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Abstract

This study fits into the research field of Aid and Growth, seeking to evaluate whether the gender composition of Parliaments in recipient countries may have any impact on aid effectiveness. By using data from the World Bank and OECD (CRS) databases, the analysis refers to 46 Sub-Saharan African countries over the period 1995-2012. The analysis reveals that the presence of women in parliament reduces this negative effect of aid on growth. The results are robust when controlling for endogeneity problems that may affect the linkages between Aid and Growth and for the inclusion of some crucial control for political factors.

JEL Classification: F35, J16, O1, O43
Keywords: Economic growth, Foreign Aid, Gender, Developing Countries, Institutions.

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1. Introduction

Starting from the seventies the debate on the relationship between foreign aid and economic growth has been enriched by numerous theoretical and empirical contributions. Various aspects of aid effectiveness have been widely analyzed with the attempt to shed light on the often conflicting results reached in different empirical analyses. The great interest on this issue also stems from the fact that, despite the massive delivery of aid by the richest countries, poor countries are still embroiled in slow growth paths.

Most of the recent literature shows that aid effectiveness may depend on specific features of the receiving country, as for example the quality of institutions and the goodness of polity, as well as on the type of aid itself (Burnside and Dollar, 2000, 2004; Clemens et al., 2004, 2012; Masud and Yontcheva, 2005; Michaelowa and Weber, 2008; Mishra and Newhouse, 2009; Nunnenkamp et al., 2007).

Given these general acknowledgements, the aim of this study is to evaluate aid effectiveness on the base of a particular characteristic of institutions in recipient countries, namely the Parliament gender composition.

The study focuses on the specific linkage between the share of women in parliaments and the effectiveness of aid in receiving countries because the recent contributes of the literature showed that female policymakers behave differently than their male counterparts. Indeed, several analyses highlight that women seem to be more altruistic, fairer and less corrupted (Chattopadhyay and Duflo, 2004; Dollar et al., 2001; Croson and Gneezy, 2009; Eckel and Grossman, 1998; Goetz et al., 2003; Knack et al., 2001; Swamy et al., 2001;). These specific character traits may of course affect the goodness of the decisions of a policymaker, becoming crucial for the quality of institutions and, hence, also for aid effectiveness (Shukralla and Allan, 2011). Moreover, the literature proofs that women are more sensitive to well-being needs, like education, health, household and gender policies, which in least developed countries are key for the economic growth process. Women attitudes, therefore, may favour a more efficient use of aid, given that it is largely allocated to sectors such as health, education, household facilities and more generally to social infrastructures.

As far as we know, in the literature there are no studies focusing on the relationship between the parliaments' gender composition and the impact of aid on recipient countries economic growth. The only attempt to investigate the role of women in aid management are the studies of Hicks et al. (2016) that find that the more women are present in Parliaments of donor countries, the greater is the attention focused on social infrastructure issues, and the one of Shukralla and Allan (2011) that fail to find a significant relationship between government gender composition and the impact of aid on corruption.

The analysis refers to a sample of 46 Sub-Saharan African countries because, although collecting the highest amount of aid, they performed worse than other countries. Our intent is to verify whether women in Parliament of recipient countries may contribute to increase development aid effectiveness. To this extent, we adopt an appropriate econometric methodology to overcome problems of endogeneity of explanatory variables, as there could be a reverse causality of aid which is usually sent to poorer countries and there are also problems of omitted variables. In particular, following Rajan and Subramanian (2008) we use an index that captures exogenous political and historical linkages to instrument the variable representing the amount of foreign aid.

The empirical analysis reveals that development aid has a negative effect on growth. This may occur because, even if aid is mainly aimed at improving absolute poverty conditions, health, education and at promoting policies for gender equality, they are too often linked to programs "imposed" by different donors. Hence, if the institutional context is not adequately prepared to receive substantial amount of money, these flows may not favor the growth process or even damage it (*The Curse of Aid,* Djankov et al. 2006, 2008). However the presence of women in parliament reduces this negative effect, as the interaction term turns to be positive and significant, the results are robust when controlling for endogeneity with IV estimations and for the inclusion of some crucial control variables. The policy implication is that the larger the presence of women in institutions more effective may be the aid in promoting economic growth. A possible explanation may be the existence of a virtuous process given by a positive correlation between the presence of women in parliament in recipient countries and the use of aid to improve health and education conditions.

The paper is structured as follows: section two includes the literature review; section three describes the African context; section 4 presents the empirical analysis (strategy, dataset and results); section five concludes.

2. Literature review

2.1 Foreign Aid effectiveness

The recent contributions of the literature on the effectiveness of foreign aid may be divided into three different strands. Some authors argues that foreign aid has positive effects on growth only in certain circumstances, some find only small positive effects of aid on growth and finally, others claims that foreign aid not only have no effects but they may even undermine the growth process of receiving countries.

