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Financial Inclusion and Gender Inequality in sub-Saharan Africa

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Abstract

This study analyses the association between financial inclusion and gender inequality in sub-Saharan Africa. Our findings suggest that generally, most individuals in sub-Saharan Africa rely on informal sources of finance, such as savings at a savings club and borrowing from family and friends compared to formal financial sources. Moreover, women are more likely to turn to the informal sources compared to men which is a concern that needs to be addressed at policy level. Improving access to finance is at the center of improving gender equality and increasing the economic freedoms and opportunities that women have to contribute to their families and societies.

Keywords: Gender, Financial development, Financial inclusion, Africa

JEL Codes: J16, O11, 014, 047, 055

1 Introduction

Gender inequality has been marked as an impediment to growth and development (African Development Bank, 2014; Elborgh-Woytek et al., 2013). As such, it continues to be an important global development goal as noted by its historical and current inclusion in global development agendas such as the Universal Declaration of Human Rights, the Millennium Development Goals, and the Sustainable Development Goals (specifically SDG5). Women represent half of the world's population hence gender gaps of any form represent an under-utilisation of women's potential in the economy, which has a bearing on overall growth and

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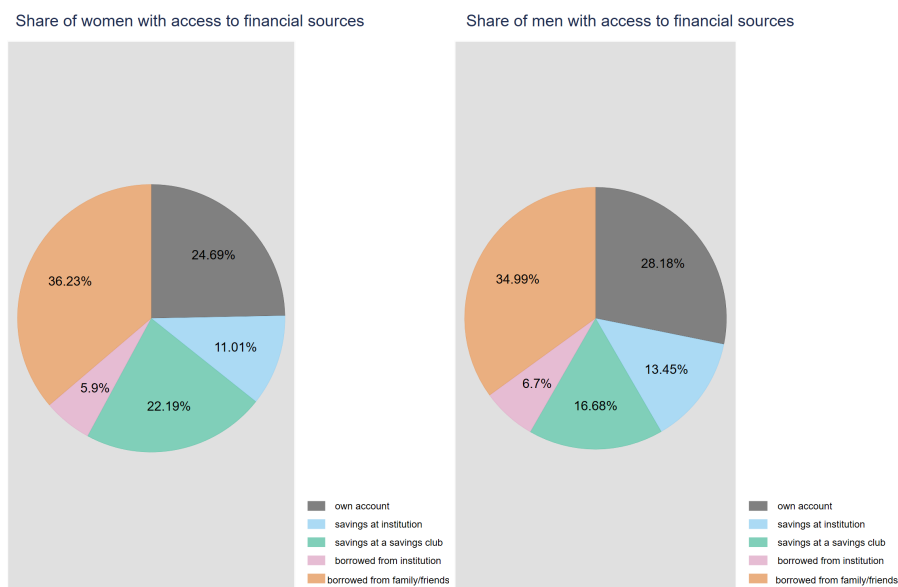
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development (Cuberes & Teignier, 2014b). Apart from being a social or welfare concern, gender inequality is also a human capital efficiency loss concern. The Global Gender Gap Report (2020) shows that although Africa has made significant strides in reducing gender inequality, having closed 69% of its gender gap, gaps still persist that will take 95 years to close.¹ Evidence on some of the losses due to gender inequality can be found in Cuberes and Teignier (2014b) who show that due to gender gaps in the labour market, GDP per capita losses are as high as 27% in some regions of the world. Despite this understanding on the potential contribution of women in the economy, women are still marginalised in certain sectors of the economy, such as the financial sector, making up more than half of the world's unbanked population.

This paper contributes to the literature on the determinants of gender inequality, with a specific focus on understanding the underlying factors of gender gaps in financial inclusion in sub-Saharan Africa (SSA). We pay particular attention to women's financial inclusion in the credit market. This includes women's access to both formal and informal financial sources. Formal financial sources include having an account and savings at a financial institution and borrowing from a financial institution. Informal financial sources include having savings at a savings club and borrowing from friends or family. We pose the question: has financial development been inclusive of gender? We propose that financial development has contributed to decreasing gender inequality. Using financial data for 34 sub-Saharan African countries for the years 2011, 2014 and 2017, we find that firstly, women are at a disadvantage in terms of financial inclusion. On average, about 25% of the women in the sample owned accounts at a financial institution, 11% had savings at a financial institution, and 5% borrowed from a financial institution, in relation to men. Interestingly, our data highlights that women, in relation to men, appear to rely heavily on informal means of accessing credit with about 22% of the women in the sample saving at a savings club, and close to 37% borrowing from friends and family. On average, a relatively higher share of men in the sample participate in the formal financial sector (see Figure 1 below). Secondly, our results indicate that financial access to formal institutions contributes to a decrease in gender inequality in comparison to borrowing from informal sources.

¹This gap is measured in 4 dimensions, economic participation and opportunity, educational attainment, health and survival and political participation.

Figure 1: Access to financial sources by gender



This graph shows the access to formal and informal financial sources between women and men in the sample of countries.

