

**Women economic empowerment in sub-Saharan Africa: A cross-national analysis using  
DHS data**

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## *Background*

The 2015 UN SDGs slogan—leave no one behind— has drawn attention to the most marginalised regions and populations, including women. As such, WEE is increasingly viewed as a cornerstone for the achievement of the SDGs and inclusive economic growth (UN Secretary-General's Secretariat 2016). This is because women on average exhibit lower economic and education achievements and higher poverty levels compared to men within households (World Bank 2018). Consequently, the UN Secretary General established a High-Level Panel on WEE in 2016 to consolidate efforts and accelerate economic empowerment of women globally. Golla et al (2011) define WEE as enabling women to have both the ability to succeed and advance economically and the power to make and act on economic decisions (Golla, Malhotra et al. 2011). This definition combines both economic outcomes and autonomy in economic decision-making, implying ‘choice’ among women, which is key to empowerment. The growing traction around WEE is partly due to the realisation that the economic dimension lags behind other dimensions of women empowerment (UN Secretary-General 2017, World Economic Forum 2018), and thus more efforts are needed in the economic dimension if women empowerment goals are to be achieved. This lag could be attributed to the fact that gender bias in economic policies constrains women’s ability to take up decent jobs and other economic opportunities in equal footing to men.

SSA is chosen because the region has the highest gender inequality globally, with a gender inequality index (GII) of 0.569 compared to a global average of 0.441<sup>1</sup> (UNDP 2018). In addition, SSA exhibits the highest poverty rates globally. The proportion of the population living below US\$ 1.96 is four times the global average (41% vs 9.9%) (World Bank 2018). The World Bank (2018) notes that, of the world’s 28 poorest countries, 27 are in SSA, some with as high as three quarters of the population living in poverty. The thrust of the SDGs is the most marginalised regions and populations groups in the world. As such focusing on SSA and on women in particular will be key in achieving the SDGs. Understanding the extent of WEE is the first step towards addressing the myriad of challenges faced by women and girls in SSA.

The SDGs coincide with the realisation of the economic potential of the youthful population in SSA that could help the region shake off the high poverty burden. SSA has the youngest population, and is the fastest growing region globally. In 2015, about 43.2% of the population were children below 15 years, and another 19.7% were youth aged 15-24 years. The population is projected to double from 1.2 billion in 2015 to 2.5 billion in 2050 (UNDESA Population Division 2019). This youthful population has potential to accelerate economic growth if they are actively engaged in economic production, thus earning the region a huge demographic dividend. The demographic dividend is the economic benefit that arises from a significant increase in the ratio of working-age adults relative to young dependants, if the additional labour force is economically productive (Bloom, Canning et al. 2003). The heightened interest has triggered development of initiatives and policies to guide interventions to ensure reaping of maximum benefits. For instance, in 2016 the African Union developed the roadmap for harnessing the demographic dividend, and identified 2017 as the year for doing so (African Union Commission 2017). The roadmap identified key deliverables and milestones to guide the member states on concrete actions to realise the potential of the population that will go a long way to achieving the bold aspirations of

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<sup>1</sup> The GII varies from 0 to 1, with 0 being full equality between men and women, and 1 being full inequality.

Agenda 2063, the long-term continental socio-economic development blueprint (Africa Union Commission (AUC) 2015).

Despite the traction around demographic dividend, discussions about the gender dividend are highly deficient. Gender dividend is the economic growth that can be realised from increasing the volume of paid work and the productivity of the female population (Belohlav 2016). Reduced fertility rates free up women's time so that they can participate in the labour force, but also increased income changes consumption patterns, a key driver to economic growth. Reaping the gender dividend will not only entail eliminating discrimination against women, but also integrating their perspectives, experiences and voices into organizations and leadership positions (Pellegrino, D'Amato et al. 2011). Currently, the region is missing its full growth potential because a sizable portion of its growth reserve – women's skills and abilities are largely untapped. Women constitute half of the population, but lack an equal playing ground with men in access to economic opportunities. They experience time-related underemployment as high as 40–50% of total employment, work fewer hours in paid employment, and still perform the vast majority of unpaid household and care work (International Labour Organization 2016). Estimated total annual economic losses due to gender gaps in effective labour are as high as US\$255 billion for the African region (Bandara 2015). Therefore, continuously leaving women out of the equation will prove detrimental. As noted by the former president of United States, Barack Obama, leaving women and girls out of the decision-making areas is like playing football with one-half of the team (Office of the Press Secretary 2015). Thus, the synergy provided by the SDGs and the potential of a demographic dividend provides an impetus to achieving WEE in SSA.

Focusing on SSA will not only benefit the continent but the world as a whole. The International Labour Organisation estimates that Africa's share of the global work force will increase from 10% currently to about 18% by 2030 (International Labour Organization 2018). With an aging workforce in most of the developed world, many investors are looking for cheap labour. Africa will increasingly account for large proportion of the global labour force in about a decade, ranking second after Asia and the Pacific by 2030 (International Labour Organization 2018). Thus, developing human capital, particularly among women and girls will position the region in the right direction to harness the global labour force windfall.