The first strand of the literature, which includes most studies about the effectiveness of foreign aid, state that they have positive effects on growth only under certain conditions, depending on the quality of institutions of recipient countries, government policies effectiveness and the type of aid sent. In this line, the most influential study is the one of Burnside and Dollar (2000). These authors argued that donors should be more selective in sending aid and favor countries with good policies, because only in these countries aid may have a greater impact on growth. Weak policies prevent aid to have a positive impact. Several studies, focused on institutions and policy, confirmed these findings (Brutigam and Knack, 2004; Burnside and Dollar, 2004; Collier and Dollar, 2001 and 2002; Economides et al., 2004; Guillaumont and Chauvet, 2004; Ovaska, 2003).

Some authors, as part of this line of research, have stressed that aid effectiveness may depend also on the type of aid sent. For an example, Clemens, Radelet and Bhavnani (2004) divided aid into three categories: humanitarian; long impact aid, including support to democracy, environment, health and education; short impact aid, like budget and balance of payments support, aid to productive sectors and investments in infrastructure. In particular, they focus on the third category, which accounts for about 45% of the overall aid flows, and find a positive relationship between short-impact aid and economic growth within a period of four years. Michaelowa and Weber (2008) evaluate the effectiveness of aid sent to education and provide evidence of a positive correlation between development aid and primary school enrollment. Nunnenkamp, Dreher and Thiele (2007) investigate if aid to specific sectors (emergency, physical infrastructures, etc..) affects educational outcomes and find that foreign aid significantly increases primary school enrollment. Masud and Yontcheva (2005), focusing on health aid, reveal that aid is effective and significant only if designed to the reduction of child mortality and when the assistance is provided by non-governmental organizations (NGOs). Finally, Mishra and Newhouse (2009) examine the relationship between health aid and infant mortality. Their specific model hypothesizes that infant mortality is a function of foreign aid received in the previous period but it may depend also on different human development outcomes as the per capita GDP. According to this view, therefore, infant mortality could be considered as a proxy also of economic growth. They show that foreign aid successes in reducing infant mortality when they used to support specific public health programs.

The second strand of the literature on aid effectiveness proves that aid has some positive effects on growth and that negative results, detected in certain cases, depend on problems of identification strategy, on not proper indicators of aid effectiveness and on the presence of non-linearity in individual variables. Dalgaard and Hansen (2000), for an example, criticized the growth model estimated by Burnside and Dollar (2000) and showed that as a rule foreign aid does affect productivity in the long-run and that government policies may only cause differences in the size of this effect. Hansen and Tarp (2001), tackling the endogeneity of aid, by properly instrumenting them, demonstrate the existence of a strong non-linear and unconditional impact of aid on growth. Dalgaard et al. (2004), emphasizing countries geographical characteristics, found a significant relationship between aid and the fraction of land in the tropics and show some positive and non-linear effects of aid on growth. Sachs (2004), explained the non-linear effects of foreign aid through the theory of the "Big Push” and the existence of a poverty trap. According to his view, positive effects on economic growth need a long period of substantial investment and development aid may start stimulating growth only after reaching a certain threshold. Dalgaard and Erickson (2008) focused on the Sub-Saharan African context over the period 1970-2000 and found that increasing aid promoted growth. They also quantified the amount of aid necessary to achieve the Millennium Development Goals (MDGs) and to halve the poverty level. Clemens et al. (2012), focused on the typologies of aid that is expected to have an “early impact” on growth, as infrastructure development aid, and found that aid inflows are systematically associated with modest but positive growth. More recently, Frot et al. (2012), using the starting date and length of bilateral aid relationships as an instrument for aid, conclude that foreign aid is associated with a little positive impact of it on growth. Juselius, Møller and Tarp (2013) investigate long-run effect of foreign aid on key macroeconomic variables in 36 sub-Saharan African countries from the mid-sixties to 2007 using a well-specified cointegrated VAR model. They find broad support for a positive long-run impact of aid and little evidence of harmful effects. Moreover, they assert that several analyses in the literature are econometrically inadequate. Finally, Arntd, Jones and Tarp (2015) confirm recent evidence of a positive impact of aid on growth, observing that aid has always enhanced growth, promoted structural change, improved social indicators, and reduced poverty.

The third strand states that aid programs do not improve economic growth and may even undermine it, Several studies (Bauer, 1982; Easterly, 2003, 2006 and 2008; Friedman, 1995; Moyo, 2009; Rajan and Subramanian, 2008) observe that in poor countries development aid is responsible for the increase of bureaucracy, the endurance of poor governments, the enrichment of the ruling or simply represent a waste of resources. Citing the widespread poverty in Africa and South Asia, they argue that these countries, despite decades of aid, show a very low growth rate. According to these evidences, aid programs should be radically reformed, consistently reduced or totally abolished. The strongest attacks on the robustness of Burnside and Dollar growth pattern, were presented by Easterly et al. (2004). This study, using the same dataset, model specifications and econometric approach as Burnside and Dollar (2000), extend slightly the sample period and reaches completely different results. Other authors (Meier and Stiglitz, 2001; Moyo, 2009; Rajan and Subramanian, 2008 and 2011), agree that development aid may even undermine incentives for the production in the private sector and may weaken growth, while maintaining weak governments, helping to perpetuate poor economic policies and postpone reform. According to Meier and Stiglitz (2001), large increases in resources from rich countries to poor countries can lead to unwanted effects, especially those associated with *Dutch Disease*[1] (Rajan and Subramanian, 2011; Williams, 2011), because higher aid flows may contribute to a slowdown in the growth of export sectors. Among the most influential studies of this strand, Rajan and Subramanian (2008) examine the effectiveness of aid and find little positive or negative relationships between aid flows and economic growth. They find no evidence that aid works better in better policy or geographical environment nor that its effectiveness depends on its. In a further analysis (Rajan and Subramanian, 2011), they show that aid has systematically negative effects on country's competitiveness because of the real exchange appreciation caused by the inflows of aid. A remarkable conclusion is the one of Moyo (2009), who argued that foreign aid was and continues to be harmful in the political, economic and humanitarian fields for the majority of developing countries. She demonstrated that in African countries loans and grants (different from emergency resources) have the same effect as valuable natural resources: aid flows encourage corruption and conflicts and at the same time discourage free enterprise damaging the growth process.

