party list systems and single transferable vote systems (O'Neal, 1993). Proportional representation systems can either have closed or open lists. Under an open list system, voters have some type of influence over the order in which political party candidates are elected. This contrasts with a closed list system, in which only members of the political party have some influence over the composition of the party list.⁵

In majoritarian election systems, the winning candidates are those who received the highest number of votes in their respective electoral districts (O'Neal, 1993). According to a majoritarian system the criterion for winning an election is either that the winning candidate is the one who receives the most votes out of all the candidates who stood for election, i.e. a simple majority, or that the winning candidate is the one who receives an absolute majority (50 percent plus one) of the vote (Warioba, 2011: 22). Electoral systems that fall under the majoritarian banner include: plurality systems – also known as a First-Past-The-Post (FPTP) system, two-round systems and the alternative vote system (Norris, 1997: 297-312) 19 out of the 42 Sub-Saharan African countries included in the paper make use of majoritarian election systems to elect members to the legislature.

Proportional representation systems avoid the conundrum of irrelevant votes faced by majoritarian election systems, in which votes cast for the losing individual are effectively wasted. For example, If Party A receives 65% of the vote and Party B receives 35% of the vote, under a majoritarian system Party A wins all the seats and Party B receives none, thus the votes cast for Party B are deemed irrelevant. While majoritarian systems allow for better accountability, they tend to focus on the median voter, often ignoring outlying voter populations and minority groups (Lindberg, 2004: 33). Proportional election systems provide a better mechanism for representing minority parties and offers potential for more diversity in representation (Norris, 1997: 298). 13 out of the 42 countries included

⁵ The collected data does not distinguish between open and closed party-lists.

in the paper make use of proportional representation election systems to elect members to the legislature.

Mixed systems are electoral systems that have both majoritarian and proportional characteristics. An electoral system can be categorised as mixed if more than one formula is employed to determine the distribution of seats (Ferrara, Herron & Nishikawa, 2005: 26-28). 7 of the 42 countries included in the paper make use of a mixed system to elect members to the legislature. This number rises to 10 countries when accounting for countries which changed their election systems during the period under observation.

One of the primary differences between majoritarian and proportional systems is the variance in district magnitude. Under majoritarian systems, candidates tend to compete against each other in single-member constituencies. This contrasts with proportional systems, in which candidates primarily compete for seats in multi-member constituencies. Existing studies reveal that more women are elected in nations where voters choose among political party lists in multi-member districts rather than for individual candidates in single-member districts (Caul 1999; Kenworthy & Malami, 1999: 237; Krennerich, 2009; Krook, 2007: 5-6; Matland 1998; Moser, 2001; Norris 1985, 1997 & 2004; Tripp & Kang, 2008). These results remain positive and significant in both developed and developing countries alike. Under proportional representation (PR) systems, political party ideology is much more important for winning seats in an election than the characteristics of different candidates (Iversen & Rosenbluth, 2008: 485-486). Women face zero-sum, adversarial conditions in single-member districts, often competing against male, political incumbents to get their names on the ballot (Matland, 1998:112-113). Competing against established, male political incumbents is complicated by the presence of clientelism, which is more prevalent in single, rather than multiple-member districts (Caul, 1999: 81; Lindberg, 2004: 33). The higher the district magnitude, the lower the probability of intra-party conflict arising from the candidate nomination process, thus making it more likely that political parties will introduce female candidates to their party lists, as doing so broadens the general appeal of the party (Stockhemier, 2011: 8).

Figure 4 below provides a breakdown of female political representation in the lower/single house of national legislatures according to the type of election system in use, for the period from 1992-2016. Even though countries which utilise majoritarian or proportional systems experienced the same level of female political representation in 1992, their growth paths have differed significantly. Countries with majoritarian election systems experienced an average growth rate of 2.36% over the period in question while proportional representation and mixed systems averaged growth of 5.56% & 6.49% respectively. Average representation under majoritarian systems in 2015 stood at 14.62%, while proportional and mixed systems averaged 28.26% and 23.55%. Summary statistic tables describing

female political representation by election system type are included in the appendix under Tables 2, 3 and 4.