#### *Literature review*

There is no standard conceptualisation of WEE, therefore existing literature falls under three domains; labour market, decision making and ownership of economic assets and resources. Evidence on WEE is heavily biased to the labour market domain, and WEE and employment are intertwined to the point of being used synonymously. This could be linked to the fact that when World Bank coined 'economic empowerment', it was seen as making markets work for women, and empowering women to compete in markets, thus improving their market competitiveness (World Bank 2006). Various indicators have been used to measure WEE, including employment, financial access and inclusion including access to credit, asset ownership, decision-making within the household, autonomy, leadership roles including political representation and educational attainment.

From the literature review, it's clear that there is a dearth of empirical studies on WEE in SSA which could be explained by insufficient data on WEE (Manda and Mwakubo 2014). Another factor that could explain the limited empirical evidence is the fact that WEE is a more recent addition to a long-standing academic discourse of gender equality and development. The process towards achieving WEE in SSA requires an understanding of the progress made so far, to inform future programme interventions and policy development. The

aim of this study is therefore to derive a WEE score to show the extent of economic empowerment in SSA, and understand the determining factors for the observed country WEE scores. The research question the study seeks to answer are;

- 1) What is the extent of women economic empowerment in SSA countries?
- 2) What domains contribute to this empowerment and what are the country typologies of empowerment?

### *Methods*

I analysed data from the most recent (since 2010) Demographic and Health Surveys in 33 SSA countries. Only women in union were included because the empowerment module in the DHS focuses on partnered women. The analytic sample averaged 8,938 married women per country, but ranged widely from 2,841 in South Africa to 27,274 in Nigeria. South Africa's sample was small because only 33.4% of survey sample of 8,514 were married. In Kenya, the empowerment module was implemented among a sub-sample of married women (19,036), and thus the analysis was limited to this sample (47.4% of total sample).

Generally, women included in the sample were significantly older (averaged 30 years and above vs. 20-26 years), had more children, and were more likely to be employed than those excluded from the sample. However, they were less educated (4.5 years of education compared to 6.8 years among excluded sample). Two countries did not follow this general picture; in Ethiopia, women in the sample were significantly less likely to be employed, while in South Africa, there was no significant difference in education between the two groups.

WEE was measured as a composite score, aggregated from woman's responses to 9 individual questions focused on labour market position, assets and economic decision-making, scored as either empowered or not (Table 1). Principal component analysis (PCA) was used to identify country clusters on the composite WEE score. We used country averages of women considered as empowered under each item for PCA. Eight empowerment items were included in the PCA (because of the small proportion of women identified as sole breadwinners, this item was combined with the item on woman's earnings relative to her husband's).

*Table 1: DHS Economic Empowerment variables and coding applied*

<i>Variable</i>	<i>DHS Question</i>	<i>DHS response categories</i>
<i>Education and Literacy</i>	a) What is the highest level of school you attended?	0: no education 1: primary 2: secondary 3: higher
	b) Now I would like you to read this sentence to me	0: cannot read at all 1: able to read only parts of sentence 2: able to read whole sentence 3: no card with required language 4: blind/visually impaired
<i>Working Status</i>	Have you done any work in the last seven days, you have any job or business from which you were absent for leave, Have you done any work in the last 12 months	0: no 1: in the past year 2: currently working 3: have a job, but on leave last 7 days
<i>Type of earnings</i>	Are you paid in cash or kind for this work or are you not paid at all?	0: not paid 1: cash only 2: cash and in-kind 3: in-kind only

<i>Decision on respondent earnings</i>	Who usually decides how the money you earn will be Used?	1: <i>respondent alone</i> 2: <i>respondent and husband/partner</i> 4: husband/partner alone 5: someone else
<i>Decision on partners' earnings</i>	Who usually decides how your (husband's/partner's) earnings will be used?	1: <i>respondent alone</i> 2: <i>respondent and husband/partner</i> 4: husband/partner alone 6: other 7: husband/partner has no earnings
<i>Women's income relative to partner</i>	Would you say that the money you earn is more than what your partner earns, less, or about the same	1: <i>more than him</i> 2: <i>less than him</i> 3: about the same 4: husband/partner doesn't bring in money 8: don't know
<i>Sole breadwinner</i>	Would you say that the money you earn is more than what your partner earns, less, or about the same	4: <i>husband/partner doesn't bring in money</i>
<i>Decision on large household purchases</i>	Who usually makes decisions about making major household purchases?	1: <i>respondent alone</i> 2: <i>respondent and husband/partner</i> 4: husband/partner alone 5: someone else
<i>Land Ownership</i>	Do you own any agricultural or non-agricultural land either alone or jointly with someone else?	0: does not own 1: <i>alone only</i> 2: jointly alone 3: <i>both alone and jointly</i>
<i>Financial Inclusion</i>	Do you use your mobile phone for any financial transactions?	0: No 1: <i>Yes</i>
	Do you have an account in a bank or other financial institution that you yourself use?	0: No 1: <i>Yes</i>

Note: Responses in italics were categorised as empowered

## Results

### WEE Composite Score

Table 2 shows the proportion of women who are classified as empowered in each indicator. Notably, in most of the countries, women employment is very high, almost universal in Rwanda (94%) and Burundi (93%). On the other hand, less than one third of women are employed in Niger (30.7%). Southern African countries also record low women employment rate (50% or less). Women participation in decisions on large household purchases is high. More than 50% of women in about two thirds of the countries in this study have influence over decisions on household purchases. Only in a couple of countries do the majority of women decide on use of their earnings, or in extension their husband's earnings. Notably, although there is high labour force participation, most women are not remunerated in cash, an indication of the nature of jobs they perform, where they may be remunerated in terms of food, or vouchers, or not paid at all. Education attainment among women in SSA is low, with only six countries, all middle income level, where more than 50% of the women have secondary or higher education attainment.