2.2 Women in institutions

The role of women in institutions has long been debated in the literature. Some studies (Chattopanday and Duflo, 2004; Childs et al., 2005; Paxton et al., 2003) suggest that the involvement of women in politics brings considerable changes within societies. Some empirical analyses on this issue (Powley, 2006; Shevchenko, 2002; Caiazza, 2002; Shwindt and Bayer, 2006) show that the presence of women in Parliament foster policies and laws aimed to reduce gender discrimination and to promote health and family care.

The literature (Chattopadhyay and Duflo, 2004; Croson and Gneezy, 2009; Eckel and Grossman, 1998; Goetz et al., 2003) identifies some reasons why women in politics govern differently than their male colleagues. Women have different life experiences than men and bring their experience to support their political decisions. In particular, it was observed that in politics, women empowered to decide invest more in infrastructure directly relevant to their own needs (Chattopadhyay and Duflo, 2004) as for an example drinking water, childcare, education and gender policy. Women are also more likely to see themselves as represented by other women and as highlighted by Reingold (1992) in a study on US legislators, feel a special responsibility to represent other women and are more able to represent their own interests (Galligan, 2004). Eckel and Grossman (1998) found that

[1] The term was coined in 1977 to describe the decline of the manufacturing sector in the Netherlands after the discovery of a large natural gas basin in Slochteren in 1959. In the literature it is used to explain the relationship between the exploitation of natural resources and the decline of the manufacturing sector.

women are more "socially orientated" (altruistic)while men are more "individually orientated" (selfish), they also found that women on average donate two times more than men even when the donor cannot be traced back.

Hicks et al. (2016) reveal that an increase of women in donor countries' governments will increase the total amount of aid sent to poorer countries and the portion allocated to social infrastructure. An Inter Parliamentary Union (IPU) survey conducted in 1999 on female parliamentarians from 65 countries, revealed that 40% of respondents entered into politics because of her social interests and 34% of them through non-governmental organizations, differently from the more traditional path of the political party often followed by men. This result closely reflects a well-established tendency among women to engage in civil society as a way to promote projects that support the survival of families.

It is not clear, as empirical studies display conflicting results, whether women have a different approach to corruption. It was repeatedly said that countries with a higher number of women in politics have lower levels of corruption. According some authors (Dollar et al., 1999; Knack et al., 2001; Swamy et al., 2001) the hypothesis of a higher incorruptibility of women is based on their propensity to adopt a more ethical behavior in political life, meaning that they are considered more trustworthy and oriented to the social well-being. This belief is confirmed by Dollar et al. (1999) and Swamy et al (2001) that find evidences of women in Parliament effectiveness in promoting honest government and in reducing the level of corruption. Knack et al. (2001) show that women are less likely to tolerate bribes and that corruption is less severe in countries where they have a greater share of parliamentary seats. However, more recent research indicates that women are not necessarily more honest or adverse to corruption than men (Frank et al. 2011). In fact, they show that women's attitudes and behavior regarding corruption depend on the institutional and cultural context of each specific country (Alhassan-Alolo, 2007; Alatas, Cameron, and Chaudhuri, 2009; Armantier and Boly, 2008; Schulze and Frank, 2003). Treisman (2007), for an example, states that they are more likely to be corrupted in autocratic states where corruption and favoritism are often a way to go to do business. Similarly, Esarey and Chirillo (2013) claim that the inclination of women towards corruption is contextual: they are less susceptible to corruption in democracies while they are equally sensitive in autocratic systems.

Finally, Shukralla and Allan (2011) state that if women’s involvement in politics helps to reduce corruption (as argued by Dollar et al. 2001) and if one of the main reasons for foreign aid ineffectiveness is corruption (as in Rajan and Subramanian, 2007), then, it is possible that foreign aid is more effective in those countries with larger participation of women in politics.

3. The African context

This section describes the African context which is the object of our analysis. The reason why we have chosen this geographical context is the fact that, despite the considerable development aid flows of the past decades, the laggard countries of this continent remained on a weak growth path. In what follows we present some evidence on the role and the main interests of women in African Parliaments and then a brief descriptive analysis of development aid sent to these countries.