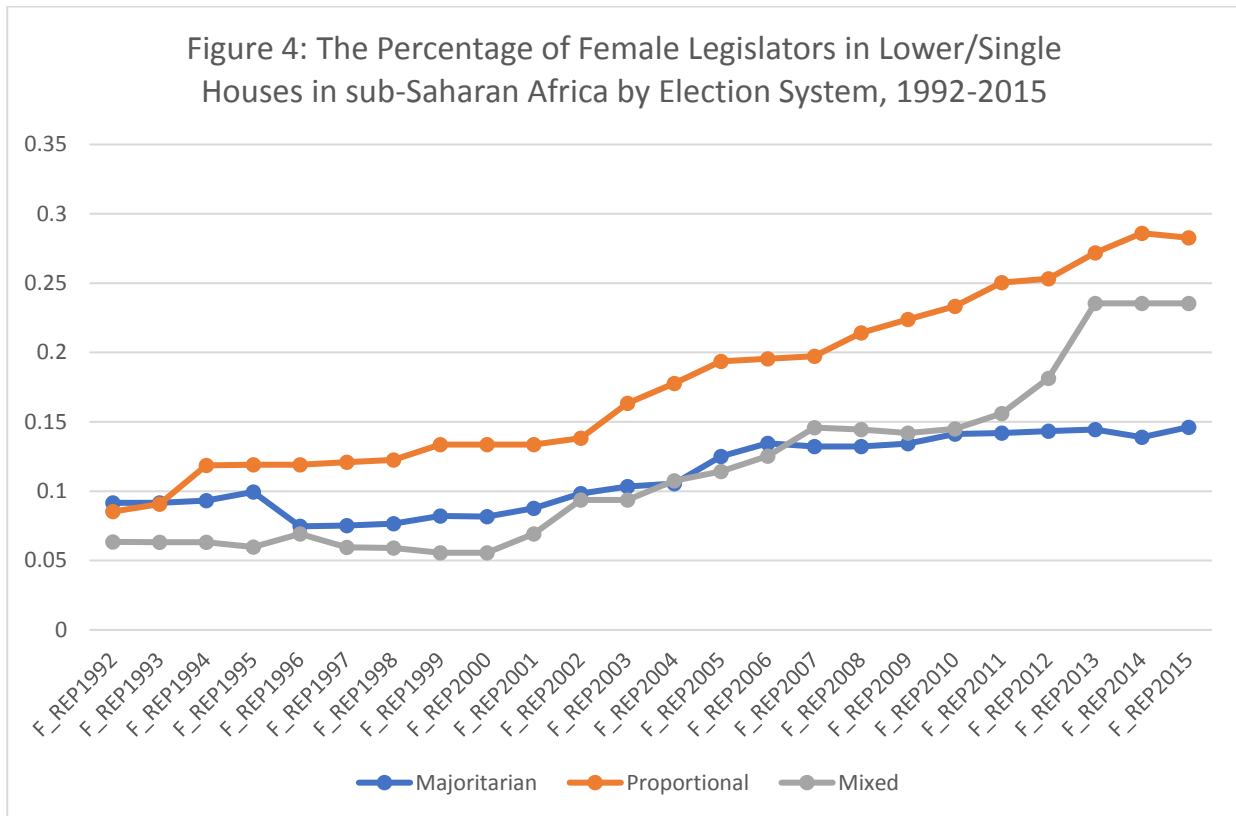


Figure 4: The percentage of female legislators in lower/single houses in sub-Saharan Africa by election system 1996-2016. (IPU-PARLINE database, ACE Electoral Knowledge Network, IDEA International)

It is the authors expectation that election rules have a significant impact on female political representation. A positive effect is expected from proportional election systems and a negative effect from majoritarian systems.

Three primary sources were used to gather electoral system data. Using three sources allows for cross-referencing and thus allows for more confidence in the reliability of the data. The three sources used were the International Parliamentary Union (IPU), The ACE Electoral Knowledge Network and the Institute for Democracy and Electoral Assistance (IDEA International). In terms of the variables operationalisation, the use of use dummy variables for the different types of election systems will be employed⁶.

3.3.2 Female Political Representation and Quota Legislation

⁶ Note that three countries switched from majoritarian election systems to mixed systems. The data incorporates these changes to the countries electoral systems.