The implications of our findings highlight a serious concern in the delay of women's ability to access formal financial sources. According to [Kabeer \(2009\)](#), women have limited access to the formal financial sector due to collateral requirements and perceived risks associated with their lack of assets. Moreover, borrowing from informal sources can leave women vulnerable to unscrupulous behaviour from loan sharks, such as unreasonable terms of payments ([World Bank, 2014](#)). To this end, policymakers may consider adopting interventions that may facilitate access to finance for women with less stringent collateral requirements, while at the same time ensuring fair access to finance for all genders across different income levels. Evidence suggests that narrower gender gaps in financial inclusion can be associated with higher development, as well as more equitable outcomes, such as more equal income distribution between men and women ([Cuberes & Teignier, 2015](#); [Gonzales, Jain-Chandra, Kochhar, Newiak, & Zeinullayev, 2015](#)).

2 Financial sector development in sub-Saharan Africa

The financial sector plays an important role in advancing economic growth and development. It promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capital (Beck, Levine, & Loayza, 2000; Levine, 1999; Levine & King, 1993). According to the World Bank (2014), financial development also reduces poverty and inequality by broadening access to finance to the poor and vulnerable groups, such as women. Financial development thus reduces dependence on personal wealth or use of unreliable and expensive sources of finance to invest in education, business ventures, or benefit from growth opportunities. It also facilitates risk management by reducing vulnerability to shocks, and increasing investment and productivity that result in higher income generation. An important element of financial development is financial inclusion.

Chakrabarty (2010) defines financial inclusion as the process of ensuring access to appropriate financial products and services needed by vulnerable groups, such as low income groups or women, at an affordable cost in a fair and transparent manner by mainstream institutional players. According to Beck, Demirgüç-Kunt, and Levine (2007), financial inclusion can contribute to reducing income inequality by raising the incomes of the poorest income quintile. Financial inclusion also reduces inequality of opportunity and mitigates the adverse effects of inequality on the level and durability of growth (IMF, 2015; Ostry, Berg, & Tsangarides, 2014; World Bank, 2014).

According to the IMF (2016), the last 3 decades have seen sub-Saharan Africa's financial sector develop in various dimensions. For example, the region's median ratio of private sector credit to GDP doubled from its 1995 level indicating greater financial depth (IMF, 2016). The region has also led the world in innovative financial services based on mobile telephony such as M-Pesa, M-Shwari, and M-Kopa, especially in East Africa. These facilities help reduce transaction costs and facilitate personal transactions even in the absence of traditional financial infrastructure. Pan-African banks have significantly increased in most sub-Saharan African countries filling in the gaps in services left by European and U.S. banks resulting in greater economic integration and making the sector

more competitive. Microfinance has also grown rapidly, making financial services available to customers at the lower end of the income distribution (Kabeer, 2009). However, access to finance is still relatively lower in sub-Saharan Africa than other developing regions in general, and women’s access to formal financial services remains limited in relation to men (Kabeer, 2009). In addition, gender inequality in various aspects of financial inclusion still remains high in sub-Saharan Africa, and it is highly associated with higher income inequality (IMF, 2016).

The need for greater financial inclusion for women in sub-Saharan Africa cannot be overemphasised. Generally, a number of reasons have been put forth for greater financial inclusion including the welfare gain effects for women who are typically cash-constrained. Greater access to finance can help increase the efficiency of women’s cash management and allow them to smooth consumption (Kabeer, 2009). In addition, increasing women’s access to formal financial services can have benefits for women themselves and positive spillover effects for their households, such as human development outcomes through child survival, increased health and education, poverty reduction, and economic growth (Morrison, Raju, & Sinha, 2007; Schultz, 2001; Strauss, Barbosa, Teixeira, Thomas, & Junior, 1991; World Bank, 2001). When women have liquidity, they also tend to reinvest it back into their families and communities at a higher rate than men thus contributing to the overarching goal of inclusive growth that most African countries have been pursuing for the past three decades (Esther, 2012; La Ferrara, 2016). Thus, the gender gap in access to finance can have significant impact on social and economic progress.

3 Data and Descriptives

In order to address our research question on whether financial development been inclusive of gender, we conduct preliminary statistical analysis using financial data from the World Bank’s Global Financial Development Index for 34 sub-Saharan African countries² for the years 2011, 2014 and 2017. Table 1 reports the sample characteristics of the data. According to the data, on average, only 26.07% of individuals above 15 years in the 34 countries have an account with a financial institution. Table 1 also shows that most

²The choice of countries included in the sample was largely informed by the availability of data on the gender inequality index (GII).

savings and borrowing in sub-Saharan Africa generally occur outside of formal financial institutions. Average savings at formal institutions are as low as 12.08% for the whole region, whilst savings with informal institutions are slightly higher at 19.9%. On the other hand, only 6.2% of the individuals above 15 years of age borrow from financial institutions, whilst 35.03% borrow from informal sources such as family and friends.