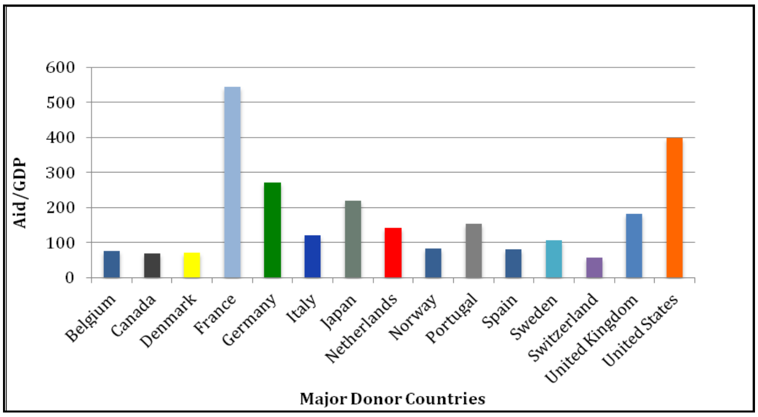
The participation of women in African government helped to promote and implement projects closely related to their main interests. They are mostly projects aimed to improve social well-being and that imply an increase of spending on health, nutrition and education programs.

Goetz (1998) noted that, despite the adversities, women in African governments, particularly in Uganda and South Africa, managed to insert the interests of women in the political agenda. Similarly Bauer and Britton (2006), show that African women working together, despite the presence of religious, ethnic and class divisions, succeeded in formulating or pushing for the adoption of laws concerning social welfare. Focusing on Rwanda, Burnet (2008) found that the increasing representation of women in government paved the way to democracy and greater social participation, while Powley (2007) highlighted their contribute in pushing a law strengthening the rights of women, as for example the right to inherit land. In the wake of the Rwandan genocide, indeed, the exclusion of women from land ownership became a critical issue. A part from being a violation of women's rights, the impossibility of owing land had a negative impact on food production, safety, the environment, settlement patterns and family life. More women in Parliament have also actively supported the increase in spending on health and education.

Shukralla and Allan (2011), using a sample worldwide countries (not only African) try to show whether the more women are involved in politics the less the corruption and aid effectiveness in reducing corruption itself. Under this hypothesis, women in parliaments modify institutional context making it more conducive to aid management because they agree on the objectives chosen independently by indigenous politicians of the country.

Moving now to the context of development aid received by African countries, we refer to the OECD Creditor Reporting System (CRS), which contains data on Official Development Aid (ODA) sent to poor countries from worldwide donors. In particular, we refer to aid sent to 46 countries in sub-Saharan Africa. Foreign Aid data include flows from individual countries members of the Development Assistance Committee (DAC) as well as from multilateral organizations. The time horizon considered in our analysis is 1995-2012.

Figure 1. *Major donor Countries in the period 1995-2012*

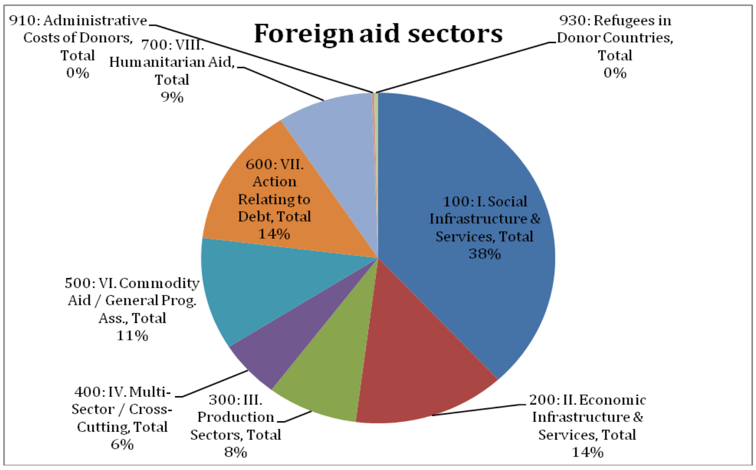


Source: our elaboration on OECD (CRS) dataset

Figure 1 shows the aggregate quantity of aid[2] (measured as a share of recipient countries' GDP) sent from the major donors to all the Sub-Saharan African countries. Data show that France, followed by the United States, Germany, Japan and United Kingdom are in this order the major donors. A common characteristic of all donors is the existence of a particular relationship with the recipient countries based either on former colonization linkages or on political and economic strategies.

Most of foreign aid sent to Sub-Saharan African countries in the period 1995-2012 (fig.2) was devolved to Social Infrastructure and Services sector (38%). Less consistent are flows addressed to other sectors like Economic Infrastructure and Services (14%), Action Relating to Sovereign debt (14%), Commodity, Humanitarian, Production and Environment.