In the three other empowerment items; women earning more than their husbands, as sole breadwinner, and land ownership, women empowerment is low. Women breadwinners are almost non-existent in SSA, with only three countries in southern Africa (South Africa, Namibia and Lesotho) showing a small proportion of women (3-7%) who are providing for their families. Although land ownership among women is very low in almost all the countries, two countries (Malawi and Comoros) stand out, with almost half the women

owning land. From these results, we can conclude that, labour market participation is thus the largest contributor to WEE as most women are engaged in some form of employment.

Table 2: Proportion of Empowered Women under Various Indicators

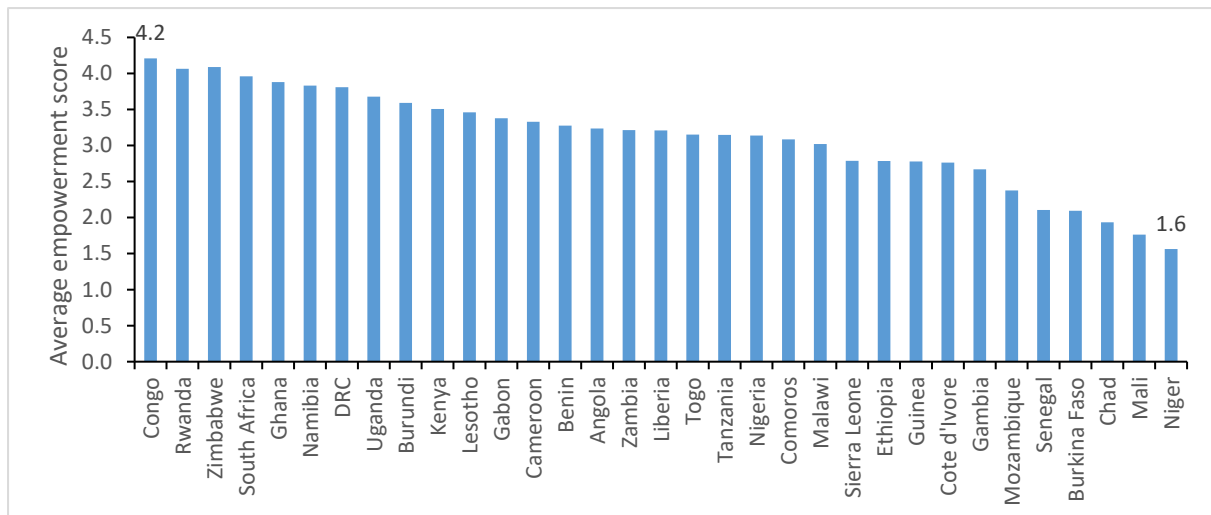
Country	Secondary and higher Education	Working	Earns Cash	Decides on use of own earnings	Decides on use of husband's earnings	Earns more than husband	Sole Earner	Decides on household purchases	Woman owns land
Angola	21.1	<b>72.4</b>	44.7	35.6	<b>58.3</b>	10.2	1.8	<b>79.6</b>	
Benin	13.7	<b>84.3</b>	<b>71.0</b>	<b>65.3</b>	26.4	10.2	0.9	47.4	8.5
Burkina Faso	6.9	<b>83.4</b>	39.2	36.1	6.6	2.9	0.2	19.9	14.3
Burundi	13.7	<b>93.0</b>	44.3	38.9	<b>64.0</b>	10.8	0.5	<b>69.3</b>	24.5
Cameroon	36.1	<b>75.5</b>	<b>63.4</b>	<b>59.0</b>	40.4	8.3	0.5	49.7	
Chad	8.2	47.0	32.0	26.5	17.4	2.9	0.8	39.0	19.6
Comoros	40.1	47.7	33.7	23.3	46.9	12.4	1.0	<b>54.9</b>	48.6
Congo	<b>53.5</b>	<b>84.8</b>	<b>77.3</b>	<b>67.4</b>	47.4	15.1	0.3	<b>61.4</b>	13.6
Cote d'Ivoire	9.9	<b>76.5</b>	<b>61.5</b>	<b>52.2</b>	23.2	4.7	0.4	36.5	11.5
DRC	35.0	<b>82.1</b>	<b>69.8</b>	47.2	<b>54.8</b>	16.8	0.5	<b>58.8</b>	16.0
Ethiopia	12.3	45.6	22.5	20.7	<b>74.1</b>	8.3	0.6	<b>77.5</b>	17.0
Gabon	<b>54.5</b>	<b>54.6</b>	43.0	38.3	49.4	8.5	1.2	<b>71.7</b>	16.6
Gambia	22.3	<b>60.1</b>	<b>54.3</b>	49.0	21.8	4.4	1.3	47.7	6.2
Ghana	26.3	<b>86.9</b>	<b>67.0</b>	<b>63.2</b>	44.5	11.4	0.8	<b>74.0</b>	13.8
Guinea	9.7	<b>81.9</b>	50.4	44.2	21.0	9.4	0.2	47.3	13.8
Kenya	30.3	<b>69.5</b>	<b>51.3</b>	46.2	<b>55.4</b>	13.3	1.0	<b>71.1</b>	12.6
Lesotho	<b>51.8</b>	44.8	36.5	34.6	<b>69.9</b>	8.4	7.0	<b>87.8</b>	5.2
Liberia	19.9	<b>64.7</b>	37.9	30.9	<b>72.1</b>	13.0	1.1	<b>81.3</b>	
Malawi	22.0	<b>71.0</b>	26.3	20.3	<b>54.8</b>	6.3	1.8	<b>57.6</b>	42.0
Mali	10.2	49.5	35.0	28.7	14.6	4.5	0.2	19.0	14.7
Mozambique	15.2	48.8	21.1	18.4	54.5	4.5	0.3	<b>64.0</b>	10.9
Namibia	<b>62.7</b>	50.2	46.2	41.1	<b>65.0</b>	10.7	3.4	<b>82.0</b>	21.8
Niger	7.2	30.7	28.4	25.7	19.2	2.8	0.3	21.6	20.2
Nigeria	33.6	<b>72.3</b>	<b>66.0</b>	<b>59.0</b>	27.4	6.7	0.6	39.3	8.9
Rwanda	14.5	<b>94.0</b>	<b>64.4</b>	<b>56.5</b>	<b>74.2</b>	21.3	1.3	<b>73.9</b>	6.3
Senegal	14.9	<b>61.8</b>	45.8	42.1	17.3	4.5	0.8	18.9	4.6
Sierra Leone	15.5	<b>83.3</b>	36.7	26.7	43.7	5.7	0.5	<b>55.8</b>	10.8
South Africa	<b>78.0</b>	45.1	43.5	40.9	<b>79.2</b>	14.2	3.8	<b>91.3</b>	
Tanzania	18.3	<b>83.1</b>	47.5	43.4	<b>57.3</b>	13.1	0.3	44.1	7.8
Togo	21.5	<b>85.6</b>	<b>65.7</b>	<b>63.5</b>	15.7	8.5	0.3	47.7	6.5
Uganda	23.8	<b>84.3</b>	<b>62.2</b>	<b>56.7</b>	50.2	14.4	0.9	<b>65.6</b>	9.8
Zambia	33.9	<b>62.3</b>	38.0	31.4	<b>65.7</b>	11.0	0.9	<b>65.9</b>	12.3
Zimbabwe	<b>67.9</b>	<b>53.8</b>	50.2	47.7	<b>81.1</b>	14.2	1.6	<b>87.5</b>	5.1