Table 1: Full Sample Characteristics

	n	Mean	SD	Min.	Max.	Median
Gender Inequality Index	94	0.57	0.08	0.38	0.72	0.57
Account at financial Institution(%)	91	26.07	18.84	1.52	89.49	20.36
Account at financial Institution, male(%)	91	29.27	19.29	1.59	92.49	23.05
Account at financial Institution, female(%)	91	23.00	18.72	1.45	86.64	16.88
Savings at financial institution (%)	91	12.08	8.21	1.16	35.53	9.79
Savings at financial institution, male (%)	91	13.97	8.97	1.34	36.86	11.86
Savings at financial institution, female (%)	91	10.26	7.75	.71	34.30	8.17
Savings at savings club (%)	87	19.91	10.63	1.93	46.05	19.01
Savings at savings club, male(%)	87	18.12	10.41	1.89	49.54	16.44
Savings at savings club, female(%)	87	21.63	11.49	1.97	42.97	20.11
Borrowed from financial institution (%)	91	6.20	3.65	.91	17.06	5.60
Borrowed from financial institution, male (%)	91	6.96	4.46	.87	21.81	6.05
Borrowed from financial institution, female (%)	91	5.48	3.23	.53	13.91	5.17
Borrowed from family (%)	91	35.03	12.70	3.66	71.20	32.69
Borrowed from family, male (%)	91	36.35	12.92	4.53	72.21	34.39
Borrowed from family, female (%)	91	33.76	12.81	2.85	74.44	32.98
GDP/capita	102	2088.03	2570.58	214.14	10199.50	1063.26
Urbanisation	102	38.92	17.70	10.92	88.98	39.72
Globalisation	102	51.42	7.47	37.73	72.58	51.38
Polity2	102	3.22	4.54	-4.00	10.00	5.00

Table 2 below shows the correlations between the gender inequality index (GII) and aggregated financial inclusion variables ³. Having an account with a financial institution, saving at a financial institution, and borrowing from a financial institution are negatively and significantly correlated with GII. On the other hand, informal options for savings and borrowing do not show any significant correlation with GII. In Table 3 we show the sex-disaggregated pairwise correlations. Similar to the aggregated figures, formal financial institutions are negatively and significantly associated with GII across gender. The negative correlation is stronger when women own accounts at financial institutions.

³These include account at financial institution, savings at financial institution, savings at savings club, borrowing from financial institutions and borrowing from family and friends

Table 2: Sample Correlations : Aggregated Financial Variables

Variables	GII	Account	SavingsFinst	SavingsClub	BorrowFinst	BorrowFamily	GDP/capita	Urbanisation	Globalisation	Polity2
GII	1									
Account	-0.716***	1								
SavingsFinst	-0.677***	0.912***	1							
SavingsClub	0.019	0.252**	0.253**	1						
BorrowFinst	-0.509***	0.809***	0.806***	0.279***	1					
BorrowFamily	0.208*	-0.135	-0.037	0.275**	-0.062	1				
GDP/capita	-0.545***	0.601***	0.555***	0.012	0.331***	-0.224**	1			
Urbanisation	-0.062	0.298***	0.265**	0.032	0.031	-0.183*	0.630***	1		
Globalisation	-0.585***	0.700***	0.623***	0.148	0.585***	-0.182*	0.623***	0.366***	1	
Polity2	-0.15	0.227**	0.169	0.046	0.176*	-0.008	0.180*	0.02	0.474***	1

Table 3: Sample Correlations : Gender disaggregated Financial Variables

Variables	GII	AccountM	AccountF	SaveFinstM	SaveFinstF	SaveClubM	SaveClubF	BorrowFinstM	BorrowFinstF'	BorrowFamM	BorrowFamF
GII	1										
AccountM	-0.680***	1									
AccountF	-0.745***	0.959***	1								
SaveFinstM	-0.667***	0.905***	0.890***	1							
SaveFinstF	-0.667***	0.855***	0.896***	0.937***	1						
SaveClubM	0.002	0.310***	0.233**	0.316***	0.263**	1					
SaveClubF	0.039	0.265**	0.164	0.238**	0.164	0.909***	1				
BorrowFinstM	-0.567***	0.837***	0.797***	0.824***	0.775***	0.269**	0.240**	1			
BorrowFinstF	-0.390***	0.710***	0.714***	0.712***	0.717***	0.322***	0.257**	0.817***	1		
BorrowFamM	0.207*	-0.115	-0.106	-0.023	-0.016	0.340***	0.228**	-0.059	-0.007	1	
BorrowFamF	0.204*	-0.155	-0.138	-0.049	-0.048	0.322***	0.219**	-0.085	-0.057	0.959***	1

In Table 4 below, we show some of the region-specific characteristics in our sample. East Africa has the largest percentage of individuals (an average of 23%) who are 15 years and older that have an account at a financial institution, whilst Central Africa has the lowest, at 9%. We also observe that less than 10% of the sampled individuals in all four regions save at a financial institution. However, savings with informal institutions such as savings clubs is slightly higher. This similar trend is also observed for borrowing across all regions suggesting the possibility that most individuals in the sampled countries prefer and/or are restricted to informal means of financing.

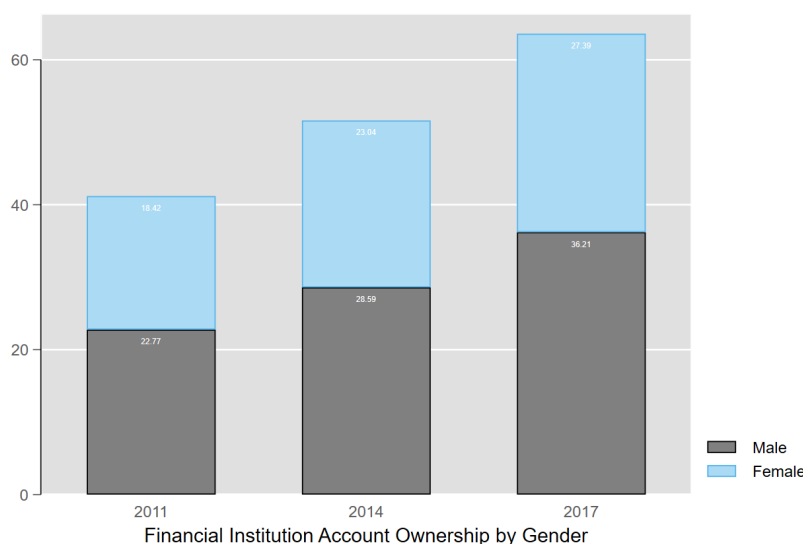
Table 4: Sample characteristics by Region

