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Article

Women Legislators in Africa and Foreign Aid

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Abstract

There has been a significant rise in the share of women legislators in Africa. What makes this fact puzzling is that it cannot be attributed to an African electorate that values gender equality and having women in political leadership positions. In stark contrast to this, gender equality and women's empowerment have successively moved up in the priority list of the international donor community over the last two decades. This raises the question of whether there is a relationship between women legislators in Africa and foreign-aid allocations. This study finds a strong and statistically robust relationship: an increase in the share of women legislators from 15 to 20 percent is associated with an increase of about 4 percent in aid conditional on current levels of aid. Additionally, the study finds that democratic countries receive more aid but does not find an interaction effect between democracy and the share of women legislators, which suggests that donors do not tailor their gender-selective aid towards more democratic countries. The results provide evidence in support of aid selectivity for policies that improve gender equality in aid-recipient countries in Sub-Saharan Africa.

JEL classification: F35, F50, O10, O19

Keywords: foreign-aid allocations, women members of parliament, reserved seats, aid selectivity

1. Introduction

The Chamber of Deputies in Rwanda, which is currently made up of over 60 percent of women, has been the national parliament with the highest share of women legislators worldwide for over ten years now. Many national parliaments in Africa have a share of women legislators that is substantially above the world average, such as Senegal (43 percent), South Africa (41 percent), Mozambique (39 percent),

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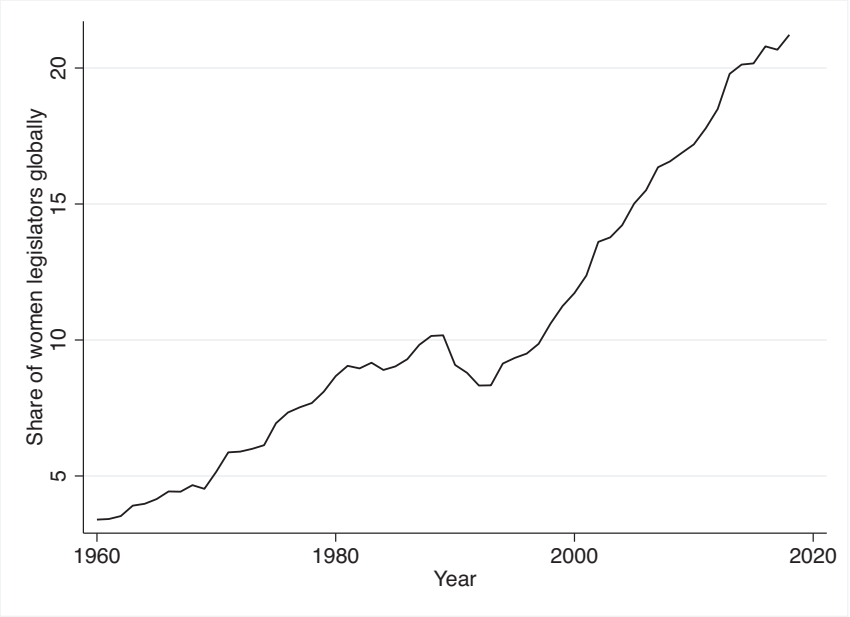
Figure 1. Share of Women Legislators Globally (1960–2018)



Source: Authors' own analysis based on data set created by the authors.
Note: This figure shows the development of the average share of women legislators in national parliaments across 200 countries between 1960 and 2018. See the supplementary online appendix (table S1.4) for list of countries by region.

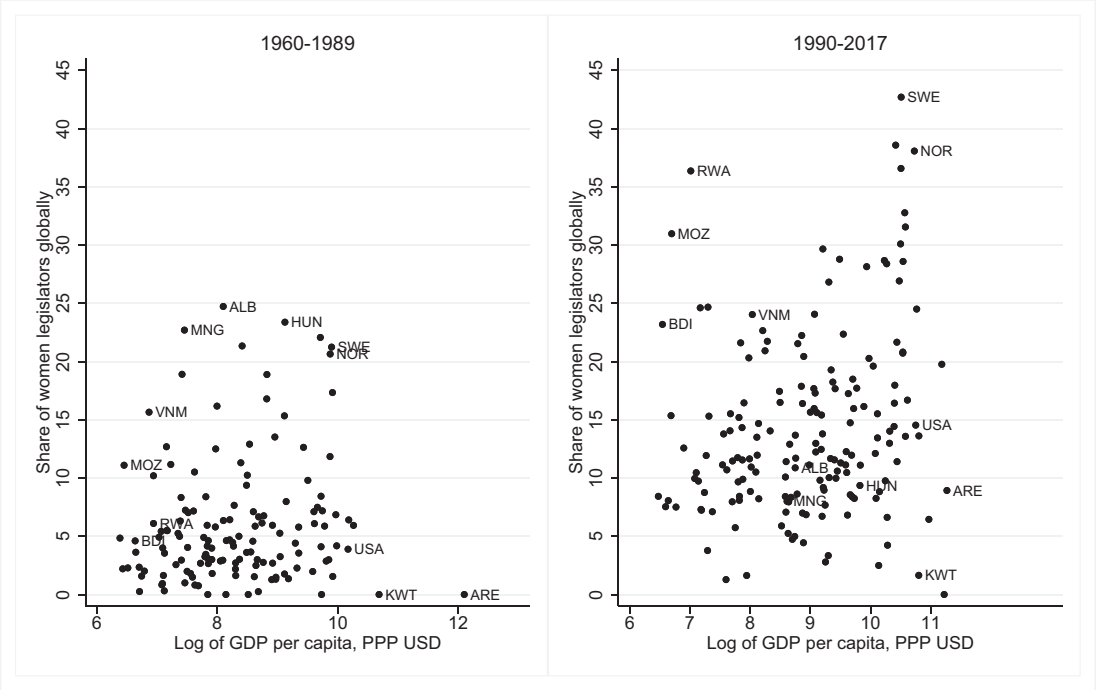
and many other countries.[1] What makes this fact puzzling is that it cannot be attributed to an electorate that values gender equality and having women in political leadership positions. The population share in Africa that agrees with the statement that "men make better political leaders than women do" is 62 percent, and this is substantially higher than the average of 43 percent for non-African countries.[2] In stark contrast, "inclusive economic growth...and promoting social inclusion" and commitments to "ensure gender equality and women's and girls' empowerment" have become important goals of the international donor–recipient community over the last few decades. The words in the quotation marks are all written in the *first* paragraph of the Addis Ababa Financing for Development Action Agenda (United Nations 2015), which was endorsed by the UN General Assembly in July 2015. Conscientious efforts have been made by the United Nations to bridge the global gender-inequality gap in the last few decades, with notable movements like the 1995 Beijing Conference on Women, the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), and the various rounds of Financing for Development Action Agendas, where gender equality and women's empowerment have successively moved up in the priority ranking over the years. If an electoral story cannot explain the high level of women's participation in many African parliaments, then the question arises whether the priority shift in the international donor–recipient community towards gender issues is part of the explanation. The goal of the current paper is to investigate whether there is a link between the gender composition in parliaments and foreign-aid allocations in Africa.

Women are underrepresented in most national parliaments globally. Figure 1 displays the average share of women legislators for the period 1960 to 2018. The shares of women legislators were extracted from

1 Between 2013 and 2017, the last five years covered in this study, 22 national parliaments in Africa had an average share of women legislators that is above the world average of 20 percent during this time period.

2 The men/women-leader question was asked in several rounds of the World Value Survey (Inglehart et al. 2014).

Figure 2. Share of Women Legislators vs. GDP Per Capita (1960–2017)



Source: Authors' own analysis based on data from Penn World Table (PWT, 9.1) and election data created by authors.
Note: This figure shows a scatterplot between the average share of women legislators and income per capita for two periods, 1960–1989 and 1990–2017.