Note: Text in bold italics shows proportions above 50%

There is considerable variation in the distribution of WEE score across SSA. Worth noting is that the extent of WEE in SSA is low. Out of a possible WEE score of 9, the best performing country's score is less than a half. As Figure 1 shows, WEE score was highest in Congo, with 4.2, while Niger had the lowest score of 1.6. Generally, countries in southern and eastern Africa showed a higher WEE score, with education driving the scores among southern African countries. Rwanda, although a very poor country, has a high proportions of women

empowerment in the three highest contributing indicators (employment, decision on household purchases, and decision on husband’s earnings –above 70%), thus pushing its WEE score up. Congo’s performance is driven by similar factors as Rwanda, in addition to education attainment and a higher proportion of women earning cash, in which it performs better than Rwanda. Notably, WEE score reflects the economic development of countries. The lowest WEE scores are among the poorest countries in central and western Africa, with a GDP per capita of US\$ 378 in Niger, US\$642 in Burkina Faso, and US\$ 662 in Chad (World Bank 2019).

Figure 1: Women Economic Empowerment Score among SSA Countries



### Typology of WEE in SSA

Four countries that did not have data on women’s land ownership; Angola, Cameroon, Liberia and South Africa, were dropped from this analysis. Under PCA, the original eight economic empowerment items were refined in to three components, with the first two accounting for most of the variation within the sample (75%). Scree plot (not shown) showed an inflection point (slower reduction in eigenvalues) after the third component, and thus three components that explained 86% of the variation were retained for further analysis.

We only considered items that loaded with sufficient magnitude on any component (loadings above 0.1) in Table 3. The three retained components represent the domains of economic empowerment. We labelled the first component as general or ‘individual level empowerment’. This is because all variables except land ownership positively loaded under first component, and thus can be interpreted as the basic individual women empowerment. This means that all women have some degree of empowerment, both in individual choice and in participation in household decisions. The second component differentiates women who are more empowered at the household level, but not at individual level. Variables that imply individual empowerment including employment, earning cash and making decisions on use of their earnings were negatively correlated with the second component. Consequently, we labelled it as ‘household level empowerment’. The third component was strongly and positively correlated with working status and land ownership, while education was negatively correlated. We labelled this component as ‘land ownership’. The three components extracted from the analysis are similar to the three domains on WEE identified in the literature.