Columns by: Regions	Central	East	South	West	Total	P-value
Sample size n (%)	18 (17.6)	30 (29.4)	24 (23.5)	30 (29.4)	102 (100.0)	
Gender Inequality Index, mean (sd)	0.61 (0.06)	0.54 (0.08)	0.52 (0.06)	0.63 (0.05)	0.57 (0.08)	0.00
Account at Financial Institution (%), mean (sd)	15 (9)	32 (23)	41 (17)	17 (10)	26 (19)	0.00
Savings at Financial Institution (%), mean (sd)	7 (4)	15 (9)	17 (8)	8 (5)	12 (8)	0.00
Savings at Savings club(%), mean (sd)	19 (9)	20 (13)	18 (8)	21 (10)	20 (11)	0.85
Borrowed from Financial Institution (%), mean (sd)	3 (2)	9 (4)	7 (3)	5 (2)	6 (4)	0.00
Borrowed from family or friends (%), mean (sd)	30 (8)	38 (15)	42 (14)	31 (9)	35 (13)	0.01
Number of countries	6	10	8	10	34	

3.1 Gender Disaggregated Patterns of Financial Inclusion

Below we show some of the gender disaggregated patterns of financial inclusion for the sample of countries in the study. Figure 2 below shows that in general, the number of individuals with an account at a financial institution increased between 2011 and 2017. However, two things are apparent; 1) Men are more likely to have an account at a financial institution compared to women, and 2) the increase in account ownership at a financial institution was greater for men (14 percentage points) compared to women (9 percent points).

Figure 2: % Individuals 15 years and above that have an account at a financial institution

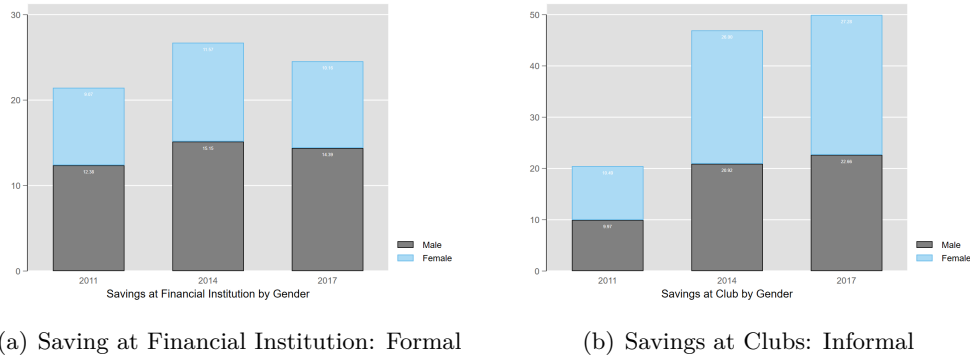


Source: Global Financial Index and UNDP

Figure 3 shows that there are more savings outside the formal financial institutions. In Figure 3a, men generally save more at a financial institution compared to women. On the other hand, Figure 3b shows that women rely more on informal savings options such as savings at a club compared to men. Moreover, this trend appears to have increased over the periods 2011 to 2017, suggesting that possibly women may still be facing some obstacles to participate in the formal financial sector.

Figure 4 shows a similar trend in the borrowing behaviour of individuals in sub-Saharan Africa to that presented in Figure 3, i.e women tend to rely more on informal

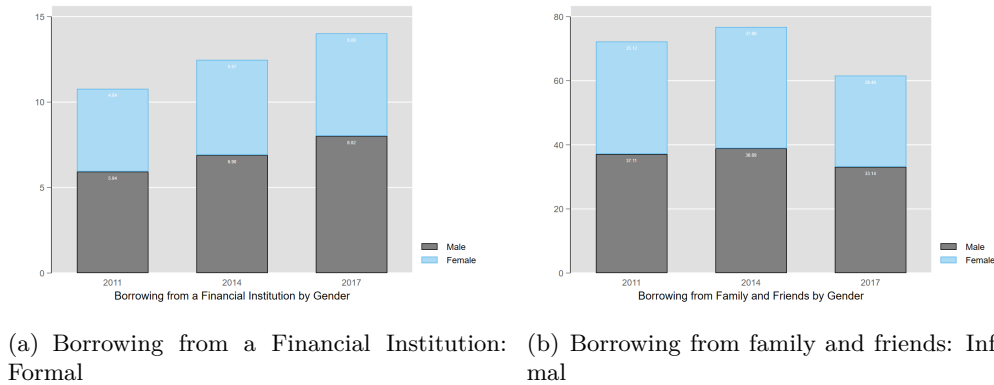
Figure 3: Savings behaviour of individuals in SSA: Some evidence



Source: Global Financial Index and UNDP

sources of finance compared to the formal ones. On average, in 2011, only around 5% of all individuals borrowed from a financial institution and this only increased by 2 percentage points to 7% in 2017. On the other hand, in 2011, an average of 36% individuals relied on borrowing from family and friends. This declined slightly to 31% in 2017.