HTML and PDF files made available to us by the Inter-Parliamentary Union (IPU) and then combined with data from the Varieties of Democracy (V-Dem) database (Coppedge et al. 2020; Pemstein et al. 2020). This produces, to our knowledge, the most comprehensive data set on the gender composition in national legislators covering 200 countries between 1960 and 2018. Figure 1 depicts a positive trend in the share of women legislators. The average share of women is currently set at about 21 percent from below 10 percent in the 1990s and from as low as 5 percent in the 1970s. The sharp decline in the share of women legislators observed after 1990 can be attributed to the collapse of the Soviet Union, as quotas kept women's participation in the Soviet Union and its satellite states in Eastern Europe high (Saxonberg 2000; Inglehart and Norris 2003). In order to get a better understanding of these dynamics, fig. 2 differentiates between the Soviet era (1960–1989) and the post-Soviet era (1990–2017). It plots the share of women legislators against the log of GDP per capita for these two time periods. It can be observed that the range in the share of women legislators is largely independent of income. For the period 1960–1989, Western European countries and Eastern European countries associated with the Soviet Union (e.g., Norway, Sweden, Hungary, Albania, Mongolia) have the greatest share of women legislators among all countries. In Africa, the share of women legislators is at most 10 percent for countries like Mozambique, Burundi, and Rwanda. In the post-Soviet era, three significant changes in the distribution of the share of women legislators worldwide can be observed. First, a sharp decline in the share of women legislators in Eastern European countries (e.g., Albania, Hungary); second, a continual increase in the share of women legislators in Western European countries (e.g., Sweden and Norway); and third, a spike in the share of women legislators for countries in Africa and a few other developing countries. For instance, the share of women legislators in Burundi's parliament rose from 5 to 22 percent, whilst the share of women legislators in Albania's parliament fell from 25 to 10 percent in the post-Soviet era. Sweden's share of women

legislators increased from 21 percent during 1960–1989 to 43 percent for the period 1990–2017. Norway also experienced a rise in the share of women legislators from about 21 percent in the Soviet era to about 38 percent for the period 1990–2017. For the period 1990–2017, low-income countries like Rwanda and Mozambique rank high globally. From an average of 2 percent in 1970 and an average of 8 percent in 1990, women currently fill 21 percent of parliamentary seats in Africa. In 2016, women made up about 64 percent of legislators in Rwanda, the highest in the world, and Senegal had the second highest record in Africa with 43 percent of its parliamentary seats filled by women.

In this paper, the focus is on the role of international donors and development agencies as a possible explanation for this dynamic in Africa. What makes this explanation plausible is that gender equality and women's empowerment have successively risen in the priority ranking of aid donors over the last few decades. Given that many African countries receive considerable amounts of foreign aid, the question arises whether there is a link between the share of women members of parliament and foreign aid. This study finds a strong and robust relationship between the lagged share of women and current aid. Even a simple univariate OLS regression shows a strong correlation between these two variables. This result persists when conditioning on lagged aid amounts received and controls that are typically used in the aid-allocation literature using recipient-period panel data with country and time fixed effects. This study estimates that an increase in the share of women legislators by 10 percent for a recipient country is associated with an immediate increase of 1.2 percent in aid. In the long run, that effect increases to about 3.0 percent. Further, the results indicate that the increased women's representation in parliaments across Sub-Saharan Africa is achieved through gender quotas in the form of reserved seats. This study estimates that introducing reserved seats for women in parliament is associated with 14 percent in additional aid. The results further reveal that although democratic countries receive more aid, donors do not tailor their gender-selective aid towards more democratic African countries.

A paper that relates closely to the paper here is the cross-sectional study by Bush (2011), which examines the factors that influence the adoption of gender quotas in national parliaments. The author finds a positive correlation between international development assistance and the likelihood that a country adopts gender quotas, suggesting that a larger aid-dependence is a key factor affecting the implementation of gender quotas. This present study uses this insight as a starting point and uses panel data to exploit the time variation in aid flows to analyze aid selectivity from a recipient-country perspective, where it shows that conditional on existing aid amounts, recipient countries get remunerated with more aid if they increase the share of women legislators or if they adopt reserved seats for women in parliament.[3] This suggests that aid selectivity in terms of gender equality may incentivize recipient countries to adopt policies that increase the share of women legislators. Proper identification of this effect hinges on the exact evaluation model decision makers in aid-receiving countries will use. For example, if aid-recipient governments make a simple back-of-the envelope calculation relating the share of women legislators with current aid levels, then a simple univariate regression that shows a positive relationship between these two variables would properly identify such an incentive effect. This study shows that such a positive relationship persists using more sophisticated models that control for current aid levels and country fixed effects, use an appropriate lag structure in our regressions, and show that results are robust for different estimators including system Generalized Method of Moments (GMM) (Arellano and Bond 1991; Blundell and Bond 1998).

Dreher, Gehring, and Klasen (2015) investigate whether gender-targeted aid is allocated based on need, that is, to countries where gender inequality is high. Using a different regression specification and sample they find that total aid is positively associated with the share of women legislators as this study does. Overall they show that donors are more responsive to gender inequalities in countries that provide

3 Without controlling for existing aid flows, our coefficient on the share of women legislators triples, which would be consistent with the notion that countries with larger aid amounts are more likely to implement policies that foster gender equality.

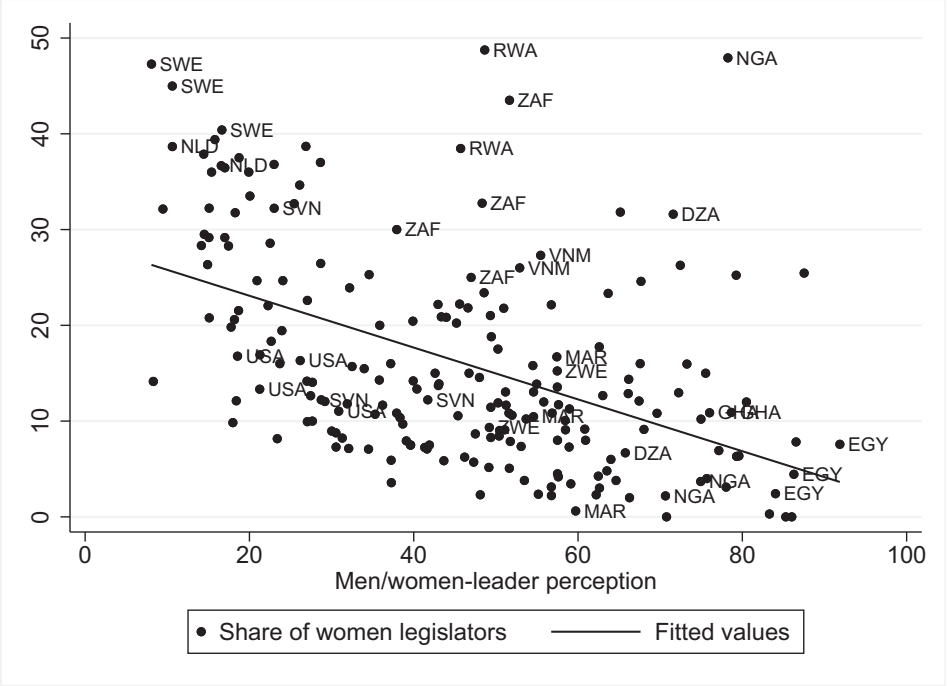
favorable legal rights for women. Hicks, Hicks, and Maldonado (2016) study the relationship between the gender composition of national parliaments in donor countries and aid flows from donors and show that a higher share of women legislators in a donor country leads to an increase in aid efforts both in total and as a percentage of GDP. Our paper, in contrast, focuses on the gender composition of national legislatures in aid-recipient countries. With this, the current paper relates to the broader literature on aid selectivity investigating the policy- and poverty selectivity of aid allocations (Burnside and Dollar 2000; Alesina and Weder 2002; World Bank 2005; Dollar and Levine 2006; Knack, Rogers, and Eubank 2011; Dreher, Gehring, and Klasen 2015; Annen and Moers 2017; Annen and Knack 2018; Eichenauer and Knack 2018; Hicks and Maldonado 2020; Annen and Knack 2021). This literature examines the extent to which aid flows are targeted to recipient countries with sound economic and political institutions. For example, Annen and Knack (2021) show that the policy selectivity of aid has increased substantially, starting in the early 1990s. They estimate that since the year 2000, more than half of the global aid budget is allocated by policy-selective donors. Note that most of this literature examines aid selectivity from a donor perspective by focusing on donor-specific allocation decisions with the purpose of assessing aid and donor quality for example (i.e., Birdsall and Kharas 2010; Knack, Rogers, and Eubank 2011; Easterly and Williamson 2011; Roodman 2012). In this present study, the focus is on the recipient perspective as it sheds light on the incentive structure for recipients to implement policy reforms produced by policy-selective aid as formally analyzed in Annen and Knack (2021). Given the large differences in donor motivations, it is important to know whether, overall, the adoption of certain policies "pays off" in terms of additional aid amounts for aid-recipient countries. This study provides evidence in support of policy-selective aid for policies that improve gender equality in national parliaments in aid-recipient countries. Finally, the paper also relates to the literature that describes the gender composition in national legislatures across countries such as Wängnerud (2009), Sawer (2000), Hughes and Paxton (2019), and Saxonberg (2000). This literature documents the evolution of women's participation in all aspects of the political process, such as voting, grassroots women's mobilization, organizing and joining political parties, and getting elected to parliament, and the policies (e.g., the type of electoral system, political party ideology, political party nomination process, the strength of women's movement) that affect it.

The remainder of the paper is structured as follows. The second section provides some background regarding the electoral attitudes towards gender equality in Africa, and the role of quota systems in shifting the gender composition in favor of women legislators. The third section documents how gender equality and women's empowerment has increased in the priority rankings of the international donor-recipient community in the last two decades. The fourth section presents the quantitative analysis presenting the aid-selectivity regressions. The final section concludes the paper.