Existing literature suggests that the incremental approach employed by the ‘old-guard’ leaders in female political representation, i.e. the Nordic countries, was the best means by which to increase the participation of women in politics. The incremental approach held that political and socio-economic changes occur over time which leads to an increase in the proportion of women in government (Bauer, 2012: 370-371). This viewpoint has faced increased scrutiny since the early 1990s as policymakers in countries such as Rwanda, Uganda, Senegal, Argentina and Bolivia have successfully implemented so-called ‘fast-track’ legislated quotas to increase the number of women who participate in politics.

The introduction of gender quotas has led to increases in the number of female parliamentarians in the majority of countries in which it was adopted (Tripp & Kang, 2008: 338-339). Furthermore, Tripp and Kang (2008) suggest that electoral quotas alone deliver the greatest explanatory power for the increase in women’s political representation over the preceding two decades (Bauer, 2012: 371).

The two most prevalent types of electoral gender quotas are candidate quotas and reserved seats. Candidate quotas specify that a certain percentage of candidates who stand in an election should be female. Reserved seats allocate a certain number of seats specifically for women in the legislature. Dahlerup (2005:142) notes that if reserved seats are employed as a mechanism to increase female political participation, then it should not only provide seats to a few token women but rather to a ‘critical minority’ of women to ensure adequate representation in the political arena.

In terms of their legality, quotas for women fall under two categories; i.e. they can either be legislated or voluntary. Legislated quotas refer to quotas that are ratified by a nation’s constitution or electoral law, and there is some form of sanction for non-compliance. Voluntary quotas pertain to quotas that are not supported by law but are rather instituted by political organisations themselves. There are no legal ramifications for non-compliance to voluntary quotas. In 1992 only two of the 42 sub-Saharan African countries included in the dataset had a legislated quota for women in the lower/single house of national legislatures in place. The number of countries with legislated quotas for women increased to 19 by 2015. Figure 5 compares the proportion of women in the single/lower house of national legislatures which have legislated quotas in place against sub-Saharan African countries that have no legislated quotas in place. The figure below provides a clear illustration of the effect that legislated quotas have on increasing female political representation within the context of sub-Saharan Africa.