Figure 4: Borrowing behaviour of individuals in SSA: Some evidence



Source: Global Financial Index and UNDP

In Figure 4a, the rate at which both men and women have been borrowing from financial institutions in sub-Saharan Africa increased between 2011 and 2017. However, it is important to note that less than 10% of all individuals in the sampled countries borrow from financial institutions. On the other hand, Figure 4b shows that individuals in sub-Saharan Africa tend to borrow more from informal sources of finance such as family and friends. Men have a slightly stronger reliance on this form of borrowing compared to women.

In summary, the statistical evidence so far appears to highlight significant gender disparities regarding financial inclusion, moreso for women accessing formal financial sources.

3.2 Empirical Estimation

We complement our preliminary analysis by investigating if financial inclusion contributes to decreasing gender inequality. Given the cross-section dimension of the data, we use ordinary least squares (OLS) to estimate the association between financial inclusion and gender inequality. The baseline model specification is:

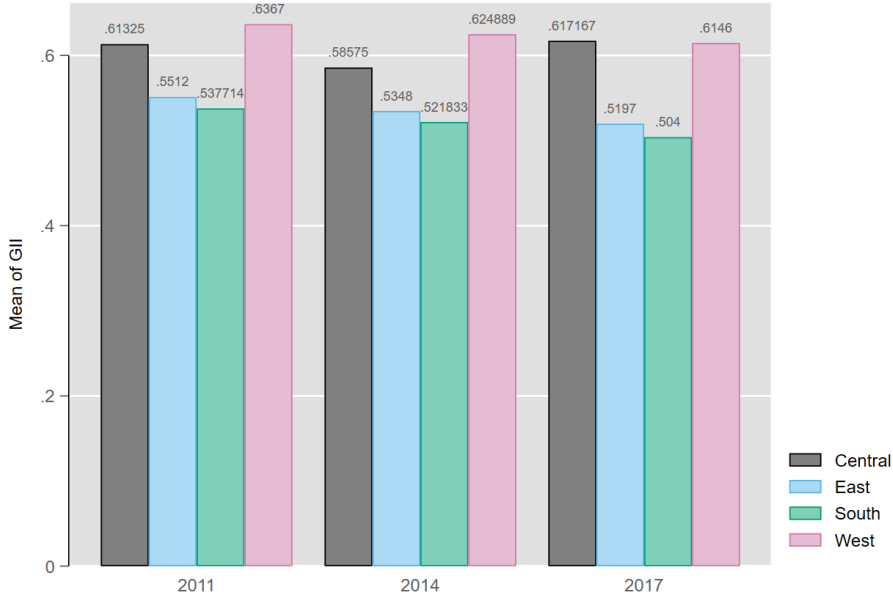
$$(1) \quad GII_i = \alpha + \beta_1 \text{Financialvar}_i + \beta_2 X + \epsilon_i$$

where GII_i is our proxy for gender inequality in country i and will be estimated using the United Nations historically extended Gender Inequality Index (GII) (Gonzales et al., 2015). The index is a composite index capturing the loss of women’s achievement due to gender biases and ranges from 0 (no inequality) to 1 (complete inequality). It covers three aspects of a country’s gender inequality, namely reproductive health, empowerment, and labour market participation. GII builds on previous gender indices used in the Human Development Reports (HDRs): the gender-related development index (GDI) and the gender empowerment measure (GEM). Some of the advantages of GII over other indices are: 1) it measures inequality between genders over three dimensions, mentioned above, 2) it removes income, the most controversial component of the GDI and GEM, and 3) it does not allow for high achievement in one dimension to compensate for low achievement in another dimension (Ferrant, 2009).

Figure 5 below shows patterns in GII across regions in sub-Saharan Africa (i.e West, East, Central and Southern Africa)⁴. Gender inequality as measured by GII has been on the decline in all the regions over time. However, West Africa has consistently experienced higher levels of gender inequality averaging 0.63, whilst Southern Africa has experienced slightly lower levels, an average of 0.52 during the same period.

⁴Countries in Central Africa include Cameroon, Central African Republic, Chad, Congo, Congo (DRC) and Gabon. West African countries in the sample include Benin, Burkina Faso, Côte d’Ivoire, Ghana, Liberia, Mali, Niger, Senegal, Sierra Leone and Togo. Countries in East Africa include Burundi, Ethiopia, Kenya, Mauritania, Mauritius, Rwanda, Sudan, Tanzania and Uganda. Southern African countries included are Angola, Botswana, Lesotho, Mozambique, Namibia, South Africa, Zambia and Zimbabwe.