2. Background

Citizens in low-income countries usually have their priorities set on access to food (i.e., three square meals), potable water, good roads, stable supply of electricity, medical supplies and health facilities, and the alleviation of poverty and are less likely to have discussions surrounding issues like gender equality and global warming. Moreover, African societies are mostly known to be patriarchal and religious, whereby discriminatory practices exist within the family unit and negative stereotyping of women exists in the public space (Tøraasen 2017). The status of women is low in most African countries. Therefore it is puzzling that low-middle-income countries (especially those in Sub-Saharan Africa) are recording greater shares of women legislators starting from the 1990s. Research has shown that the beliefs and attitudes of electorates influence the number of women who run for and who get elected into political positions (Arceneaux 2001; Paxton and Kunovich 2003; Inglehart and Norris 2003). For instance, the religious (Muslim) leaders in Touba, the second largest city in Senegal, rebelled against the adoption of women quotas in Senegal and presented an all-male list of 100 candidates for the local elections held in 2014

Figure 3. Share of Women Legislators vs. Men/Women-Leader Perceptions (1994–2016)



Source: Authors' own analysis based on data from the World Value Survey waves 3, 4, 5, and 6, and an election data set created by authors.
Note: This figure shows a scatterplot between the share of women legislators and "men/women-leader perception" which is the share of respondents in a country who strongly agree or agree with the statement "men make better political leaders than women do.".

(Tøraasen 2017). At the outset of the 2003 war in the Democratic Republic of Congo, the Congolese government opposed the involvement of women in the peace negotiations with the excuse that women are not fighters and so cannot make any significant contributions in drafting the peace agreement (Mpoumou 2004).

This study uses the World Value Survey (WVS) (Inglehart et al. 2014) to elucidate voter attitudes towards gender inequality. The purpose of this survey is to measure people's beliefs and values across countries, how they change over time, and what impact they have on their social and political life. The WVS began in 1981 and has six completed waves: wave 1: 1981–1984, wave 2: 1990–1994, wave 3: 1995–1998, wave 4: 1999–2004, wave 5: 2005–2009, wave 6: 2010–2014. For example, one question relates to men vs. women as political leaders. Beginning in 1995, respondents were asked whether they "(a) agree strongly, (b) agree, (c) disagree, (d) strongly disagree, (e) don't know" with the statement "men make better political leaders than women do." The responses to this question are believed to yield a useful proxy for the feminist attitude of the electorate across countries and time. Responses that either strongly agree or agree are coded as 1 and all other responses as 0, after which the average per country for each survey wave is calculated. For African countries, that measure equals 62 percent on average, which is substantially above the average of 43 percent for non-African countries. The relationship between the share of women in parliament and the share of respondents who agree that men make better political leaders than women is presented in fig. 3. This figure shows overall a fairly strong negative correlation (correlation coefficient of −0.49), which is expected. However, upon closer inspection one can see that there are qualitative differences between African- and non-African countries. For non-African countries, the results show a negative relationship between women legislators and men/women-leader perceptions.

Table 1. Share of Women Legislators and Men/Women-Leader Perception (1994–2016)

	(1)	(2)	(3)
Men/women-leader perception	−0.2970***	−0.3814***	−0.3070***
	(0.0360)	(0.0979)	(0.0932)
SSA	10.4197***	—	—
	(3.1372)		
Men/women-leader perception × low-income countries	—	0.5642**	—
		(0.2493)	
Men/women-leader perception × SSA	—	—	1.9230**
			(0.8993)
Constant	28.7412***	21.4136***	20.0495***
	(1.8011)	(5.4676)	(6.0201)
Country FE	No	Yes	Yes
N	205	205	205
R-squared	0.32	0.10	0.16
F-statistic	38.97	7.90	7.06

Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).
Note: Dependent variable is the share of women legislators in the lower chamber of national parliaments. "Men/women-leader perception" is the share of respondents in a country who strongly agree or agree with the statement "men make better political leaders than women do." Low-income countries equal 1 if a country's GDP is below the median GDP per capita in the year 2000. SSA equal to 1 if a country is in Sub-Saharan Africa. Recipient-level cluster-robust standard errors are reported in parentheses. ***significant at 1 percent, **significant at 5 percent, *significant at 10 percent.

For countries in Africa, in contrast, a positive association between these two variables is observed. For example in Rwanda, when 45 percent of survey respondents believe that men make better political leaders, the share of women legislators is set at 38 percent and when 49 percent of survey respondents believe that men make better political leaders, the share of women legislators is set at 48 percent. A similar pattern for South Africa and Zimbabwe is observed. Table 1 investigates this relationship further, using OLS and country fixed effects (FE) regressions. Column 1 confirms the overall negative correlation that can be seen in fig. 3. This regression also includes a dummy variable for Sub-Saharan Africa, which is positive and statistically significant at 1 percent. Conditional on men/women-leader perceptions, countries in Sub-Saharan Africa have a share of women legislators that is 10.4 percentage points higher than countries not in Sub-Saharan Africa, which highlights again our main point for this paper that an electoral story cannot (fully) explain the high levels of women's participation in African legislatures. Columns 2 and 3 show regression results from regressions that include country fixed effects and interaction effects. In column 2, men/women-leader perception is interacted with a low-income-country dummy variable, where a country is defined as a low-income country if its GDP per capita in 2000 is below the median. In column 3 the men/women-leader perception is interacted with an SSA dummy variable. In both columns the interaction effect is positive and statistically significant. These regressions show that the coefficient for the men/women-leader perception, conditional on country fixed effects, is large and positive for SSA countries. This coefficient decreases in column 2 for low-income countries but with an overall effect that remains positive for these countries. This result is contrary to what one expects if beliefs and attitudes of the electorate should explain the gender composition in national legislators across SSA. This study concludes that the number of women who run and win elections in Africa can hardly be linked to its citizens becoming more supportive of women being in politics.

Another fact that supports this claim is that the adoption of gender quotas plays an important role in explaining the share of women legislators in Africa. Given that the status of women is low in these countries, women will not be elected into parliament in competitive elections. Instead, this study observes what has been termed the "fast track" approach to the growing women's representation in politics, which is the adoption of legislated candidate quotas and seats reserved for women in parliaments. Gender

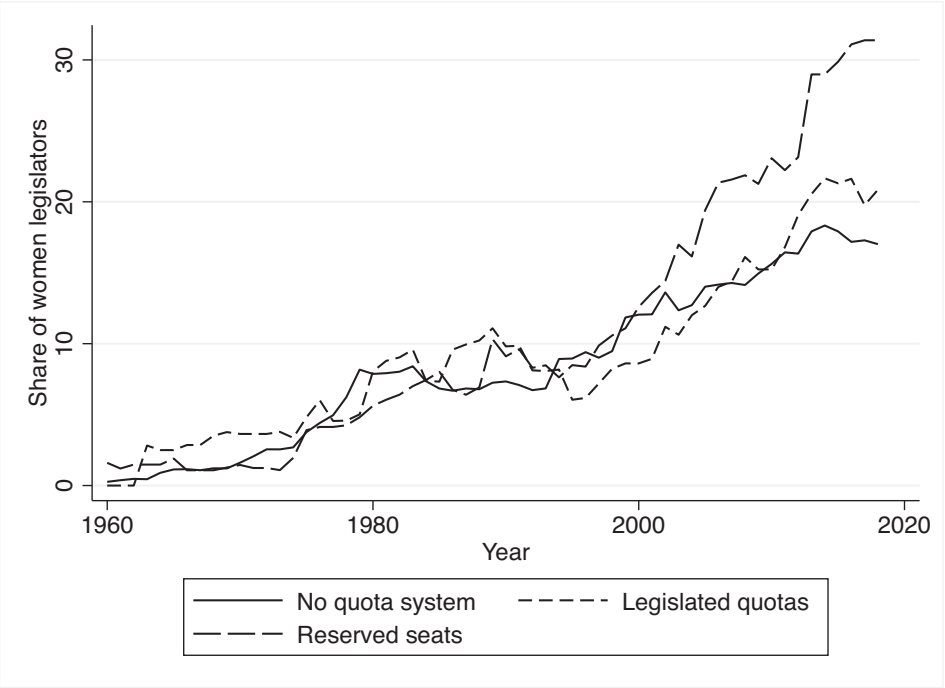
quotas come in three forms: voluntary party quotas, legislated candidate quotas, and reserved seats. Under a voluntary party quota system, political parties self-regulate the gender composition of the candidate party lists that they submit to the Electoral Commission. For instance, the African National Congress (ANC) party in South Africa has adopted a 50 percent gender quota for the party candidate lists that they submit to the electoral commission for their local and national elections. Under a legislated candidate quota system, political parties are required by law to regulate the gender composition of candidate lists submitted for elections. In some countries, state funding is provided to political parties who fulfill this quota requirement on their party lists. Countries may or may not impose legal sanctions on political parties that fail to meet this requirement. For example, in Senegal, the electoral commission (CENA) has the authority to reject the lists and exclude parties from competing in elections in the case of noncompliance with the quota requirement (i.e., strong quota enforcement). Guinea imposes no legal sanctions on political parties that fail to meet the candidate quota requirement on their party lists (i.e., weak quota enforcement). Finally, under the reserved-seat system, a specified number of seats in the legislature is reserved for women. The women seats are either filled through elections involving women-only ballots (e.g., Uganda) or filled through appointments made by leaders of the political parties (e.g., Tanzania).[4] While the first two quota systems regulate the gender composition among the candidates, the reserved-seat system targets the women electees directly. Thus, reserved-seat quotas are more certain than candidate list quotas in achieving increased women's participation in parliaments, particularly in societies where cultural barriers exist towards women to exercise their political rights. For instance, Burundi reserves 30 percent of its parliaments seats for women and requires that 1 in 4 candidates must be a woman. During the 2015 elections in Burundi, women made up 22 percent of the candidate lists but only 15 percent of the elected representatives were women. The remaining 15 percent had to be filled through co-optation, that is, women who obtained at least 5 percent of the votes cast but did not win the elections were selected into parliament (Brand 2018).