Table 3: Variable loadings under the eight components

<i>Variable</i>	<i>Individual level</i>	<i>Household level decision-making</i>	<i>Land ownership</i>
<i>Secondary and higher Education</i>	0.3298	0.3006	-0.3671
<i>Employed/working</i>	0.2742	-0.3707	0.5573
<i>Earns cash</i>	0.3907	-0.3957	0.0087
<i>Decides use of their earnings</i>	0.384	-0.4051	-0.1004
<i>Decides on husband's earnings use</i>	0.3819	0.3815	-0.0053
<i>Woman earns more than husband</i>	0.3251	0.4419	0.0991
<i>Decides on large HH purchases</i>	0.4841	0.1538	0.1969
<i>Woman owns land</i>	-0.1734	0.2949	0.7042

To identify country clusters and patterns on WEE, we plotted the three components against each other (Figures 2-4). These charts show the combination of factors that are driving WEE in each country. Countries that appear on the top right quadrant in each chart show the best performing countries under the plotted components, while countries in the left lower quadrant are the worst performing. In Figure 2, Lesotho, Namibia and Zimbabwe have high WEE both at individual and household level, while in Malawi, Comoros, Ethiopia and Mozambique have high household level empowerment but not an individual level. On the other hand, Rwanda, Congo, Ghana and Uganda exhibit empowerment at individual level, but not at household level. In Figure 3, the household level empowerment is explained by land ownership in Malawi and Comoros, but not in Ethiopia and Mozambique. In Figure 4, in addition to Malawi and Comoros, Burundi also shows high land ownership. Rwanda does show some level of land ownership, but not high enough to result to household level empowerment.



Figure 2: Country Clusters Based On Individual and Household Level Empowerment Scores

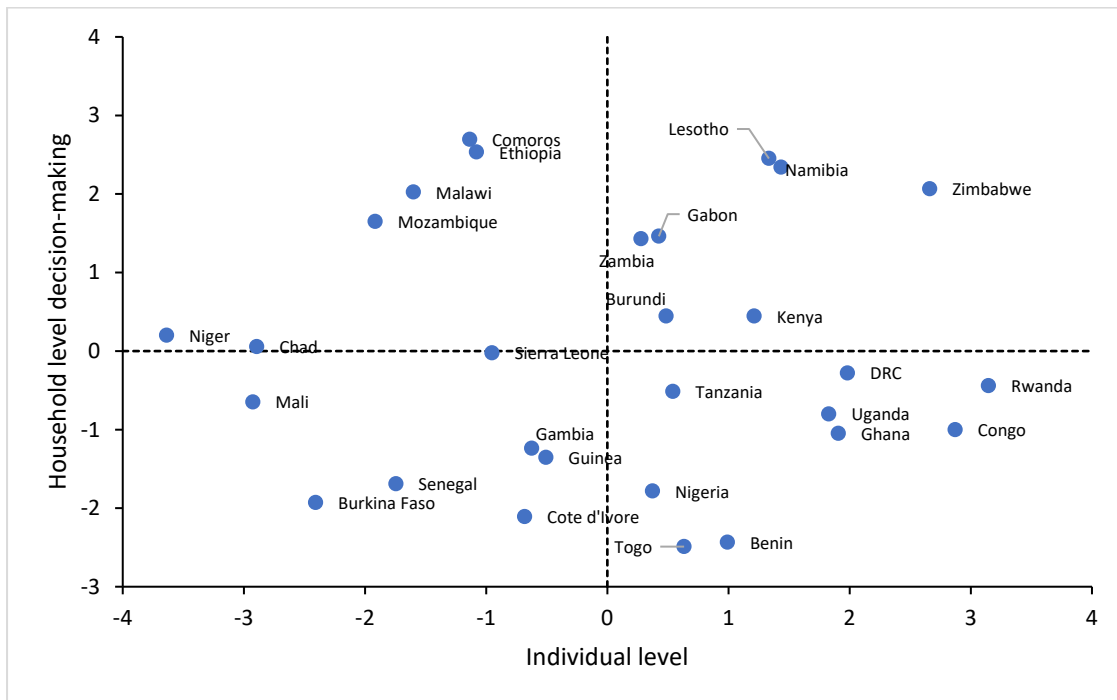


Figure 3: Country Clusters Based on Land ownership and Household Level Empowerment Scores