Figure 5: Trends in GII across regions in SSA



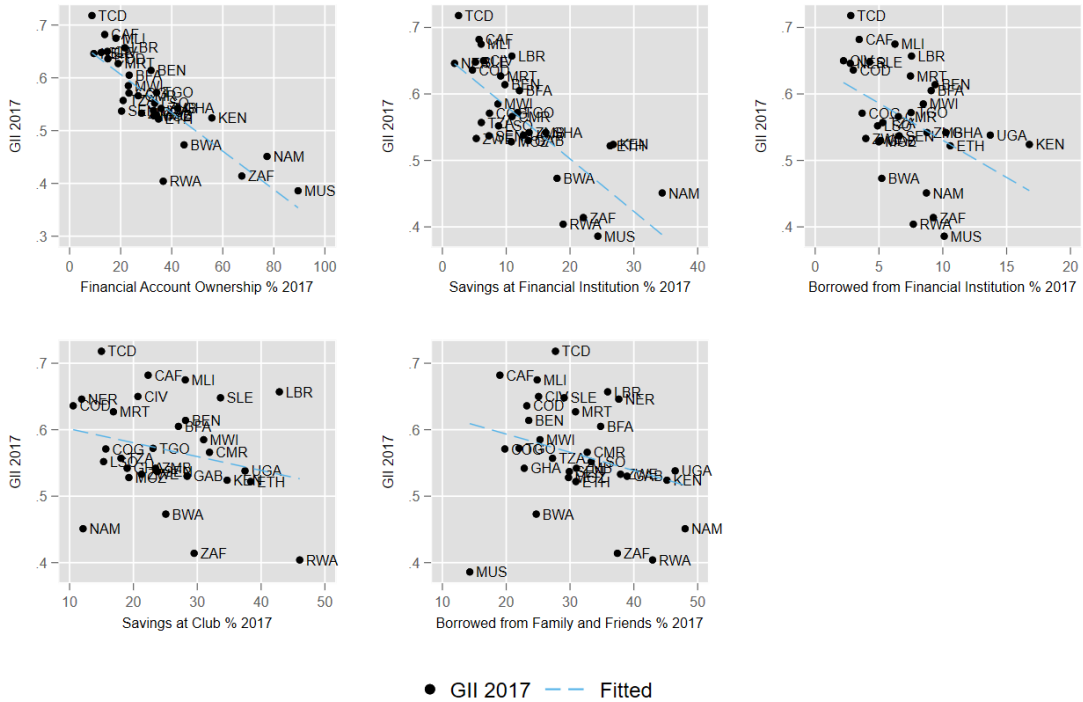
(a)

Source: Global Financial Index and UNDP

Our variables of interest are captured by $Financialvar_i$. These variables are measured using the World Bank’s Global Financial Development Index data (Global Findex) developed by (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2018) and collected for the years 2011, 2014 and 2017. This dataset includes variables on; (a) size of financial institutions and markets (financial depth), (b) degree to which individuals can and do use financial services (access), (c) efficiency of financial intermediaries and markets in intermediating resources and facilitating financial transactions (efficiency), and (d) stability of financial institutions and markets (stability). The Global Findex is a superior measure to other variables previously used in the literature such as ratio of financial institutions’ assets to GDP, ratio of liquid liabilities to GDP, and ratio of deposits to GDP which fail to capture all elements of financial inclusion. In this paper, we will focus on access to finance and narrow down to five main variables of financial inclusion which cover both formal (i.e banks and credit unions) and informal (i.e cooperatives, microfinance, family and friends) sources. These include: (1) ownership (individual or joint) of an account at a financial institution; (2) savings at a financial institution; (3) borrowing from a financial

institution; (4) saving at a savings club, and (5) borrowing from family and friends. We expect the correlation between financial inclusion and gender inequality to be negative (Morrison et al., 2007; Schultz, 2001; Strauss et al., 1991; World Bank, 2001), as indicated in Figure 6 which shows the correlation between some of the variables of interest and gender inequality in 2017.

Figure 6: Correlation between GII and Financial Inclusion



(a)

Source: Global Financial Index and UNDP

The variable X_i is a vector of control variables that include income per capita as a proxy for modernisation (economic development), globalisation, urbanisation and institutional quality (Polity2). Data on income per capita and urbanisation are obtained from the World Development Indicators (WDI). Urbanisation refers to the percentage of total population living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division. Income per capita is gross domestic product divided by midyear population. Data are in constant 2010 U.S. The variable globalisation is the KOF Globalisation Index which measures the economic,

social and political dimensions of globalisation and scored as a percentage. The variable Polity2 was developed by the Center for Systemic Peace and it captures the quality of institutions. It is a score that varies between -10 and +10, and increases with the quality of institutions. The polity score is normalised to between 0 and 1.

The association between economic development and gender inequality has mixed results with one strand of literature suggesting that as economies develop, gender inequality levels decline, whilst the other argues that it may actually worsen as women's economic opportunities trail behind men's due to educational gaps and job market skills preferences (see [Boserup, 1970](#); [Duflo, 2012](#); [World Bank, 2011](#)). Empirical evidence on the association between urbanisation and gender inequality also shows mixed results. On one hand, urbanisation has the potential to increase female education, female labour force participation and incomes thus altering gender dynamics and increasing bargaining power ([Agarwal, 1997](#)), and autonomy ([Gupta, 2007](#)). On the other hand, urbanisation may worsen gender inequality due to intensified pressure on women to play dual roles as market income earners and caregivers ([Li, 2017](#)).

According to the [Bank \(2011\)](#), the gendered impact of globalisation largely depends on the characteristics of the society and economy that reflect existing patterns of gender inequality. These include the gender distribution of labour force by sector, areas of comparative advantage in the country, distribution of productive assets such as education, skills, property and finance - for which women generally have less access to, as well as the distribution of unpaid household labour between men and women. More democratic societies are assumed to have greater individual freedom in general and this works to improve the conditions of previously marginalised groups, women included. As such, improved institutional quality is expected to reduce levels of gender inequality. However, the adoption and spread of new forms of institutions in society is believed to be strongly linked to and reinforcing of inherent forms of institutions in a particular area. ([Cooray & Potrafke, 2011](#); [Inglehart & Norris, 2003](#)). We log all variables.