This study focuses on legislated candidate quotas and reserved seats because they are implemented at the national level. Data on legislated candidate quota and reserved seat is taken from the Varieties of Democracy (V-Dem) database (Coppedge et al. 2020; Pemstein et al. 2020). The list of countries who have implemented gender quotas is presented in table S1.2. Globally, 61 countries have implemented gender quotas in the form of legislated candidate party lists, whilst 20 countries have implemented gender quotas in the form of special seats reserved for women in parliament. Of the 61 countries, 16 (representing 26 percent) with legislated candidate quotas are in Africa, whereas 12 of the 20 countries (representing 60 percent) with reserved-seat quotas are in Africa. The majority of the adoption of reserved seats in Africa occurred after the 1990s, even though some countries had reserved seats for women in the 1970s (e.g., Sudan in 1974 and Tanzania in 1975). For instance, Kenya adopted reserved seats in 1997, Morocco in 2002, Rwanda in 2003, Somalia in 2004, Burundi in 2005, Zimbabwe in 2013, and Mauritania in 2013. Legislated candidate quotas were also enacted into law in Africa beginning in the 2000s. For example, candidate quotas were adopted in Djibouti in 2003, in Niger in 2004, in Angola in 2008, in Senegal in 2012, and in Guinea in 2013.

Figure 4 compares the evolution of the gender composition of African legislators for countries without a quota system, countries with a legislated quota system (with weak or strong enforcement), and countries with reserved seats for women. The figure reveals that between 1960 and 1990 the gender composition develops fairly similarly in all countries, irrespective of the quota system a country would eventually adopt. Also, countries with a legislated quota system follow fairly closely the dynamics of countries without a quota system, except for the last few years. For countries with reserved seats, in contrast, a strong upward divergence that starts in the year 2000 is observed. As indicated earlier, this is the time when many African countries started to implement reserved seats. Note that the average share of women legislators in African

4 Table S1.3 in the appendix explains country by country how reserved seats are implemented in Africa.

Figure 4. Share of Women Legislators and Quota Systems in Africa (1960–2018)



Source: Authors' own analysis based on data from the Varieties of Democracy (V-Dem) database.
Note: The solid line graphs the average share of women legislators for countries in Africa without a quota system. The short-dashed line graphs the average share of countries in Africa with legislated candidate quotas and the long-dashed line is for countries in Africa with reserved seats.

Table 2. Share of Women Legislators and Quota Systems in Africa (1960–2018)

	(1)	(2)	(3)
Legislated quota weak	−0.9691	—	0.3859
	(2.5063)		(2.3964)
Legislated quota strong	8.4819**	—	10.0254***
	(3.3319)		(3.1305)
Reserved seats	—	8.5073**	8.9551***
		(3.2978)	(3.3107)
Country FE	Yes	Yes	Yes
N	2,597	2,597	2,597
R-squared	0.49	0.51	0.52

Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).
Note: The dependent variable is the share of women legislators in the lower chamber of national parliaments. "Quota weak" and "quota strong" refer to countries with a legislated quota system with weak and strong enforcement respectively. "Reserved seats" refers to countries with reserved seats for women in their national legislature. The quota-system data is taken from the Varieties of Democracy (V-dem) database. All regressions include country and year fixed effects that are not reported. Recipient-level cluster-robust standard errors are reported in parentheses. ***significant at 1 percent. **significant at 5 percent. *significant at 10 percent.

countries without a quota system equals 17 percent in 2016, which is 4 percentage points below the 2016 global average. For countries with reserved seats for women in parliament, that average is 30 percent. Table 2 shows that reserved seats for women and legislated quotas with strong punishments substantially increase the shares of women legislators in Africa. This table reports regression results that include country and year fixed effects. Conditional on those, legislated quotas with strong punishments and reserved seats

each increase the share of women by about 10 percentage points. There is no such effect for quota systems that are weakly enforced. Figure 4 and table 2 both highlight the importance of quota systems in increasing the share of women legislators in Africa. The question, of course, remains why countries in which the status of women is low will adopt such quota systems.

In this paper, the focus is on the role of international donors and development agencies as a possible explanation for this dynamic in Sub-Saharan Africa. What makes this explanation plausible is that gender equality and women's empowerment has successively risen in the priority ranking of aid donors over the last few decades as shown in the next section. Given that many countries in Sub-Saharan Africa receive considerable amounts of foreign aid, the natural question arises whether there is a link between the share of women legislators and foreign aid.

3. Donor Aid Priorities

In 1980, the United Nations Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) treaty was adopted by the UN General Assembly. A majority of countries have ratified this document (i.e., made it official) and agreed to be bound by its provision. Every four years, world leaders are expected to submit a report to the CEDAW committee highlighting measures that they have put in place to fulfill the mandate of the treaty. CEDAW committee members debate the reports and make recommendations to world leaders on how they can continue to eradicate and eliminate discrimination against of all forms against women in their respective countries. Between 1980 and 2015, all African countries except Somalia and Sudan ratified the treaty.[5]

In 1995, the fourth world conference on women was held in Beijing, dubbed "Beijing Declaration and Platform for Action." This conference brought together world leaders, international organizations, and the media to advance the goals of equality, development, and peace for all women. The 12 strategic objectives and actions identified at the conference relate to poverty, education, health, the environment, and politics among others, all targeted at improving the situation of women in these areas. One of the strategic objectives and actions deals with "women in power and decision making." All governments were encouraged to "take measures to ensure women's equal access to and full participation in power structures and decision making." This includes the following:

- Establish gender balance in governmental bodies and committees, the judiciary, and all governmental and public administration positions.
- Protect and promote the equal rights of women to engage in political activities and to freely associate.
- Recognize that shared work and parenting between women and men promote women's increased position in public life.
- Monitor and evaluate progress on the representation of women through regular collection and analysis of data.

Political parties were also advised to

- examine party structures and procedures to eliminate discrimination against women's participation;
- develop initiatives to encourage women's participation and incorporate gender issues in their political agenda.

The international "Financing for Development" conferences have been held by the United Nations with the aim "to eradicate poverty, achieve sustained economic growth...and equitable global economic system." The conferences are held by the UN periodically with all world leaders and high-level policy

5 The median ratification year is 1989, the earliest year of ratification is Cape Verde in 1980, and the latest year of ratification is South Sudan in 2015.

makers in attendance to discuss how to finance the sustainable development goals. Three conferences have been held so far: in Monterrey, Mexico in 2002 (United Nations 2002), then in Doha, Qatar in 2008 (United Nations 2008), and finally in Addis Ababa, Ethiopia in 2015 (United Nations 2015). The 2002 Monterrey conference ended with an action plan that stressed the need for development in all parts of the world to be sustainable, gender sensitive and people centered. As an overall commitment to a just and democratic society, achieving gender equality is a part of the *11th* action point listed in the Monterrey Action Agenda. The words "gender equality" and "women's empowerment", however, both appear only once in this policy document. The 2008 "Doha Declaration on Financing for Development" is the second international "Financing for Development" conference held by the UN, and is a follow-up conference with the purpose to review the progress in the Monterrey policy agenda. At this conference, gender equality and the empowerment of women are considered essential for economic growth, poverty reduction, environmental sustainability, and development effectiveness. The UN called for the elimination of all forms of gender-based discrimination at this conference. Achieving gender equality made it to the *2nd* and *4th* action points in the Doha Action Agenda. This is a considerable move up from the *11th* action point in the Monterrey Action Agenda. The increased commitment to gender equality and women's empowerment by donors is also evident in the number of times these words appear in the document: instead of 2, they now appear 10 times. Finally, the third international "Financing for Development" conference was held in Addis Ababa, Ethiopia in 2015. This conference builds on the 2002 Monterrey and 2008 Doha conferences. At this conference, achieving gender equality and women's and girls' empowerment is now listed as part of the *1st* action point. In addition, aid-recipient countries were asked to report and track the development assistance allocated for gender equality and women's empowerment issues as listed in the 53rd action point. Again, gender equality and women's empowerment both appear 8 times in this document. The evolution of these documents demonstrates the priority shift of the international donor-recipient community towards gender equality and women's and girls' empowerment in recent years as a means to help eradicate global poverty and promote sustainable and inclusive development.