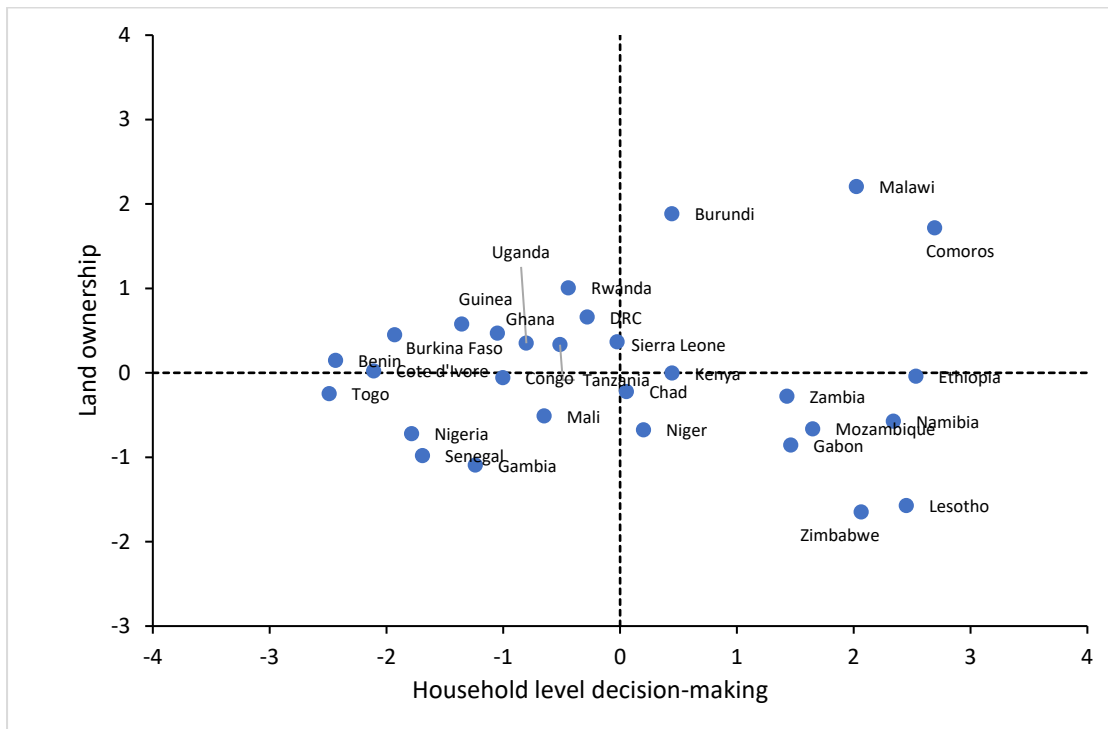
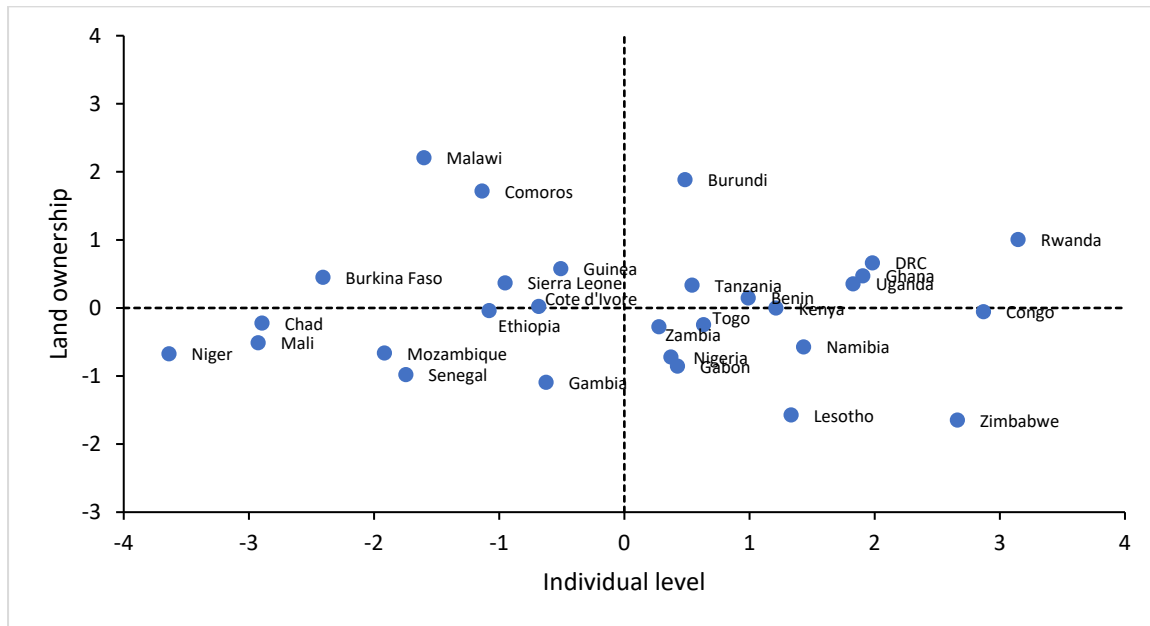


Figure 4: Country Clusters Based on Land ownership and Individual Level Empowerment Scores



Based on Figures 2-4, we identified five country clusters: 1) household level empowerment and high educational attainment; 2) household level empowerment and land ownership; 3) employment related individual level economic empowerment; 4) basic level economic empowerment; and 5) economically unempowered. Table 4 shows the list of countries under each category. Southern African countries including Lesotho, Namibia, Zimbabwe, and Zambia fall under the first category (household level empowerment and high education attainment), which also includes Gabon in Central Africa (also see Figure 2). WEE in these countries is characterised by both individual and household level empowerment, thus women have both autonomy and influence on economic decisions at the household level. Since countries scoring high on educational attainment, but not fall employment all fall under this group, we conclude that the observed individual level empowerment in this group is driven by high education attainment.

The second category (household level empowerment and land ownership) has Malawi and Comoros (Figure 3). The main determinants of WEE in these countries is land ownership and decision making at household level. Malawi and Comoros do not perform well on individual level empowerment (see Figure 2), thus we conclude that land ownership (and agricultural production by extension) improves women's bargaining power, and thus they participate in household economic decisions.