3.3 Empirical Results

Table 5 reports on the association between account ownership at a financial institution and gender inequality. The results show a statistically significant negative correlation between

account ownership and gender inequality. These results hold in general (column 1) and for men. However, female account ownership though negative, does not significantly reduce gender inequality. This finding is consistent with the empirical evidence discussed earlier that women have less access to formal sources of finance compared to men.

Table 5: Financial Inclusion (Account Ownership) and Gender Inequality in SSA

	GII (1)	GII (2)	GII (3)
Account	-0.008* (0.005)		
AccountM		-0.008* (0.005)	
AccountF			-0.007 (0.005)
GDP/capita	-0.073** (0.030)	-0.073** (0.030)	-0.073** (0.030)
Urbanisation	-0.106* (0.054)	-0.103* (0.052)	-0.115** (0.056)
Globalisation	-0.075 (0.051)	-0.073 (0.053)	-0.081 (0.049)
Polity2	-0.041 (0.030)	-0.038 (0.031)	-0.044 (0.029)
Country FE	Yes	Yes	Yes
Number of Observations	81	81	81
R-Squared	0.985	0.985	0.985

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Notes: Variable Account captures the percentage of individual who have an account at a financial institution. AccountM is the percentage of male individuals who have an account at a financial institution, whilst AccountF is the percentage of female individuals with an account at a financial institution. GDP/capita, Urbanisation and Polity2 are measured as described in the data section.

Table 6 reports on the savings and borrowing behaviour and gender inequality. In column 1, we show the aggregated associations, whilst in columns 2 and 3, we disaggregate these by gender, showing male and female savings and borrowing behaviours and gender inequality respectively. Column 1 shows that despite being an informal source of finance, saving at a savings club is negatively and significantly associated with gender inequality. On the other hand, borrowing from family and friends significantly increases gender inequality. Columns 2 and 3 show that in general, informal sources of finance such as borrowing from friends and family are positively and significantly correlated with gender

inequality. Informal sources of finance tend to be more expensive and insecure. Moreover, because of the reliance on other people's financial capacities, this limits an individual's own capacity to make financial decisions that can benefit them at a personal or household level. This reliance on family or friends for financial support removes the autonomy individuals, particularly women need for their emancipation. In column 3, we also show that women's ability to save, even at a savings club is negatively and significantly correlated with gender inequality.

Table 6: Financial Inclusion (Savings and Borrowing Behaviour) and Gender Inequality: Gender Disaggregated

	GII	GII	GII
SavingsFinst	0.006 (0.008)		
SavingsClub	-0.012* (0.006)		
BorrowingFINST	-0.011 (0.009)		
BorrowingFAM	0.017** (0.008)		
SavingsFinstM		0.003 (0.010)	
SavingsClubM		-0.010 (0.007)	
BorrowingFinstM		-0.007 (0.010)	
BorrowingFamM		0.017** (0.008)	
SavingsFinstF			0.005 (0.006)
SavingsClubF			-0.011** (0.005)
BorrowingFinstF			-0.007 (0.005)
BorrowingFamF			0.014* (0.007)
GDP/capita	-0.038 (0.037)	-0.034 (0.048)	-0.056 (0.034)
Globalisation	-0.041 (0.072)	-0.057 (0.071)	-0.034 (0.070)
Urbanisation	-0.039 (0.067)	-0.076 (0.064)	-0.039 (0.065)
Polity2	-0.041 (0.027)	-0.052* (0.029)	-0.025 (0.031)
Country FE	Yes	Yes	Yes
Number of Observations	74	74	74
R-Squared	0.986	0.985	0.985

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Notes: The variable SavingsFinst shows percentage of individuals who save at a financial institution. SavingsClub is the percentage of individuals who save at a savings club, BorrowingFinst is the percentage of individuals who borrow from a financial institution. The variable BorrowingFam is the percentage of people who borrow from family and friends. We then separate these variables across gender to capture variable SavingsFinstM, SavingsClubM, BorrowingFinstM, BorrowingFamM for men and SavingsFinstF, SavingsClubF, BorrowingFinstF and BorrowingFamF for women.

4 Discussion and Conclusion

The main objective in this paper was to investigate the correlation between financial inclusion and gender inequality. Our main findings suggest that access to finance is still relatively low in sub-Saharan Africa, particularly in terms of savings and borrowing from formal financial institutions. Although we find evidence of a negative correlation between owning an account at a financial institution and gender inequality across all genders, we find no effect of savings and borrowing from formal financial institutions on gender inequality for the men. Our empirical analysis however unearths a pattern in the savings and borrowing behaviour of women in sub-Saharan Africa that indicates a strong reliance on informal sources of finance such as savings club, family and friends. The results showed that, for women, savings at a savings club decreased gender inequality while a positive correlation between borrowing from family and friends existed with gender inequality. We also find evidence in line with previous studies that women have less access to finance, especially from formal sources compared to men. This then forces women to rely on informal, less secure and costly means of financing which negatively affects their incomes.