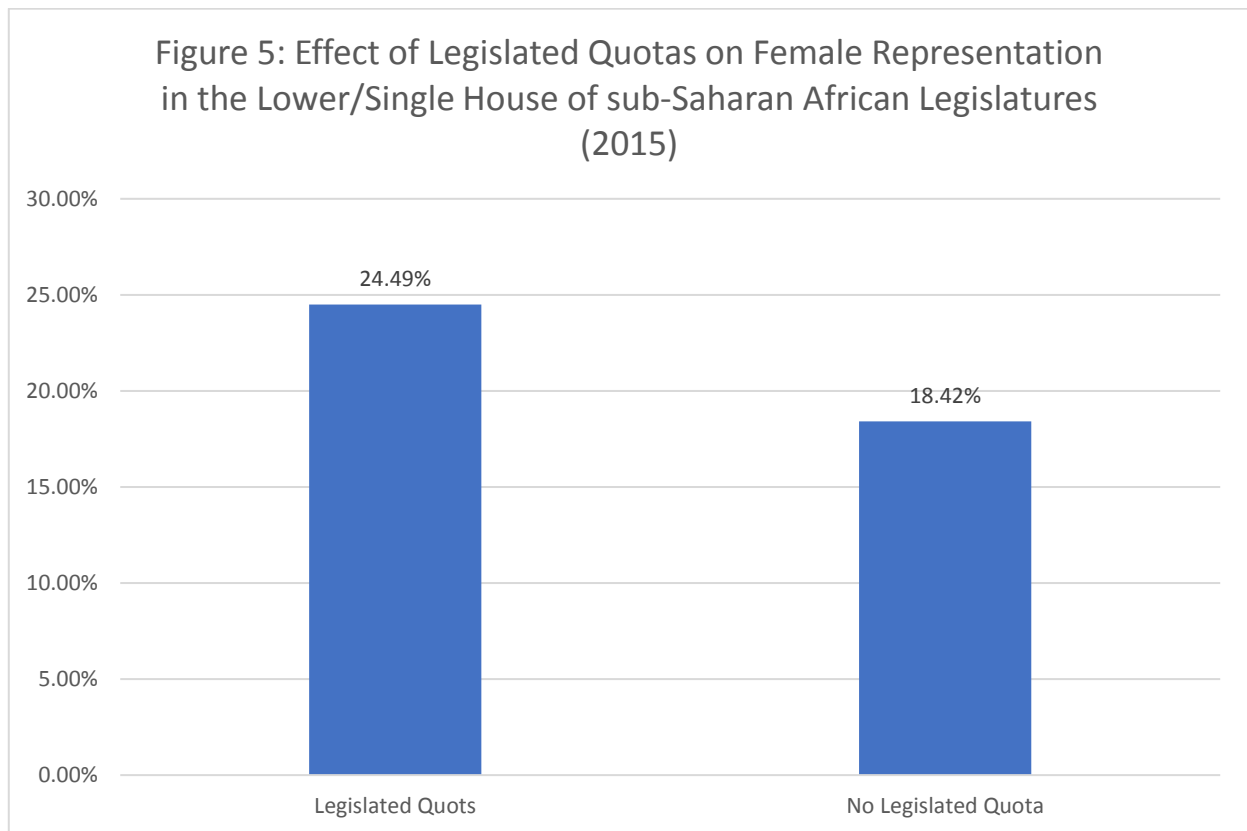


Figure 5: The effect of legislated quotas on female representation in Lower/Single house of sub-Saharan African Legislatures, 2015. (IDEA International)

To enhance the efficacy of quotas, those implementing quotas should be acutely aware of the institutional context in which they will be applied. Cognisance of the electoral and political party systems in place allows for the best matching of quotas to the type of electoral system used (IPU, 2015: 12). Candidate quotas are most appropriate in countries that employ a Proportional Representation (PR) election system, while reserved seat quotas are best suited to countries that have First-Past-The-Post elections (Bauer, 2012: 370-373).

The quota variable is coded using information gathered from the International Institute for Democracy and Electoral Assistance (IDEA International). The variable is operationalised in accordance with the methodology employed by Tripp & Kang (2008). Countries receive a value of 0 if no quota exists in the lower/single house of their national legislatures. Countries receive a value of 1 if there are compulsory party quotas, legislated quotas or reserved seats for women. It is the authors expectation that quotas will have a positive impact on female political representation.

3.3.3 Democratisation, Civil Liberties and Female Political Representation

Democratisation can be defined as “*the long-term process of moving toward democracy from an authoritarian political system*” (Yoon, 2001: 171). This process is characterised by substantive

political changes which enhance the democratic outcomes of a society. The most recent wave of democratisation in Africa has coincided with the expansion of women's rights.

The accompanying political transitions created a new political climate in which women could successfully demand improved political access and rights (Bauer, 2013). Unlike in Latin America and Eastern European countries, women's movements in many African countries successfully lobbied for enhanced female participation in decision-making, as well as for the enactment of legislated and voluntary quotas (Tripp, 2013). The success of these women's movements can somewhat be ascribed to the intervention of international organisations and supranational unions that promote and aid female political representation (Mutale & Ndlovu, 2013).

The introduction of multi-party elections broke the old monopolies of post-independence political power and meant that political parties had to cover a wide range of agendas in order to garner support from the populace. To differentiate themselves from other political organisations many parties, especially on the left of the political spectrum, adopted platforms that promoted gender equality and promised enhanced access to women in politics (Mutale & Ndlovu, 2013: 74).

Bauer's (2012: 370-384) study of African parliaments found that there was a significant influx of female parliamentarians after a political transition to multi-party elections. This contrasts the findings of Yoon (2001:169-190) which found that the introduction of multi-party legislative elections lowered female parliamentary representation. These contrasting findings can be ascribed to the temporal scope of Yoon's study, which only covered the period from 1990-1999. Moreover, Yoon's study has no mechanism to control for if the elections were free and fair, which within in the context of Sub-Saharan Africa is particularly important (Lindberg, 2004: 31).