Eight countries, Rwanda, Congo, DRC, Burundi, Uganda, Ghana, Kenya and Tanzania, fall under the third category (employment related individual level economic empowerment), where WEE is driven by labour market outcomes, particularly employment. Except in Kenya, women employment in these countries is high, with more than 80% of women engaged in some form of employment, but low household level empowerment. Although women in Congo have high educational attainment, this does not translate to empowerment at the household level as observed in other countries with educational attainment above 50%. The fourth category (basic level economic empowerment) consist of countries with minimal economic empowerment from all three domains. Countries in this category cluster around the

middle of the Figures 2-4, and thus do not show any distinct form of empowerment. This category consist of West African countries. The last category (economically unempowered) consist of countries where women show limited economic empowerment. These include Niger, Mali, Chad, Gambia and Senegal and thus constitute the least economically empowered women in SSA.

Two countries do not fall under any of these categories and thus not included in Table 4. Ethiopia and Mozambique have high levels of household decision-making empowerment, but the WEE measurement indicators included in this study could not explain the factors resulting to the high household level empowerment.

*Table 4: Typologies of SSA countries based on WEE*

<i>1. Education attainment drives household level empowerment;</i>	<i>2. Land ownership drives household empowerment;</i>	<i>3. Employment related economic empowerment</i>	<i>4. Basic level economic empowerment</i>	<i>5. Economically unempowered women</i>
<i>Lesotho</i>	Malawi	Rwanda	Cote d'Ivoire	Niger
<i>Namibia</i>	Comoros	Congo	Sierra Leone	Mali
<i>Zimbabwe</i>		DRC	Guinea	Chad
<i>Gabon</i>		Ghana	Nigeria	Gambia
<i>Zambia</i>		Uganda	Togo	Senegal
		Tanzania	Burkina Faso	
		Burundi	Benin	
		Kenya		

This typologies were confirmed using K-means clustering algorithm, with the two excluded countries; Ethiopia and Mozambique, being classified under the second category.

### *Discussion*

To the best of our knowledge, no other study has computed WEE scores and typologies in SSA. This is what our study set out to do. The results show that labour market items are the strongest contributors to the observed WEE score, as most of the women in SSA are involved in some form of employment. However, women are engaged in low quality jobs as a survival means (Nagler and Naudé 2017). The low education attainment among women in most of the countries imply low human capital development. Whether this can be termed as empowerment or not has been a subject of debate. We noted that countries with the highest rates of women employment including Rwanda, Congo and the DRC, showed very low levels of empowerment at the household level. This is correlated with a considerable proportion of women without influence over the use of their income, going as high as 82% in Mozambique or deciding on use of husband's earnings. This not only implies limited economic autonomy, but also the subservient nature of women to husbands, dictated by sociocultural norms. Kabeer (1999) argues that if engagement in the labour market is aimed at meeting a survival need then it is not empowering, as the women do not have a choice not to engage in that activity (Kabeer 1999). Nevertheless, women with an income have more livelihood choices, and can acquire more resources compared to those without an income and thus have a degree of economic empowerment.

There were few female breadwinners, probably due to most women earning less than men, and societal norms identifying men as breadwinners. Lesotho's 7% of women who are sole earners is driven by high women employment in garment industry, and declining men's employment in the mining industry in South Africa (Ansell, Tsoeu et al. 2015).

The results show that women in Congo have the highest WEE score, followed by Rwanda. Jennings (2014) corroborates part of the findings in this study. Her study showed that Zimbabwe and Rwanda had the highest scores in the economic dimension, while Burkina Faso had the lowest score (Jennings, Na et al. 2014). Burkina Faso was among the five lowest scoring countries in our study. Although her study focused on women empowerment in general, included fewer countries and fewer economic empowerment indicators, she used similar methods, thus corroborates our findings.

Rwanda's high score may be due to the country having made major strides in promoting gender equality and women empowerment. Among such efforts are legal reforms granting women property rights and enabling them to inherit property, including land (Abbott, Mugisha et al. 2018). The 2003 Constitution, pro-actively promotes gender equality, and enshrines the principle of equality within marriage. The country also has the highest proportion of women representatives in parliament, with 61% of Rwanda's parliamentary seats occupied by women (Inter-Parliamentary Union 2019). However, a recent study showed that the high women representation did not improve women's issues being discussed in parliament (Burnet 2011, Berry 2015, Abbott and Malunda 2016). High women representation is expected to translate to better outcomes for women, both economically and socially, including improved agency in marriages and in the household. However, this is not the case in Rwanda. As reflected in our results, despite women having high employment and cash payment, this has not translated to household level empowerment in decision-making. The land reforms in Rwanda meant that all formerly married women are land co-owners, but previous research has shown land ownership does not mean access to land (Heckert and Fabic 2013). Our study focused only on women who owned the land, either individually or both individually and as co-owners. This is because sole ownership allows women to use land as collateral for credit, or use better productive techniques without relying on their husbands. Our analysis therefore show low sole land ownership in Rwanda.