The OECD (2018) report on aid allocations reveals that there has been an increase in gender-targeted aid allocations. Several donors have made gender equality a core priority in their aid spending. For Sweden, Iceland, Ireland, Canada, Belgium, Australia, Netherlands, and New Zealand, at least 50 percent of their aid allocations were targeted at programs and initiatives that had gender equality as the objective.[6] For the period 2015–2016, 7 of the 10 countries that received the largest amounts of funding for programs targeting gender equality as the primary objective were in Africa (i.e., Tanzania, Ethiopia, DR Congo, Kenya, Mali, Mozambique, Uganda), and one-third of these aid amounts was awarded to the government and civil society sector (mostly women's organizations).

The fact that donors start to prioritize aid projects that reduce gender discrimination and empower women in aid-recipient countries does not necessarily imply that countries with more women in parliament will receive more aid. In fact, the opposite should be true as aid projects with the objective to increase the participation of women in politics should be targeted at countries where participation is low. However, there are good reasons for aid to select into countries with a higher share of women legislators. First, this happens directly through performance-targeted aid. Measures of gender equality enter directly into performance indices or selection indicators that determine the allocation of aid across countries for major donors such as the World Bank and the United States. For example, gender equality has become one dimension of the US government's selection indicator of the Millennium Challenge Corporation (MCC) and the World Bank's Country Policy and Institutional Assessment (CPIA). The "share of women legislators" is one of the measures the World Bank considers when determining the CPIA country score. And note that the CPIA score affects the level of aid a country receives not only from the World Bank but also from other donors (Galiani et al. 2017; Annen and Knack 2021). In addition, there is evidence

6 The reported average share of OECD gender-targeted aid is 37 percent.

that aid-recipient countries look at performance indices such as the CPIA and MCC and adapt policies accordingly (Parks and Davis 2019). Second, donors like Sweden, Canada, Australia, and New Zealand have introduced foreign-assistance policy documents that take a feminist approach to guide their distribution of development assistance to recipient countries. These documents emphasize the importance of gender equality within decision-making bodies for gender-focused aid projects to become more effective. For example, a policy document by the Swedish government states that "research shows, for example, that more equal decision-making bodies are more active on gender-equality issues, and their agenda and resource allocation reflect more groups and needs within society" (Government Offices of Sweden 2019, p. 25). On the following page they summarize this point by stating that "changes occur where power exists." Similarly to this, the current Canadian government points in a document entitled "Canada's Feminist International Assistance Policy" when discussing the low level of women's representation in most national parliaments to the importance of having women as political leaders "in helping to break down the barriers that prevent women and girls from succeeding in all areas of life—not just in the political realm" (Global Affairs Canada 2017, p. 51). Canada is also prioritizing the political and economic participation of women and girls over other avenues of gender equality in the countries that it awards development assistance to (Morton, Muchiri, and Swiss 2020). Even though these statements do nowhere state directly that aid is directed towards countries with a higher share of women legislators, it can be inferred from such statements that gender-focused aid can be expected to be more effective in countries where women play a more important role politically. Such a view is also supported by research papers that show that countries with a higher share of women are more likely to pass gender-sensitive laws and laws that eliminate discriminatory practices (Hallward-Driemeier, Hasan, and Rusu 2013; Asiedu et al. 2018).

One source of data to adjudge gender-equality outcomes in aid-recipient countries can be found in the periodic reports prepared by world leaders to the CEDAW committee of the UN on the progress made towards the elimination of discrimination against women. In the 2009 report submitted by Burkina Faso, for example, the CEDAW committee raised concerns on the low level of women's participation in politics and recommended that a quota system be introduced to increase the representation of women in parliament. In the subsequent 2016 report, Burkina Faso highlighted the fact that a legislative quota had been introduced in 2012 and the share of women had risen from 11.7 percent in 2007 to 18.9 percent in 2012. In addition, the low representation of women in parliament (14 percent) was a major concern in the CEDAW report submitted by Zimbabwe in 2009. Zimbabwe adopted a reserved-seat system in 2013 and in its 2018 CEDAW report, the improved representation of women in parliament was highlighted. The percentage of women in Zimbabwe's parliament rose from 15 percent in 2012 to 31 percent in 2013, and to 32 percent in 2014 and 2015. Rwanda adopted a reserved-seat system for women in 2003, and even though by 2015, the share of women in Rwandan parliament was 64 percent, the CEDAW committee in the 2015 report encouraged Rwanda to continue to use the quota to enhance the equality of women and men. These documents highlight that the share of women legislators receives substantial international scrutiny and countries are nudged into increasing women's representation through those progress reports. Given these efforts, the empirical question that needs to be answered is whether aid-recipient countries get remunerated by more aid when increasing women's participation in national parliaments. This is what this paper analyzes next.

4. Gender Selectivity of Aid Allocations

This study focuses on the share of women legislators in the lower chamber of national parliaments. The data set was created by extracting the gender-composition information from HTML and PDF files, each capturing one election, that were made available to us by the Inter Parliamentary Union (IPU). IPU tracks elections for all its members irrespective of the quality of the members' elections. This data was

complemented with information from the "Varieties of Democracy" database (V-Dem) (Coppedge et al. 2020; Pemstein et al. 2020) producing—to our knowledge—the most comprehensive data set on the gender composition in national parliaments covering 200 countries between 1960 and 2018.[7] As the number of legislators in parliament is only available for election years, data for the non-election years is filled in for a maximum of five years after an election is held.

It is important to note that most aid-recipient countries included in our sample are not full-fledged democracies. Democracy is measured by an assessment of the competitiveness of elections using the XRCOMP measure in the Polity IV data set (see Marshall, Gurr, and Jaggers 2017). This measure refers to the "competitiveness of executive recruitment" and is defined as follows: "Competitiveness refers to the extent that prevailing modes of advancement give subordinates equal opportunities to become superordinates" (Gurr 1974, p. 1483). Marshall, Gurr, and Jaggers (2017) note that "for example, selection of chief executives through popular elections matching two or more viable parties or candidates is regarded as competitive." Such a country receives an XRCOMP value of 3. In our sample of aid recipients in Africa, the median equals 1.5 for the time period covered in our regression analysis, which is between 1990 and 2017.[8] A value of 1.5 refers to an in-between situation where "chief executives are determined by hereditary succession, designation, or by a combination of both" on the one hand, and a transitional arrangement "between selection (ascription and/or designation) and competitive elections" on the other. Only two countries, South Africa and Mauritius, have the perfect score of 3 for all the years covered in our analysis. This democracy measure is preferred over—for example—the composite measures such as Polity or Polity2, or other composite measures such as Freedom House as this measure captures *one* important and tangible dimension of a democracy: namely whether the transfer of power is regulated and succeeds as a result of competitive elections.[9] It is also plausible that donors are more likely to base their aid-allocation decisions on such a tangible and more observable property related to democracy. In the analysis, the XRCOMP measure is converted into a dichotomous variable that equals 1 if XRCOMP equals 2 or 3, and 0 otherwise. That is, a country is considered democratic if it has competitive national elections or transitions towards having such elections. Note that a dichotomous measure has the advantage of making the interpretation of our empirical results easier (Cheibub, Gandhi, and Vreeland 2010; Bjørnskov and Rode 2020).

Data on development assistance is taken from the Organization for Economic Co-operation and Development (OECD). Aid disbursements are used in this study in contrast to commitments as it is actual disbursements of aid that are most relevant to understanding the incentive structure induced by aid-allocation mechanisms. Also, total aid is defined in this study as the total gross flow of development aid (excluding emergency aid, food aid, and debt relief) from government donors, multilateral organizations, NGOs, private foundations, and the private sector. This study hereby follows Annen and Kosempel (2009) and captures development aid resulting in new disbursed cash inflows (gross aid). Aid is measured in constant USD. Also, our aid measure is an aggregate aid measure that includes bilateral and multilateral donors. As discussed earlier, there are a few donors that have prioritized gender-focused aid projects. But in order to understand the incentive structure of aid-recipient countries, there is the need to understand

7 Combining the two data sources produces a data set that covers 22 more countries than the V-Dem data set on its own.

8 This study focuses on the post-Soviet era because this is the era that is most relevant in terms of donor aid selectivity as discussed in the previous section and the upper bound in our time frame is dictated by data availability. The coverage of Penn World Table (PWT, 9.1) ends in 2017.