(Tripp & Kang, 2008: 344). The author expects that the democratisation process and the introduction of multi-party elections will have a positive effect on female political representation. It is not only the introduction of multi-party elections but the presence of free and fair elections, as well as wide ranging civil liberties that define the level of democracy in a society, therefore, the paper will make use the Freedom House index from 1992-2015 as a measure of democracy. The Freedom House index is a composite of two indices, namely, The Political Rights index and the Civil Liberties index. Each country is assigned two ratings, one for political rights and one for civil liberties. The ratings are measured using a scale from one to seven, with one indicating the greatest degree of freedom and seven the smallest degree of freedom (Freedomhouse.org, 2015).

In terms of operationalisation, I follow the methodology employed by Acemoglu, Johnson, Robinson & Yared (2008: 813-814). The scores for both the Political Rights index and the Civil Liberties index are inverted and then transformed them so that they assume a value between 0 and 1, with 1 indicating

countries with the highest levels of political rights and civil liberties. This methodological approach simplifies the interpretation of the variables effects.

3.4 Cultural Determinants of Female Political Representation

While the relationship between political culture and female political representation should be clear, its measurement has proved troublesome. The *a priori* view holds that nations which exhibit more liberal attitudes towards the role of women in society should have higher numbers of female representatives (Kenworthy & Malami, 1999: 241-244). Social mores not only determine the electorates proclivity for voting for men or women, but also impact on the decision of women to stand for elected office (Yoon, 2004: 449-450).

In the existing literature, a multitude of variables are used to capture the cultural component. Yoon (2004) uses the prevalence of female genital mutilation to measure patriarchal culture. Matland (1998) utilises a factor analysis of three measures, the literacy gap, the ratio of women's labour force participation to men's labour force participation and the ratio of university educated females to university educated males. Stockemer & Byrne (2012) uses religiosity and a countries level of development to measure political culture. At this stage, there is no comprehensive set of time-series variables to capture societal views regarding the role women in sub-Saharan African countries which cover the temporal scope of this study. This paucity of data hinders variable selection.

The final variable included in the analysis is a control variable for region. The different regions of the world often exhibit similar cultural traits and institutional structures. Bauer (2012; 372-373) contends that cultural diffusion occurs among countries within the same geographic regions. By including a regional categorical variable, the regional influences exerted on female political representation will be captured and it will also aid in removing some of the unexplained variance in the model (Stockemer & Byrne, 2012: 813-814). The countries included in the dataset are divided according to the UN classification of geographical regions. In the case of sub-Saharan Africa there are 4 regions, namely, Eastern, Central, Western and Southern Africa. Southern Africa is used as the reference group.

4. Data and Method

This section outlines the research methods used for assessing the relationship between female political representation in the lower/single house of sub-Saharan African national legislatures and female labour force participation.

As previously stated, the dependent variable is female political representation in the lower house of national legislatures. The variable is measured as the percentage of women elected to national legislatures. The decision to use the lower house instead of the upper house of national legislatures is twofold. Firstly, many of the countries included in the analysis have unicameral legislatures and secondly, several of the upper houses in the sample countries are indirectly elected and/or nominated for office. The values for the dependent variable fall between 0% and 64.29%, with a mean representation rate of 13.05%. The standard deviation is 10.305.

The independent variable is female labour force participation. The variable, is measured as the female share of the total labour force. A value of 0 indicates that no women form part of a nations labour force, whereas a value of 50 indicates gender parity in labour force participation. The values for the independent variable range between 24.41 and 55.84, with a mean share of 44.41. The standard deviation is 6.497.

Examining the correlation between female political representation and female labour force participation reveals a weakly positive linear relationship, with a correlation coefficient of 0.3438. Within the data sample, when the female share of the total labour force exceeds 49%, mean female political representation is 18.38% (n=231). When the female share of the labour force is below 49% mean female political representation is 11.47% (n=777).

4.1 Sample Selection

The selection of sampling frame began broadly, with the original experiment population being the 54 countries in Africa according to the UN Classification of countries. Data availability led to the omission of the following northern African countries: Algeria, Djibouti, Egypt, Libya, Morocco, Somalia, Sudan and Tunisia. The sample was thus narrowed to 46 sub-Saharan Africa countries. Further restrictions regarding the availability of data led to the exclusion of Eritrea, Liberia, the Seychelles and South Sudan from the sample. The final sample for data analysis is thus comprised of 42 sub-Saharan African countries. A full list of these countries can be found in the Appendix under Table 5.