Figure 2. *Foreign Aid divided by sectors (1995-2012)*

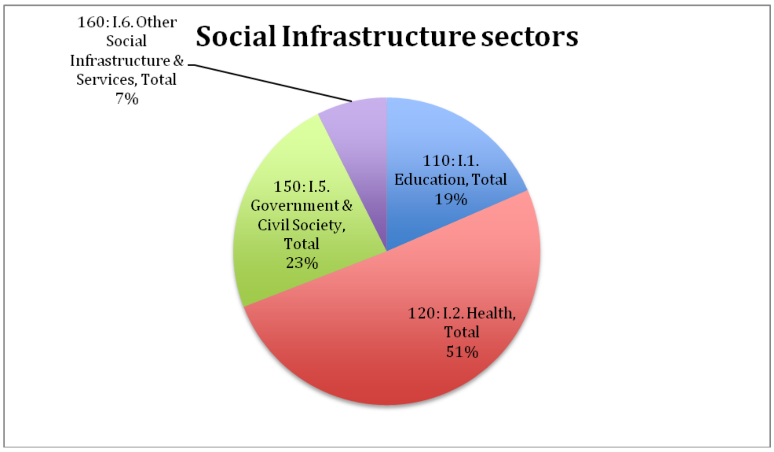


Source: our elaboration on OECD (CRS) dataset

[2] Data are measured in terms of 2012 US dollar exchange rate.

Within the Social Infrastructure and Services sector (fig.3), Health receives the greatest amount of aid resources (51%) followed by Government and Civil Society (23%) and Education (19%).

Figure 3. *Foreign aid for Social infrastructure sectors*



Source: our elaboration on OECD (CRS) dataset

4. Empirical Analysis

4.1 The econometric model and data

The analysis aims to evaluate the relationship between the parliaments' gender composition and the impact of Aid on economic growth in recipient countries. To this extent, we build a baseline model where our explanatory variables of interest are foreign development aid and the share of women in Parliaments interacted with aid. The interaction term aims to capture the influence of female parliamentarians on aid management outcome, measured in terms of growth. We include controls for different social and economic factors and, in order to account for common factors to all countries and for time-invariant characteristics, we include also time and country fixed effects. The sample is given by 46 Sub-Saharan African countries observed over the period 1995-2012. In order to encompass short-term business cycle noises and serial correlation effects, we followed an approach, standard in the empirical literature (Di Liberto et al., 2008; Islam, 1995, 2003), and choose a three year time span.

The empirical model, tested by means of panel data approaches, is structured as follows:

$$g_{it} = \alpha + \delta Aid_{it} + \mu Aid_{it} W_{it} + \beta_{it} X_{it} + \eta_i + \upsilon_t + \varepsilon_{it} \quad (1)$$

where g_{it} indicates the average three years per capita GDP growth rate[3] in country *i* (with $i = 1, \ldots, 45$) at time *t* (with $t = 1, \ldots, 6$), Aid_{it} is the total amount of Official Development Assistance in terms of recipient country's GDP, W_{it} represents the share of women in Parliament (available from the Inter Parliamentary Union-IPU database), $\boldsymbol{X}_{it}$ is a vector of socio-economic variables suggested in the empirical growth literature, η_i are country fixed effects accounting for countries exogenous heterogeneity, υ_t are time fixed effects which measure common events and factors affecting all countries and ε_{it} is the error term ($iid \sim (0, \sigma^2)$).

The empirical literature identifies different political, economic, and social drivers for economic growth as listed below. We include the initial level per capita GDP[4] ($lnGDP_{t0}$) in each time span, expressed in logarithm. A measure of demographic structure is given by the logarithm of population (*lnPOP*). As a measure of capital endowment we include for each country the amount of Public Expenditure (*Pub_Exp*), for public investment, and the Foreign Direct Investment (*FDI*) that indicates the net amount of foreign investments. As a proxy of human capital endowment, we use the primary education completion within the country (*Primary_Edu*). Trade openness (*Trad_Open*) is given by the sum of total exports and total imports divided by GDP. Institutions (*Institutions*) accounts for the quality of governments within surveyed countries. This variable is obtained as the First Major Component of the six measures taken from the Worldwide Governance Indicators[5] (WGI) of the World Bank, namely Voice and Accountability, Political Stability, Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption (Kaufmann et al., 2010). Higher values of this indicator mean a better functioning of the institutions. *Polity* represents the occurrence of significant national polity changes, like autocratic backslidings, revolutions, state failures and successful military coups. Values for this variable are taken from the polity IV dataset (Marshall and Jaggers, 2013). Institutions and Polity will be used alternatively in our model. Corruption is usually considered as a factor that may affect both growth performance of a country and the effectiveness of the aid itself. In this analysis we rescale the aggregate indicator Control of corruption of WGI so that higher values will be associated to higher levels of corruption (*Corruption*). A dummy variable is included to account for the recipient country involvement in armed conflicts (*War*), equals to one in case of conflict and zero otherwise, based on UCDP/PRIO Armed Conflict dataset (Gleditsch et al. 2002; Melander et al. 2016). Moreover, we interact *War* with an index of Ethnolinguistic

[3] Per capita GDP growth rate are based on constant local currencies.
[4] Expressed in constant 2010 US$.
[5] The WGI indicators are based on surveys summarizing the opinions on the quality of governance provided by entrepreneurs, citizens and experts from industrialized and developing countries (Kaufmann et al., 2010).