9 Note that for countries in which the transfer of power is unregulated—i.e., for example through forceful seizures of power—XRCOMP has a value of 0. For composite measures of democracy, typically other components of democracy enter additively into that measure. For example, Polity2 also includes a measure on the "constraints on the executive," which implies that competitive elections as one dimension can be perfectly substituted with another dimension, namely constraints on the executive. This conflation is not believed to be useful in the context here, as donors are more likely to refer to tangible and observable characteristics when making their aid-allocation decisions.

whether overall aid given by all types of donors that may give aid for a large range of reasons is responsive to changes in the political participation of women in national parliaments. As discussed earlier in this paper, there is quite a bit of donor heterogeneity in terms of the gender focus of different donors, but the empirical question this study tries to answer is whether the aggregate level of aid is sensitive to changes in the share of women legislators.

All the data used in the aid-allocation regressions is averaged across four-year periods starting with the 1990–1993 period and ending with the 2014–2017 period. This is done because our main variable of interest, the share of women legislators, changes about every four years for the average country. In-between elections this variable, however, has no variation. In order to avoid the smoothing of our main variable of interest, the data is collapsed in four-year periods by using the last non-missing observation of the share of women legislators in a given period. Aid disbursements, in contrast, are averaged, which has the benefit of smoothing the aid data series, which is desirable as aid can be fairly volatile due to unsystematic short-term fluctuations (Annen and Kosempel 2009; Dreher, Gehring, and Klasen 2015).

In order to properly identify an aid incentive effect for recipient governments to introduce policies that affect gender equality, this study aims to conceptualize an empirical model that aid-recipient governments may use to assess whether aid is responsive to such policy changes. For example, if these governments use back-of-the envelope calculations and look at a simple correlation, then a univariate OLS regression will properly identify this aid incentive effect. In this case a positive and statistically significant coefficient β in the following regression would indicate donor aid selectivity in terms of gender policies:

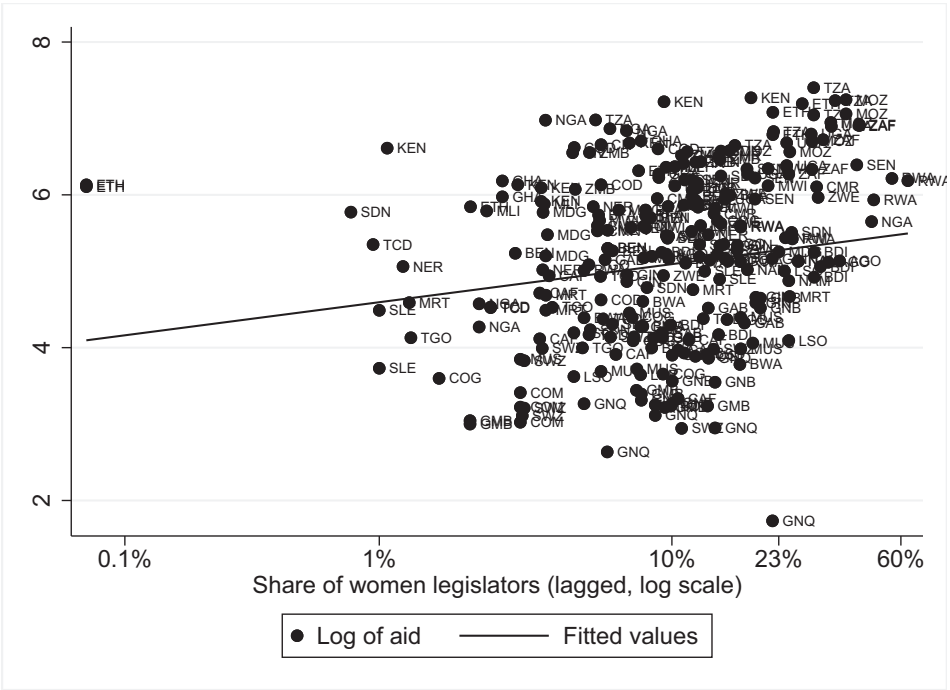
$$\text{Aid}_{r,t} = \phi + \beta \text{Sharew}_{r,t-1} + v_{r,t}, \tag{1}$$

where $\text{Aid}_{r,t}$ is the amount of development aid (in logs) received by recipient country r in period t from all donors, and $\text{Sharew}_{r,t-1}$ is the lagged share of women legislators (in logs) in the national parliament of recipient country r.

Figure 5 shows a scatterplot with the share of women legislators (lagged and in log scale) on the horizontal axis and aid disbursements (also in log scale) on the vertical axis, showing the regression result of (1). It shows a fairly strong positive and statistically significant relationship between the two variables with a regression coefficient β that equals 0.32 and a p-value of 0.016. It is revealing that a simple univariate regression shows a fairly strong relationship between these two variables, suggesting that recipient countries with more women in parliament receive a higher level of aid on average. However, if aid-recipient governments use a more sophisticated empirical model to assess the incentive effect of aid in terms of gender equality, then this result would not be convincing enough as such a regression may suffer from endogeneity bias for a variety of reasons. For this reason, additional regression results that also include controls for observable characteristics that are well known to affect donor aid allocations are presented to see whether that positive relationship between share of women legislators and aid shown in fig. 5 persists. After all it is well known that aid donors reward aid recipients for a variety of reasons (Annen and Knack 2021). For this reason, a large range of control variables that are typically discussed in the aid-allocation literature is included, and our statistical model also includes a lagged dependent variable as an independent variable. Given that our sample has only seven periods as the data is averaged into four-year periods, our estimates may suffer from dynamic panel bias Nickell (1981) with the inclusion of a lagged dependent variable as one of the regressors. For this reason, the regressions are run with OLS, the fixed effect estimator, and system GMM to compare regression results (Arellano and Bond 1991; Blundell and Bond 1998). The GMM difference and system estimator are designed to overcome dynamic panel bias.[10]

10 The paper by Roodman (2009) on how to use the GMM difference and system estimator in Stata is very instructive. It states that implementing these estimators is fairly complicated and can easily yield invalid estimates when not properly specified. The dynamic panel bias shows up positively in OLS and negatively in FE regressions and it can also affect

Figure 5. Share of Women Legislators and Aid (1990–2017)



Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).
Note: This figure depicts a scatterplot between the share of women legislators in log scale and lagged by one period, and the log of aid. The sample includes only Sub-Saharan African countries. A univariate OLS regression using this data produces a coefficient of 0.32 with a *p*-value of 0.016 and an *R*-squared of 0.067.

A more sophisticated panel model that is estimated in this study is expressed as

$$\text{Aid}_{r,t} = \phi + \alpha \text{Aid}_{r,t-1} + \beta \text{Sharew}_{r,t-1} + \delta X'_{r,t-1} + \rho_r + \gamma_t + v_{r,t} \quad (2)$$

where $X_{r,t}$ comprises recipient-country-specific explanatory variables (in logs) in period t (e.g., population size, GDP per capita). Again, the coefficient of interest in equation (2) is β. If the hypothesis that donor countries are selective to policies promoting political gender equality in recipient countries is correct, then the sign of β is expected to be positive. The regressions control for one-period lag in aid through the inclusion of $\text{Aid}_{r,t-1}$. The coefficient for the share of women legislators, β, then captures the additional aid amounts that a recipient country receives from aid donors when the country demonstrates commitment to political gender equality. Using this dynamic panel model also implies that changing the gender composition in the national parliament in a given period has, in addition to the immediate impact measured by β, a positive longer-term effect if $\alpha > 0$. That effect equals $\beta \sum_{t=0}^{T} \alpha^t$ after T periods or $\beta/(1-\alpha)$ in the very long run.

Our model includes period fixed effects denoted by γ_t. These fixed effects help to address any omitted variable bias concerns in the model caused by excluding unobserved variables that evolve over time but are constant across recipient countries. Aid-recipient-country fixed effects, denoted by ρ_r, are also included. This will control for unobserved time-invariant recipient-country effects. Other controls typically included in the aid literature, such as colonial ties and religious beliefs of recipient countries, will be absorbed by

variables other than the lagged dependent variable. By using the GMM system estimator one expects to estimate a coefficient on the lagged dependent variable that is in between the OLS and the FE estimates. As can be seen in the tables 3, 4 and 5, this is the case for all our estimates. For the system GMM estimates the xtabond2 command in Stata developed by Roodman (2009) is used.

the country fixed effects. For example, the colonial past of aid-recipient countries has been shown to affect the amount of aid that a country receives (Alesina and Dollar 2000; Rajan and Subramanian 2008).