These findings present opportunities for policy-makers in the drive for gender equality. The most immediate recommendation should focus on improving the savings and borrowing behaviour of people in sub-Saharan Africa. This includes financial literacy education and training for all individuals. Important for this paper is the gender gap in access to finance. Improving access to finance is at the center of improving gender equality and increasing the economic freedoms and opportunities that women have to contribute to their families and societies. Factors such as cultural norms or legal barriers are often at the root of the limited financial access and use of any type of financial service by women. Cultural norms around what is acceptable for a woman to do, where she can go alone, or with whom she can interact can all serve to limit women's access to formal financial services. Inheritance laws favor men over women, reducing women's access to family assets and in turn the need for financial services. This therefore requires policy actions from various stakeholders, especially given that some of the bottlenecks are not about financial services but more about societal norms.

References

- African Development Bank. (2014). *Investing in Gender Equality For Africa's Transformation* (Tech. Rep.). African Development Bank Publications.
- Agarwal, B. (1997). "bargaining"and gender relations: Within and beyond the household. *Feminist economics*, 3(1), 1–51.
- Bank, W. (2011). Globalization's impact on gender equality: What's happened and what's needed..
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of economic growth*, 12(1), 27–49.
- Beck, T., Levine, R., & Loayza, N. (2000). Finance and the sources of growth. *Journal of financial economics*, 58(1-2), 261–300.
- Boserup, E. (1970). Women's Role in Development. *London: Earthscan*.
- Chakrabarty, K. (2010). Inclusive growth–role of financial sector. *Address at the National Finance Conclave*.
- Cooray, A., & Potrafke, N. (2011). Gender Inequality in Education: Political Institutions or Culture and Religion? *European Journal of Political Economy*, 27(2), 268–280.
- Cuberes, D., & Teignier, M. (2014b). Gender inequality and Economic Growth: A Critical Review. *Journal of International Development*, 26(2), 260–276.
- Cuberes, D., & Teignier, M. (2015). How costly are labor gender gaps? estimates for the balkans and turkey. *Estimates for the Balkans and Turkey (June 22, 2015)*. *World Bank Policy Research Working Paper*(7319).
- Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The global index database 2017: Measuring financial inclusion and the fintech revolution*. The World Bank.
- Duflo, E. (2012). Women Empowerment and Economic Development. *Journal of Economic Literature*, 50(4), 1051–1079.
- Elborgh-Woytek, M. K., Newiak, M. M., Kochhar, M. K., Fabrizio, M. S., Kpodar, K., Wingender, M. P., ... Schwartz, M. G. (2013). *Women, Work, and the Economy: Macroeconomic Gains from Gender Equity*. International Monetary Fund.
- Esther, D. (2012). Women empowerment and economic development. *Journal of Economic Literature*, 50(4), 1051–1079.

- Ferrant, G. (2009). A New Way to Measure Gender Inequalities in Developing Countries: The Gender Inequalities Index (GII). *CEAFE Papiers*. Available at: http://www.tn.auf.org/CEAFE/Papiers_CEAFE10/MacroI/Ferrant.pdf.
- Gonzales, C., Jain-Chandra, S., Kochhar, K., Newiak, M., & Zeinullayev, T. (2015). *Catalyst for change : Empowering women and tackling income inequality* (Tech. Rep.). USA.
- Gupta, S. (2007). Autonomy, dependence, or display? the relationship between married women’s earnings and housework. *Journal of Marriage and family*, 69(2), 399–417.
- IMF. (2015). Financial inclusion: can it meet multiple macroeconomic goals?
- IMF. (2016). *Financial development in sub-saharan africa: promoting inclusive and sustainable growth*. International Monetary Fund.
- Inglehart, R., & Norris, P. (2003). *Rising Tide: Gender Equality and Cultural Change Around the World*. Cambridge University Press.
- Kabeer, N. (2009). 2009 world survey on the role of women in development: Women’s control over economic resources and access to financial resources.
- La Ferrara, E. (2016). Mass media and social change: can we use television to fight poverty? *Journal of the European Economic Association*, 14(4), 791–827.
- Levine, R. (1999). Law, finance, and economic growth. *Journal of financial Intermediation*, 8(1-2), 8–35.
- Levine, R., & King, R. G. (1993). Finance, entrepreneurship and growth. *Journal of Monetary economics*, 32(3), 513–542.
- Li, Y. (2017). The effects of formal and informal child care on the mother’s labor supply—evidence from urban china. *China Economic Review*, 44, 227–240.
- Morrison, A., Raju, D., & Sinha, N. (2007). *Gender equality, poverty and economic growth*. The World Bank.
- Ostry, M. J. D., Berg, M. A., & Tsangarides, M. C. G. (2014). *Redistribution, inequality, and growth*. International Monetary Fund.
- Schultz, T. P. (2001). Women’s roles in the agricultural household: bargaining and human capital investments. *Handbook of agricultural economics*, 1, 383–456.
- Strauss, J., Barbosa, M., Teixeira, S., Thomas, D., & Junior, R. G. (1991). Role of education and extension in the adoption of technology: a study of upland rice and soybean farmers in central-west brazil. *Agricultural Economics*, 5(4), 341–359.

World Bank. (2001). *Engendering development: Through gender equality in rights, resources, and voice*. The World Bank.

World Bank. (2011). *World Development Report 2012: Gender Equality and Development*. World Bank Publications.

World Bank. (2014). *Global financial development report 2014: Financial inclusion*. The World Bank.