From this study, we identified five country topologies on WEE. The first category (education drives household level empowerment) consist of middle-income countries, and although employment is not high, women have high household level empowerment driven by education attainment. Education not only increases awareness of women rights and leads to questioning of patriarchal social norms, but also increases women's participation in employment, decision-making and leadership roles, thus earning women autonomy at the household and in the society (Khatri 2016). This is expected as women in more developed countries in the region have a higher social status compared to less developed countries. The relationship between economic development and women empowerment is still an ongoing academic discourse. According to Duflo (2012), women empowerment and economic development reinforce each other, but focusing on economic development on its own is insufficient to ensure significant progress in key women empowerment dimensions like decision-making that are curtailed by societal norms on roles of women (Duflo 2012). Kabeer (2013) on the other hand sees an asymmetrical bi-directional relation, with consistent and robust evidence on contribution of women education and employment to economic development, while evidence on contribution of economic development to health, well-being and rights (empowerment) is not convincing (Kabeer and Natali 2013). For example, in our results, Congo is a lower middle-income country, but our study shows that women are not empowered at the household level, while the reverse is true in Malawi, one of the poorest countries globally. With exception of Zambia and Kenya in the first group, education attainment among women is more than 50%, indicating the importance of education in WEE. WEE interventions in these countries should therefore focus on improving women's labour market access.

The second category (land ownership drives household empowerment) shows countries with high correlation between land ownership and high household empowerment. High land ownership is associated with high bargaining power (Behrman 2017). In both Comoros and Malawi, matrilineal and patrilineal societies exist side by side, with about 75% of the population in Malawi being matrilineal (Peters 2010, Le Roy 2017). In matrilineal cultures, land is passed on through the female side of the family and husbands reside with their wives' natal families. As such, women are more favoured in matrilineal society compared to patrilineal, with more financial investment so that it is passed over to the next generation. Other than the land ownership however, investments in education is not high, although Comoros performs better than Malawi in education attainment. Improving access to education and labour market participation therefore will result to higher WEE in these group of countries.

Group three (employment related economic empowerment) consist of mainly East African countries, with a high employment rate. Although these countries have access to income and thus can influence household expenditure, the findings in this study, do not show evidence of household-level empowerment. It is not clear what leads to this, but one explanation could be that women empowerment interventions including micro-finance projects are not going beyond the individual focus on women. As Golla and colleagues (2011) noted, for empowerment to be sustainable, it has to bring change beyond the individual level, including household, community and institutional level. The other explanation could be high subnational inequality for example in education, which brings down the national average, thus eroding evidence of higher-level empowerment.

The last two groups (basic economic empowerment and uneconomically unempowered) consist of countries in West and Central Africa. Although some of these countries have very high employment level among women, access to income has not improved their bargaining power within households. In addition, these countries have among the lowest education attainment within SSA, and women are less likely to own property. Increasing WEE in these countries therefore calls for concerted efforts in improving education attainment, land ownership and employment in some of the countries like Niger and Mali.

### *Strengths and Limitations*

The DHS has been used widely in women empowerment studies; however, it has limited indicators on economic empowerment. Data on access to financial and productive assets among women is paramount to measuring WEE. However, financial resources data is not included in the DHS, save for only six surveys implemented after 2016. In addition, some countries do not have data on ownership of land. Another challenge with the DHS is that the empowerment module focuses only on partnered women, leaving out unmarried women. Furthermore, DHS is administered on women aged 15-49 years, creating a data gap among younger girls and older adult women. Despite these challenges, the DHS provides the most comprehensive multi-country dataset with household and individual economic and empowerment indicators. The questions are standardised across countries thus enabling cross-country comparisons. In addition, several survey rounds in each country can be used to show progress over time.

The strengths of this study include an individual level WEE score in SSA. This has not been done before. In addition, the study presents the first comprehensive comparison of WEE in SSA. Since empowerment is an individual's intrinsic experience, this score can be used to model individual characteristics including age, fertility rate, or education that contribute to observed empowerment, thus helping develop targeted interventions. In addition, the study

provides categories of countries with similar empowerment levels, and thus helps distinguish the set of interventions that are required to improve WEE in these countries.

### *Implications and recommendations*

There is limited evidence on extent of WEE in SSA. Although this could be related to the limited data availability, there is still need to provide evidence to inform decision making. WEE has been identified as a cornerstone in achievement of the SDGs. Knowing the extent of WEE in the region, and what areas women are empowered in is the first step to addressing the challenges faced by women and girls. These results are timely evidence for the heightened traction on achieving WEE, as they identify potential thrust areas for policy and programme interventions.

Prioritising high quality secondary and higher education is paramount for human capital development and WEE. Most the countries have policies on universal basic education, but these should be revised to also include universal secondary education. The findings call for more education investments, especially in East African countries, where the investment demands are lower than in West and Central Africa. Despite high employment levels, most women are engaged in the informal, lower-paying and less productive sectors. Numerous microfinance interventions were rolled-out in most countries, and although literature is not conclusive on their role in empowering women, restructuring their approach to include training and supporting can help women grow profitable and quality businesses (Buvinić and O'Donnell 2016). In Western and Central Africa, there is need for all encompassing programmes, focusing not only on income generation, but also on education. Importance of WEE should be instilled in children from a young age, through socialisation both at home and in school, and education modules to help achieve a mind-set change. This will not only help women but also the whole country, as investing in women will reduce poverty and improve household welfare thus improving living standards for the population.

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