Fractionalization[6] (*War*Fractionalization*) taken from Easterly and Levine (1997) and Roeder (2001) datasets. Finally, the variable *Oil* is included to account for Oil rents (difference between crude and total cost of production, at world prices) in percentage of GDP made available by the World Bank dataset.

The baseline model is first estimated by means of an OLS approach, which results will be taken as benchmark. Then, since this simple estimation does not account for possible endogeneity due to omitted variables correlated with foreign aid and to the problem of reverse causality that typically arises in this case, we estimate again the model by means of the Instrumental Variable approach. To this extent, following Rajan and Subramanian (2008), we build an instrument for foreign aid and for the interaction term by estimating, with OLS, an equation with Aid as dependent variable and several different historical and political factors, that determine aid and satisfy the exclusion restrictions, taken as explanatory variables. After running this estimation we use the predicted values of aid to instrument *Aid* itself and *Aid*W* in the growth regression (eq. 1).

In this line, foreign aid sent to a recipient country *i* is derived from the estimation of the following model:

$$Aid_{it} = Inf_{it} + IMF_{it} + Inf_{it} * \left(\frac{Pop_R}{Pop_D}\right) + Inf_{it} * IMF_{it} + AS_{it} + T + \omega_{it} \tag{2}$$

where Inf_{it} is the colonial influence, that is a dummy variable which is one if the former colonizer country is also the major donor and zero otherwise; IMF_{it} is the value of International Monetary Fund quota of donors; $(Pop_R/Pop_D)_{it}$ is the ratio between the population of recipient and donor countries; AS_{it} is the share of asylum seekers from the recipient country *i* at time *t* towards donor countries and *T* is a time trend. The choice of these factors

4.2 Results of the econometric analysis

This section shows the results of our econometric analysis. The empirical relationship among growth, aid and gender parliament composition is first estimated through the OLS methodology and then, accounting for the presence of endogeneity, due to reverse causality between growth and aid and omitted variable, we follow an IV methodology.

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[6]This index represents the probability that two individuals, taken randomly from the population in each country, belong to different ethnic groups.

Table 1 presents the results the estimation of equation 2 which shows the goodness of variables chosen to instrument Aid as all the coefficients are highly statistically significant.

Table 1. *Estimation results for determinants of foreign Aid*

VARIABLES	Aid
Inf	7.438**
	(3.229)
IMF	2.080***
	(0.385)
Inf* $\left(\frac{POP_R}{POP_D}\right)$	-3.302**
	(1.348)
Inf*IMF	-1.634**
	(0.702)
AS	-6,807*
	(3,533)
T	-2.292*
	(1.383)
Constant	34.50**
	(17.60)

OLS Estimations.Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In particular, donors give more aid, and are also the major ones, if they were the former colonizers. Their generosity is greater towards recipient countries which are smaller in terms of relative population size and increases with their representativeness in International organizations. Besides, as many requests of asylum donors receive from poor countries the less they send them development aid, probably because they are forced to increase the domestic expenditure to support migrants arriving in the country. Finally, results show a decrease of aid sent over time that could be explained by different dynamics like a general discouragement due to lack of aid effectiveness or the worldwide financial crises of the last decades.

Table 2 presents the results of the OLS and IV estimations of the empirical model formalized in the equation 1. The OLS approach, which results are displayed in columns 1, 2 and 3, evaluates the correlation between aid and growth, to see whether and to what extent foreign aid, considering the interaction with women in Parliament, is associated with recipient countries growth performances.

Table 1. *Growth, Foreign Aid and Parliament Gender composition, econometric results.*

	Dependent variable: *per capita GDP Growth rate*					
VARIABLES	OLS (1)	OLS (2)	OLS (3)	IV (4)	IV (5)	IV (6)
Aid	-0.197***	-0.172***	-0.186***	-0.675***	-0.578***	-0.643***
	(0.0515)	(0.0505)	(0.0504)	(0.167)	(0.148)	(0.165)
AidxW	0.00796***	0.00650**	0.00583**	0.0208***	0.0155***	0.0144***
	(0.00295)	(0.00293)	(0.00292)	(0.00499)	(0.00478)	(0.00487)
$\ln GDP_{t0}$	-15.55***	-17.45***	-18.08***	-16.84***	-18.41***	-19.94***
	(1.167)	(1.272)	(1.289)	(1.434)	(1.519)	(1.698)
lnPOP	0.183	0.0235	-0.0559	0.521	0.371	0.222
	(0.299)	(0.297)	(0.296)	(0.387)	(0.373)	(0.377)
Oil	0.000936	-0.00403	0.0113	-0.0288	-0.0512	-0.0200
	(0.0576)	(0.0568)	(0.0566)	(0.0695)	(0.0687)	(0.0701)
FDI	0.0560	0.0367	0.0210	0.0188	0.00633	-0.0329
	(0.0407)	(0.0403)	(0.0405)	(0.0505)	(0.0485)	(0.0534)
War	1.576	2.424	2.415	2.754	3.487	3.513
	(2.524)	(2.479)	(2.455)	(3.020)	(2.924)	(3.023)
War*Fractionalization	-0.0306	-0.0458	-0.0465	-0.0494	-0.0685*	-0.0716*
	(0.0347)	(0.0339)	(0.0335)	(0.0415)	(0.0403)	(0.0418)
Pub_Exp	-0.121**	-0.0455	-0.0554	-0.113*	-0.000140	-0.0181
	(0.0563)	(0.0559)	(0.0556)	(0.0669)	(0.0682)	(0.0697)
Trad_Open	0.0395***	0.0305**	0.0310**	0.0588***	0.0500***	0.0531***
	(0.0140)	(0.0142)	(0.0141)	(0.0191)	(0.0183)	(0.0192)
Primary_Edu	0.0569**	-0.00748	-0.0112	0.0125	-0.0598	-0.0734*
	(0.0238)	(0.0281)	(0.0279)	(0.0317)	(0.0380)	(0.0409)
Institution	0.0104**			0.0210***		
	(0.00428)			(0.00704)		
Polity		0.646***	0.718***		0.796***	0.979***
		(0.154)	(0.156)		(0.195)	(0.222)
Corruption			-0.0253**			-0.0584***
			(0.0109)			(0.0184)
Constant	104.8***	121.3***	128.0***			
	(7.826)	(9.016)	(9.381)			
Observations	276	270	270	275	269	269
R-squared	0.595	0.616	0.626	0.400	0.448	0.410
Number of Country	46	45	45	46	45	45