Additional controls are included in the regression equation to make the regressions comparable with other aid-allocation regressions and to address possible omitted variable bias and potential endogeneity issues. Regression results with and without these additional controls are reported as there is uncertainty in terms of the exact empirical model that aid-recipient countries are using to assess aid selectivity in terms of gender policy. For instance, if a recipient country that is more democratic also tends to have a higher share of women legislators, and if a democratic country is also likely to attract more aid, then the estimate is biased if this study fails to control for democracy and recipient governments take the democracy effect into account. As indicated earlier, a dichotomous democracy measure is used based on the XRCOMP score from Polity IV to control for democracy (Marshall, Gurr, and Jaggers 2017). The last non-missing value when the data is collapsed into the four-year periods is used. GDP per capita and population are also included as controls as it is standard in aid-allocation regressions to include these two controls. GDP per capita captures the poverty selectivity of aid allocations and a control of population captures a well-documented donor bias in aid allocations towards smaller countries (see for example Collier and Dollar 2001). As discussed earlier, donors' aid allocations have become more policy selective over the last three decades. Here, this study follows Annen and Knack (2021) and includes the World Bank's Country Policy and Institutional Assessment policy index (CPIA) as a control. This measure is useful in the context here as it is used as part of the distribution key for the International Development Assistance funds (IDA) by the World Bank. Merchandise trade (as a percentage of GDP) is included to capture commercial interests, temporary membership in the United Nations Security Council (UNSC) is included following Dreher et al. (2013), and UN voting affinity with the United States following only using votes that the US state department has deemed important. The UNSC measure and voting affinity control for the political motivation behind aid donations. A recipient country, who is a member of the UNSC, may receive more aid from donors to influence the recipient country's political support in favor of donors' interests at the UNSC meetings. In an article published by Fox News on May 27, 2011, Congressman Steve Chabot, who at that time sat on the House Foreign Affairs Committee of the United States, stated that "if we are giving money to countries consistently voting against our interest, we ought to cut them off." The same article states that the US Ambassador to the UN at the time—John Bolton—proposed cutting off all aid allocations to 30 countries who consistently vote against the US interests at the United Nations meetings.[11] UN affinity voting with the United States has been used in many aid-allocation regressions (e.g., Alesina and Dollar 2000; Dreher and Jensen 2013; Woo and Chung 2018). Following Dreher and Jensen (2013), this study focuses on key votes that are defined as "votes on issues which directly affected United States interests and on which the United States lobbied extensively" (US Department of State document cited in Dreher and Jensen 2013).

The occurrence of conflicts in recipient countries is also controlled for in the regressions. This control may be relevant in our context as wars have been observed to lead to an increase in women's empowerment through the transition of women into the labor force and subsequently into decision-making roles (Powley 2004; Mpoumou 2004). If aid donors are also likely to give more aid amounts to conflict-affected countries and regions then the omission of a control for conflicts can produce an omitted variable bias. For example, "peace, justice and strong institutions" is one of the United Nation's Sustainable Development Goals, which aims at significantly reducing all forms of violence and related death rates everywhere, and many aid donors have made conflict-affected countries and fragile states a high priority in recent years (Collier et al. 2003; World Bank 2011; Ellison 2016; Findley 2018). Data on conflicts is taken from the Uppsala Conflict Data Program (UCDP) database (Pettersson and Öberg 2020; Sundberg and Melander 2013) and the dummy variable "conflict" is coded as 1 if there have been

11 Source: https://www.foxnews.com/politics/its-all-your-money-foreign-aid-to-muslim-arab-nations

more than 1,000 deaths due to a conflict within a given period. One further concern is that the variation of our main variable of interest emerges as a result of elections. If aid is used to affect election results (see for example Faye and Niehaus 2012), then our estimates may be biased. For that reason, a dummy variable SOLS, which measures a change in the source of the leadership support of a country is included (Mattes, Leeds, and Matsumura 2016). The goal of the data set is to identify leadership changes that come also with a change of the societal group that supports this leader, such as a political party or the military. For example, a change in the president of a country who is a member of the same party as their predecessor within a given period is coded as 0.[12] Finally, our last measure includes the "Women, Business, and the Law" index that intends "measuring the laws and regulations that affect women's economic opportunity in 190 countries" (International Bank for Reconstruction and Development 2005). As discussed earlier, that index is also used by the World Bank when deriving the score for the CPIA component that measures "social inclusion and equity." That index is also used by the MCC to derive the gender component of the MCC selection indicator. If a larger share of women legislators is more successful in passing gender-sensitive legislation through parliament, then our measure may capture that legislative effort (Asiedu et al. 2018).

The first regression results are presented in table 3. The table shows that there is a positive relationship between lagged share of women in parliament and current aid for Sub-Saharan Africa in all six regressions reported in this table. The results are highly robust and the coefficients vary between 0.10 and 0.13 depending on the set of controls and the estimator that is being used. Columns 1, 3, and 5 control for lagged aid, democracy, population size, and GDP per capita, and our coefficient of interest, lagged log of the share of women, ranges between 0.11 and 0.13. The midpoint of this interval suggests that a 10 percent increase in the share of women legislators is associated with a 1.2 percent increase in aid. For example, an increase in the share of women legislators from 15 to 20 percent is associated with a 4 percent increase in aid. The long-term impact of such a change, holding everything else constant, amounts to 12 percent in additional aid. This study observes this estimate to be robust to the additional set of controls included in columns 2, 4, and 6. For example, in column 6 the estimate of the share of women legislators slightly increases with the additional controls. In terms of the other covariates, this study finds a positive and statistically significant aid effect of democracy in all regressions. Columns 2, 4, and 6 include the log of the World Bank's CPIA index as an additional control, presenting thereby a similar aid-allocation regression as in Annen and Knack (2021). A notable difference, however, is that this regression includes only Sub-Saharan African countries and uses four-year period averages instead of yearly data. This regression confirms the policy selectivity of aid allocations as the coefficient is fairly large and positive. However, it is only statistically significant at the 10 percent level in the FE regression in column 4. Income has the expected sign in all the regressions but the coefficients are not statistically significant. The coefficients of conflict, UNSC membership, voter affinity with the United States, trade, change in leadership in a recipient country, and the Women in Business and Law index are all not statistically significant.

Columns 1 and 2 in table 4 repeat the system GMM regression from column 6 in table 3 but include a square term for the share of women legislators and an interaction term for democracy respectively. Both of these interaction terms are positive but small and statistically not significant. This implies that donors seem not to tailor their gender-selective aid towards more democratic countries in Sub-Saharan Africa. This is an important insight as it suggests that aid-recipient countries with or without fair and competitive elections get remunerated for an increase in the share of women legislators in their national parliament. Thus, there is independence in terms of aid selectivity between reforms that target the parliamentary gender composition and democracy by making elections more competitive. This independence may explain why a high share of women legislators is observed in countries without competitive and fair elections,

12 Note that our results are robust when including a control for leadership change independent of a change of the societal group that supports that leader.

Table 3. Aid Selectivity in Sub-Saharan Africa: Share of Women Legislators (1990–2017)

	OLS		FE		GMM	
	(1)	(2)	(3)	(4)	(5)	(6)
Log of aid, lag	0.7923***	0.7606***	0.5297***	0.4538***	0.6635***	0.6582***
	(0.0431)	(0.0510)	(0.0800)	(0.0831)	(0.1147)	(0.0949)
Log of sharew., lag	0.1111***	0.1020***	0.1308***	0.1194***	0.1059***	0.1157***
	(0.0316)	(0.0310)	(0.0411)	(0.0427)	(0.0350)	(0.0335)
Democracy, lag	0.1810***	0.1810***	0.2771***	0.2970***	0.2169***	0.1834**
	(0.0481)	(0.0589)	(0.0860)	(0.1011)	(0.0826)	(0.0746)
Log of GDPpc, lag	−0.0252	−0.0420	−0.0229	−0.0518	−0.0046	−0.0295
	(0.0312)	(0.0392)	(0.1348)	(0.1139)	(0.0392)	(0.0411)
Log of population, lag	0.1742***	0.1754***	−0.4488	−0.8032	0.2931***	0.2549***
	(0.0356)	(0.0398)	(0.3890)	(0.4799)	(0.0888)	(0.0752)
Log of CPIA, lag	—	0.2258	—	0.4904*	—	0.2054
		(0.1525)		(0.2701)		(0.1574)
Conflict, lag	—	0.0809	—	0.1259	—	0.1046
		(0.0844)		(0.0980)		(0.0705)
UNSC, lag	—	0.0635	—	0.1317	—	0.0900
		(0.1304)		(0.1146)		(0.1220)
US affinity UN	—	−0.0016	—	0.0040	—	0.0006
		(0.0031)		(0.0038)		(0.0037)
Trade, lag	—	−0.0003	—	−0.0006	—	−0.0014
		(0.0011)		(0.0039)		(0.0014)
SOLS	—	−0.0429	—	−0.0648	—	−0.0293
		(0.0564)		(0.0562)		(0.0619)
Log of WBL index	—	0.1025	—	0.0802	—	0.0805
		(0.1021)		(0.1799)		(0.1302)
Country FE	No	No	Yes	Yes	Yes	Yes
AR(1)	—	—	—	—	0.012	0.014
AR(2)	—	—	—	—	0.861	0.792
Hansen overid	—	—	—	—	0.842	0.602
N	267	267	267	267	267	267
R-squared	0.91	0.91	0.60	0.62	—	—
F-statistic	416.00	323.81	31.70	24.28	—	—

Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).