4.2 Time Frame

The selection of a time frame was contingent on a trade-off between completeness and an extended time frame. The largest period for which complete data was available spans the period from 1992 to 2015, with data points collected at an annual interval.

4.3 Data Collection

The data analysis makes use of pre-existing, secondary data. Data for the dependent, independent and control variables were collected from several, reputable international organisations, namely, the World Bank, the United Nations, the International Monetary Fund, Quota Project, IDEA International, Freedom House and the Inter-Parliamentary Union. The control variables include, the value added of services as a percentage of GDP, the Freedom House Political Rights Index, the Freedom House Civil Liberties Index, the presence of legislated quotas, the election system in place, a geographical region control variable and a ratio of female tertiary enrolment rate.

The quota variable is operationalised as a dummy variable, with 0 indicating no quota is in place and 1 indicating the presence of a legislated quota. The election system is coded as a categorical variable with 1 representing a majoritarian election system, while 2 and 3 represent proportional and mixed systems. Majoritarian election systems are used as the reference category for the election system variable. The region variable is also operationalised as a categorical variable, with the reference category being Southern Africa.

A proportion of observations for the female tertiary enrolment ratio some of the countries were missing. To overcome this Holt-Winters double exponential smoothing was employed to complete the series. The Holt-Winters method consists of two components, firstly it accounts for the underlying level in the tertiary enrolment ratio and secondly it isolates and incorporates the trend component of the tertiary enrolment ratio. For each of these two components there is a smoothing constant. These smoothing constants apportion more weighting to recent observations and less to older observations (Goodwin, 2010: 30-33)⁷.

The rationale for choosing these specific control variables is that existing literature and past econometric studies have shown that the aforementioned variables have consistently been shown to influence female political representation (Dahlerup, 2005; Iversen & Rosenbluth, 2007; Kenworthy & Malami, 1999; Parsons et al, 2015; Tripp & Kang, 2008; Schlozman et al, 2001; Verick, 2014). The econometric model aims to show the total effect of the independent variable to determine whether

⁷ The Holt-Winters method is not immune to criticism and other methods will be considered in future iterations of the paper.

a large proportion of female representation can be explained by the variable, or if there are other unknown variables that have explanatory power.

4.4 Modelling

The final model was developed through an iterative process that started with the specification outlined in equation 1.

$$FEM_REP_{it} = \beta_0 + \beta_1 FSLF_{it} + \beta_2 SGDP_{it} + \beta_3 TER_{it} + \beta_4 POL_R_{it} + \beta_5 CIV_R_{it} + \beta_6 ELEC_C_{it} + \beta_7 REG_{it} + \beta_8 Q_{-it} + \varepsilon_t \quad (1)$$

Equation 1 is a Pooled Ordinary Least Squares regression model (OLS) with female political representation as the dependent variable. A robustness check was employed to determine the presence of heteroskedasticity, with the outcome of this test illustrated under equation 2 in the results section. The robustness check did not significantly alter the coefficients.

The next step in the modelling process was to determine the approach to the panel data analysis. It was decided that a OLS model would be inadequate as the independent variable and several of the control variables, barring the region and election system variables in (1), are time variant.

Since time invariant factors which are specific to the different countries exist, it was decided to estimate the model using fixed effects. In using fixed effects, we impose time independent effects for each country that are potentially correlated with the independent variables, which required a further assumption that the unobserved time invariant factors do not significantly influence the other explanatory variables included in the model. A Hausman test was employed to test the applicability of using a fixed effects versus a random effects model. The results of the Hausman test confirms that a fixed effects model is the most appropriate.