All regressions include time and country Fixed Effects; Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results reveal that total aid is always negatively correlated with the per capita GDP growth rate, confirming the presence of a process that the literature defines "*The curse of Aid*" (Djankov et al. 2006, 2008). However, when aid is interacted with the share of women in parliaments the coefficient turns out to be positive, suggesting that higher presence of women drives a more virtuous management of foreign aid. This finding is robust to different controls for political factors like Institutions, Polity and Corruption. These latter, when included, are always significant and with the expected sign and, among them, polity shows the higher impact. Countries with lower levels of per capita GDP appear to grow faster. A slight positive impact on growth derives also from the trade openness. Education has a positive and significant effect only when the model controls for the quality of institutions.

We are well aware that these results can be biased because of omitted variables that may induce endogeneity problems. To this extent, we estimate the model also by means of an Instrumental Variable approach. Overall IV results (table 2, columns 4,5 and 6) are consistent with the OLS findings. The main difference is that aid, in absolute terms, performs worse in enhancing the growth process. However, women involvement in politics appear to be even more important for aid effectiveness when the empirical analysis accounts for endogeneity problems affecting aid itself.

5. Conclusions

The literature on development aid effectiveness is considerably vast. Even though, as far as we know, up to now the linkages between government gender composition and aid effectiveness have not been properly explored. The aim of this study is to investigate whether a greater involvement of women in Parliaments may have an impact on aid effectiveness measured in terms of receiving countries growth performances. The empirical analysis focuses on a sample of 46 Sub-Saharan African countries observed over the period 1995-2012. African countries, indeed, although collecting the highest amount of aid from Western rich countries, performed worse than other countries. As regards the empirical strategy, we followed an appropriate econometric methodology able to deal with endogeneity problems arising from the aid-growth reverse causality and omitted explanatory variables. To this end, we built an instrument for development aid based on different political and historical determinants.

The empirical analysis reveals that, even if development aid has a negative effect on growth, a larger participation of women in parliament increases its effectiveness. A possible explanation may be the existence of gender different interests in the political agenda. They are particularly interested in promoting interventions aimed to improve social well-being at country level. These results may be reached through greater efforts in terms of public spending on health, nutrition and education programs. Further analyses will be dedicated to investigate the existence of this virtuous process and its possible channels.

References

Alatas, V., Cameron, L., Chaudhuri, A., Erkal, N. and Gangadharan, L., 2009. Gender, culture, and corruption: Insights from an experimental analysis. Southern Economic Journal 75(3), 663-680.

Alhassan-Alolo, N., 2007. Gender and corruption: testing the new consensus. Public Administration Development 27, 227-237.

Armantier, O. and Boly, A., 2008. Can corruption be studied in the lab? Comparing a field and a lab experiment, Comparing a Field and a Lab Experiment. CIRANO-Scientific Publications 2008s 26.

Arndt, C., Jones, S. and Tarp, F., 2015. Assessing foreign aid's long-run contribution to growth and development. World Development 69, 6-18.

Bauer, G. and Britton H.E., 2006. Women in African parliaments. Boulder CO, Lynne Rienner Publishers.

Bauer, P. and Yamey, B., 1982. Foreign aid: what is at stake?. The Public Interest 68, 53.

Bräutigam, D. and Knack, S., 2004. Foreign aid, institutions, and governance in sub Saharan Africa. Economic development and cultural change 52(2), 255-285.

Brollo, F. and Troiano U., 2012.What happens when a woman wins a close election? Evidence from Brazil. University of Alicante. Mimeo.

Burnet, J.E., 2008. Gender balance and the meanings of women in governance in post-genocide Rwanda. African Affairs 361-386.

Burnside, A. and Dollar, D., 2000. Aid, Policies, and Growth. American Economic Review 90(4), 847-868.