Note: The table presents estimates of the effect of the log of the share of women legislators on the log of developmental aid. See table S1.1 in the supplementary online appendix for a full description and sources of all variables. AR(1) and AR(2) represents the Arellano-Bond test for serial correlation. The sample includes Sub-Saharan African countries between 1990 and 2017. All regressions include a constant term, and period fixed effects, which are not reported. Recipient-level cluster-robust standard errors are reported in parentheses. ***significant at 1 percent. **significant at 5 percent. *significant at 10 percent.

most notably Rwanda. A cost-benefit analysis for an incumbent leader in a non-competitive political environment may make it more beneficial to implement a policy that improves the gender composition in an (ineffective) parliament than implementing democratic reforms that would lead to competitive elections and ultimately jeopardize their own position.

Columns 3 to 6 in table 4 test for possible channels through which gender-selective aid may work. In particular, a dummy variable for whether a country uses legislated candidate quotas or reserved seats in a given year is included. This study finds a strong and statistically significant aid effect for reserved seats but not for candidate quotas in most regressions. This study estimates a coefficient between 0.09 and 0.20 for reserved seats depending on the set of controls. Columns 5 and 6 use all the controls, which includes the Women, Business, and Law index. When that index is excluded in column 5, the point estimate for reserved seats increases to 0.15, with a *p*-value of 0.009 (results not reported in the paper). This suggests

Table 4. Aid Selectivity in Sub-Saharan Africa: Quota Systems (1990–2017)

	GMM					
	(1)	(2)	(3)	(4)	(5)	(6)
Log of aid, lag	0.6700***	0.6252***	0.6903***	0.6544***	0.7189***	0.6156***
	(0.1258)	(0.1123)	(0.1098)	(0.1199)	(0.1019)	(0.1091)
Log of sharew., lag	0.0551	0.1043**	—	0.1091**	—	0.1111***
	(0.0526)	(0.0475)		(0.0438)		(0.0383)
Log of sharew. sq., lag	0.0155	—	—	—	—	—
	(0.0152)					
Democracy, lag	0.1847**	0.0839	0.2545***	0.2305***	0.1977**	0.2209***
	(0.0783)	(0.1881)	(0.0840)	(0.0868)	(0.0785)	(0.0731)
Log of sharew. × dem., lag	—	0.0503	—	—	—	—
		(0.0672)				
Legis. quota, lag	—	—	−0.0595	−0.1918	0.0138	−0.1491
			(0.1500)	(0.1514)	(0.1381)	(0.1546)
Reserved seats	—	—	0.1979**	0.1599**	0.1074	0.0928*
			(0.0808)	(0.0770)	(0.0659)	(0.0532)
Full controls	Yes	Yes	No	No	Yes	Yes
AR(1)	0.018	0.015	0.017	0.011	0.019	0.015
AR(2)	0.720	0.770	0.846	0.869	0.788	0.783
Hansen overid	0.735	0.662	0.657	0.689	0.624	0.934
N	267	267	267	267	267	267

Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).

Note: The table presents estimates of the effect of a quota system on the log of developmental aid. AR(1) and AR(2) represents the Arellano-Bond test for serial correlation. See table S1.1 in the supplementary online appendix for a full description and sources of all variables. The sample includes Sub-Saharan African countries between 1990 and 2017. All regressions include a constant term, period and country fixed effect, which are not reported. Recipient-level cluster-robust standard errors are reported in parentheses. ***significant at 1 percent. **significant at 5 percent. *significant at 10 percent.

that reserved-seat legislation is correlated with legislative changes in the realm of business and family that is captured by the WBL index. The GMM estimates suggest that adopting reserved seats for women legislators increases aid by about 14 percent in the following period and by 30 percent in the long run. The other controls that are not reported in the table behave very similarly to table 3. Columns 4 and 6 add the share of women legislators. The coefficient of the share of women legislators and reserved seats stay essentially the same and remain statistically significant. This implies that increasing the share of women in parliaments has positive aid effects independent of a reserved-seat policy.

Table 5 repeats the analysis but uses samples that exclude Rwanda (columns 1–3) and Ethiopia (columns 4–6). Ethiopia is excluded because in fig. 5 this country is shown to be a clear outlier. Between 1988 and 1994, Ethiopia has 0.1 percent of its parliamentary seats filled with women but receives large aid amounts. There is also a concern that the results may be driven by Rwanda, a country, as discussed earlier, that has been very successful in increasing the share of women legislators using reserved seats.[13] As table 5 shows, our results are robust to this adjustment. In particular, if Ethiopia is excluded, both the coefficient on the share of women legislators and reserved seats increases. In this table, only the channel regressions are reported, without including all the controls. With full controls, the reserved-seat coefficients reduce to 0.15 and 0.16 respectively, and they are not statistically significant. The conclusion is that the results are not driven by Rwanda or Ethiopia.

13 A univariate OLS regression between the lagged share of women legislators (in logs) and log of aid that is similar to the one in fig. 5, but excluding Ethiopia and Rwanda, produces a coefficient of 0.42 with a *p*-value of 0.002 and an *R*-squared of 0.092.

Table 5. Aid Selectivity in Sub-Saharan Africa: Share of Women Legislators excluding Rwanda and Ethiopia (1990–2017)

	GMM					
	(1)	(2)	(3)	(4)	(5)	(6)
Log of aid, lag	0.6438***	0.6749***	0.6679***	0.6600***	0.6149***	0.6759***
	(0.1218)	(0.1083)	(0.1200)	(0.1201)	(0.0945)	(0.1024)
Log of sharew., lag	0.0966***	0.0945**	—	0.1292***	0.1366***	—
	(0.0353)	(0.0399)		(0.0392)	(0.0371)	
Legis. quota, lag	—	—	−0.0766	—	—	−0.0983
			(0.1476)			(0.1784)
Reserved seats	—	—	0.1888**	—	—	0.2294***
			(0.0933)			(0.0807)
Full controls	No	Yes	No	No	Yes	No
AR(1)	0.014	0.020	0.020	0.012	0.014	0.017
AR(2)	0.863	0.785	0.864	0.858	0.823	0.835
Hansen overid	0.816	0.774	0.676	0.685	0.679	0.580
N	260	260	260	260	260	260

Source: Authors' own analysis based on data from different sources (see table S1.1 for full list).
Note: The table presents estimates of the effect of the log of the share of women legislators on the log of developmental aid (dependent variable). See table S1.1 in the supplementary online appendix for a full description and sources of all variables. AR(1) and AR(2) represents the Arellano-Bond test for serial correlation. The sample includes Sub-Saharan African countries excluding Rwanda in columns 1–3 and excluding Ethiopia in columns 4–6). All regressions include a constant term, period and country fixed effect, which are not reported. The coefficients of the other controls are not reported in this table. Recipient-level cluster-robust standard errors are reported in parentheses. ***significant at 1 percent. **significant at 5 percent. *significant at 10 percent.

5. Conclusion

This study provides a rigorous quantitative analysis for the connection between policy-selective aid and the gender composition in national parliaments among aid-recipient countries in Africa. By extracting election information from HTML and PDF files provided by the IPU and complementing this data with data on the gender composition of parliaments from V-Dem (Coppedge et al. 2020; Pemstein et al. 2020), a comprehensive data set on gender composition across the lower chamber of national parliaments covering 200 countries over the period 1960 to 2018 has been created. When describing this data, a big jump in the share of women legislators in Africa beginning in the post-Soviet era is observed. The analysis reveals that the growth in the number of women who run and win elections in the lower chamber of national parliaments across Africa can hardly be attributed to an improvement in the feminist attitude of its electorates. Instead, the increase in the share of women legislators in Africa can be linked to the adoption of gender quotas and reserved seats. Over the past four decades, feminist actions and efforts have been taken by the United Nations and its member states to bridge the gender-inequality gap that exists across the world. Further, many aid donors have taken a feminist approach to international development assistance in the last two decades. This paper investigates whether there is a relationship between women's representation in parliaments across Sub-Saharan Africa and foreign-aid allocations. The paper estimates that an increase in the share of women legislators by 10 percentage points for a recipient country is associated with an increase of 1.2 percent in aid on average. This study also finds that aid-recipient countries who reserve special seats for women in parliaments receive an additional 14 percent in aid amounts on average. Although this study finds that democratic countries receive more aid, our results show that donors do not tailor their gender-selective aid towards more democratic countries in Sub-Saharan Africa. This may explain why aid-recipient countries that are classified as not being democratic may have substantial women's representation in their national parliament, as for example in Rwanda. Our findings provide evidence in support of the growing selectivity of aid donors to gender equality and women's empowerment issues in Sub-Saharan Africa. Future research will have to investigate the

effectiveness of "aid-influenced" quota adoption, that is, whether women have become critical leaders (like speakers of parliament, committee chairs, more women at the negotiating table) or whether the women legislators selected into parliament truly influence policies that affect women.

Data Availability Statement

Data is available upon request.

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