The first fixed effects model led to the omission of both the election system and regional categorical control variables. Their omission stems from their time-invariance, as time invariant variables cannot be included in a fixed effects model due to collinearity. A second fixed effects model was thus run, leaving out the election system and regional control variables. Due to uncertainty over the correct model specification, both a random effects model and a multilevel model were included in the analysis. At this preliminary stage, it was decided to interpret the results from the second fixed effects model which is outlined by equation 4 below:

$$FEM_REP_{it} = \beta_0 + \beta_1 FSLF_{it} + \beta_2 SGDP_{it} + \beta_3 TER_{it} + \beta_4 POL_R_{it} + \beta_5 CIV_R_{it} + \beta_6 Q_{-it} + \varepsilon_t \quad (4)$$

5. Results

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	POLS FEMALE_RE P	POLSROB FEMALE_RE P	FE1 FEMALE_RE P	FE2 FEMALE_RE P	RE FEMALE_RE P	ME FEMALE_RE P
FSLF	0.396*** (0.0427)	0.396*** (0.0360)	0.432*** (0.139)	0.433*** (0.139)	0.498*** (0.105)	0.396*** (0.0424)
TER_GPI	0.0343*** (0.00908)	0.0343*** (0.00847)	0.175*** (0.0166)	0.176*** (0.0166)	0.148*** (0.0149)	0.0343*** (0.00903)
SGDP	0.0853*** (0.0265)	0.0853*** (0.0216)	0.126*** (0.0352)	0.125*** (0.0352)	0.127*** (0.0334)	0.0853*** (0.0264)
POL_R	-0.00184 (0.0162)	-0.00184 (0.0128)	0.0361** (0.0177)	0.0370** (0.0177)	0.0262 (0.0173)	-0.00184 (0.0161)
CIV_R	0.0333 (0.0250)	0.0333 (0.0228)	0.101*** (0.0242)	0.0983*** (0.0239)	0.0970*** (0.0239)	0.0333 (0.0248)
1.Q_	8.636*** (0.716)	8.636*** (0.927)	7.077*** (0.728)	7.204*** (0.716)	7.472*** (0.717)	8.636*** (0.712)
2.ELEC_C	5.908*** (0.631)	5.908*** (0.620)			3.202 (2.119)	5.908*** (0.627)
3.ELEC_C	1.685** (0.744)	1.685** (0.757)	1.299 (1.386)		1.455 (1.253)	1.685** (0.740)
2.REG_	-4.962*** (0.935)	-4.962*** (0.864)			-0.263 (3.193)	-4.962*** (0.929)
3.REG_	1.906** (0.943)	1.906** (0.937)			6.787** (3.292)	1.906** (0.938)
4.REG_	-2.702** (1.093)	-2.702*** (0.950)			4.855 (3.504)	-2.702** (1.086)
Constant	-14.17*** (2.760)	-14.17*** (2.400)	-31.33*** (6.093)	-31.04*** (6.084)	-36.11*** (5.632)	-14.17*** (2.744)
Constant						2.059*** (0.0223)
Observations	1,008	1,008	1,008	1,008	1,008	1,008
R-squared	0.421	0.421	0.367	0.366		
Number of panelid			42	42	42	

Standard errors in parentheses

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

The fixed effects model represented by FE2 (equation 4) confirms that female labour force participation has a substantive effect on female political representation. The relationship between the two variables is statistically significant and the model predicts that for every 1% increase in the female share of the labour force, female political representation will increase by 0.433%. This relationship remains robust irrespective of the model specification. The results suggest that female participation in the workforce positively impacts on the proportion of women in elected government.

Examining the control variables confirms the aforementioned assumption that they affect the rates of female parliamentary representation. The tertiary enrolment rate, the size of the service sector, civil rights and quotas all return positive and significant (at 1%) coefficients. The influence of political rights is similarly positive but is only significant at the 5% level.

6. Conclusion and Recommendations

Global trends in female political representation over the period from 1992-2015 give cause for optimism, with the global female political representation rate doubling from 11% to 22.7%. There has been a concurrent rise in female political participation in Africa, with the number of female legislators in the lower houses of African parliaments increasing from 10.1% in 1997, to 20.97% in 2015. Eastern and southern African countries have led the way while central and western African countries continue to lag behind. The trend towards gender parity in African politics was shown to be a result of, *inter alia*, an increase in the female labour force participation rate, the breakdown of traditional gender roles, the transition to multi-party democracy, the adoption of both legislated and voluntary quotas for women in government, as well as an improvement in access to education as well as educational outcomes for women.

An improvement in educational outcomes for women has been shown to translate into a higher female labour force participation rate. The paper has shown that a positive relationship between female labour force participation and female political representation exists. This is in part due to changing public opinion vis-à-vis gender specialisation once more women participate in the formal economy. The paper also revealed that it is not necessarily the number of women in the labour force that matters, but rather the number of women in professional and managerial work that matter for improving female political representation.

Policymakers should prioritise legislation that protects and promotes the rights of women in African society, by punishing the practice of female genital mutilation and by passing legislation that diminishes the prevalence of early marriage. However, this incremental approach takes time and is contingent on the successful breakdown of embedded, informal institutions that denigrate the role of women in society.

In order to hasten change, the appropriate use of quota legislation is required. This paper shows that quotas assist in promoting women into positions of authority and accelerate the breakdown of overtly patriarchal societal norms. The data analysis corroborates the hypothesis that quotas are the best mechanism to increase female political representation. Additionally, existing electoral systems provide a quick fix to improve the proportion of women in government. Elections systems should be

reviewed and where applicable, majoritarian electoral systems should be changed to proportional electoral systems in order to offer more female candidates the opportunity to stand for office in multi-member constituencies.

It is important to emphasise that more women in government should not be seen as the only goal for improving gender equality in a society. An increase in female political representation should rather be viewed as one of the many outcomes that stem from gender equality.

Irrespective of whether a fast-track or incremental approach to improving female political representation is adopted, the only way real, sustained change can be attained is via the reformulation of the informal institutions of society such that women have the same opportunities as their male counterparts.

‘Everyone knows to be the case: that the extent to which individuals become involved in politics and thereby gain access to decision-making channels is directly correlated with the resources they have at their command’

- Anne Phillips

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8. Appendix:

Table 2: Summary statistics for female political representation if a majoritarian election system is used

FEMALE_REP				
	Percentiles	Smallest		
1%	0	0		
5%	2.05	0		
10%	2.97	0	Obs	493
25%	5.71	0	Sum of Wgt.	493
50%	9		Mean	10.3462
		Largest	Std. Dev.	7.417899
75%	12.9	36		
90%	21.24	36	Variance	55.02523
95%	27.79	36.56	Skewness	1.507007
99%	36	38.76	Kurtosis	5.518662

Table 2 summary statistics for female political representation if a majoritarian election system is used

Table 3: Summary statistics for female political representation if a proportional election system is used

FEMALE_REP				
	Percentiles	Smallest		
1%	1.28	1.28		
5%	5	1.28		
10%	6.024096	1.28	Obs	312
25%	8.43	1.28	Sum of Wgt.	312
50%	11.11		Mean	17.74473
		Largest	Std. Dev.	13.22787
75%	25.1	63.75		
90%	37.27	63.75	Variance	174.9765
95%	43.5	64.29	Skewness	1.288065
99%	63.75	64.29	Kurtosis	4.17747

Table 3 summary statistics for female political representation if a proportional election system is used

Table 4: Summary statistics for female political representation if a mixed election system is used

FEMALE_REP				
	Percentiles	Smallest		
1%	1.205	1.205		
5%	1.27	1.205		
10%	3.614	1.205	Obs	203
25%	5.81	1.205	Sum of Wgt.	203
50%	12.14		Mean	12.40447
		Largest	Std. Dev.	8.580624
75%	17.89	42.67		
90%	24.17	42.67	Variance	73.62712
95%	25.17	42.67	Skewness	1.104128
99%	42.67	42.67	Kurtosis	4.55007

Table 4 summary statistics for female political representation if a mixed election system is used

Table 5: List of Sub-Saharan African countries that are included in the data analysis

Angola	Lesotho
Benin	Madagascar
Botswana	Malawi
Burkina Faso	Mali
Burundi	Mauritania
Cape Verde	Mauritius
Cameroon	Mozambique
Central African Republic	Namibia
Chad	Niger
Comoros	Nigeria
The Democratic Republic of the Congo	Rwanda
The Republic of the Congo	Sao Tome and Principe
Ivory Coast	Senegal
Equatorial Guinea	Sierra Leone
Ethiopia	South Africa
Gabon	Swaziland
The Gambia	Tanzania
Ghana	Togo
Guinea	Uganda
Guinea-Bissau	Zambia
Kenya	Zimbabwe

Table 5: List of Sub-Saharan African countries that are included in the data analysis