Burnside, A. and Dollar, D., 2004. Aid, Policies, and Growth: reply. The American Economic Review 94(3), 781-784.

Caiazza, A., 2004. Does women's representation in elected office lead to women- friendly policy? Analysis of state-level data. Women & Politics 26 (1), 35-70.

Chattopadhyay, R. and Duflo E., 2004. Women as policy makers: Evidence from a randomized policy experiment in India. Econometrica 72(5), 1409-1443.

Chattopadhyay, R. and Duflo E., 2004. Impact of reservation in Panchayati Raj: Evidence from a nationwide randomised experiment. Economic and Political Weekly, 979-986.

Chauvet, L. and Guillaumont, P., 2004. Aid and growth revisited: policy, economic vulnerability and political instability. Toward Pro-Poor Policies Aid, Institutions, and Globalization.

Childs, S., Lovenduski, J. and Campbell, R., 2005. Women at the Top 2005: Changing Numbers, Changing Politics?. Hansard Society.

Clemens, M.A., Radelet S. and Bhavnani R.R., 2004. Counting chickens when they hatch: The short term effect of aid on growth. Center for Global Development.

Clemens, M.A., Radelet S. and Bhavnani R.R., 2012. Counting chickens when they hatch: Timing and the effects of aid on growth. The Economic Journal 122, 590-617.

Collier, P. and Dollar D., 2001. Can the world cut poverty in half? How policy reform and effective aid can meet international development goals. World development 29(11) 1787-1802.

Collier, P. and Dollar D., 2002. Aid allocation and poverty reduction. European Economic Review 46(8), 1475-1500.

Croson, R. and Gneezy U., 2009. Gender differences in preferences. Journal of Economic literature, 448-474.

Dalgaard, C.J. and Hansen H., 2001 On aid, growth and good policies. Journal of development Studies 37(6), 17-41.

Dalgaard, C.J. and Erickson L., 2009. Reasonable Expectations and the First Millennium Development Goal: How Much Can Aid Achieve? World Development 37(7), 1170-1181.

Dalgaard, C.J. Hansen H. and Tarp F., 2004. On the empirics of foreign aid and growth. The Economic Journal 114(496), 191-216.

Di Liberto, A., Pigliaru, F. and Mura. R., 2008. How to measure the unobservable: a panel technique for the analysis of TFP convergence. Oxford Economic Papers 60(2), 343-368.

Djankov S., Garcia-Montalvo, J. and Reynal-Querol, M., 2006. Does Foreign aid help? Cato Journal 26(1), 1-28.

Djankov S., Garcia-Montalvo, J. and Reynal-Querol, M., 2008, The curse of aid, Journal of Economic Growth 13, 169-194.

Dollar, D. and Gatti, R., 1999. Gender inequality, income, and growth: are good times good for women?. Development Research Group, The World Bank.

Dollar, D., Fisman, R. and Gatti R., 2001. Are women really the “fairer” sex? Corruption and women in government. Journal of Economic Behavior & Organization 46(4), 423-429.

Dreher, A., Nunnenkamp, P. and Thiele R., 2008. Does aid for education educate children? Evidence from panel data. The World Bank Economic Review 22(2), 291-314.

Easterly, W. and Levine R., 1997. Africa's growth tragedy: policies and ethnic divisions. The Quarterly Journal of Economics, 1203-1250.

Easterly, W., and Easterly W.R., 2006. The white man's burden: why the West's efforts to aid the rest have done so much ill and so little good. Penguin.

Easterly, W., Levine, R. and Roodman D., 2004. New Data, New Doubts: A Comment on Burnside and Dollar Aid, Policies, and Growth American Economic Review.

Easterly, W., 2003. Can foreign aid buy growth? Journal of Economic Perspectives 17(3), 23-48.

Easterly, W., 2007. Was development assistance a mistake?. The American economic review, 328-332.

Eckel, C. and Grossman, P.J., 1998. Are women less selfish than men?: Evidence from dictator experiments. The Economic Journal 108(448), 726-735.

Economides, G., Kalyvitis, S.C. and Philippopoulos, A., 2004. Do foreign aid transfers distort incentives and hurt growth? Theory and evidence from 75 aid-recipient countries.

Esarey, J. and Chirillo G., 2013. “Fairer Sex” or Purity Myth? Corruption, Gender, and Institutional Context. Politics & Gender 9 (04), 361-389.

Friedman, M., 1995. Foreign economic aid: Means and objectives. Hoover Press.

Frot, E., Olofsgård, A. and Perrotta M., (2012). Aid Motivation in Early and Mature Partnerships: Is there a difference?. SITE Working Paper.

Galligan, Y., 2006. Bringing women In: Global strategies for gender parity in political representation. University Md. LJ Race, Religion, Gender & Class 6(2), 319-336.

Gleditsch, N.P., Wallensteen P., Eriksson M., Sollenberg M., and Strand H., 2002 Armed Conflict 1946-2001: A New Dataset. Journal of Peace Research 39(5), 615-637.

Goetz, A.M., 1998.Women in politics & gender equity in policy: South Africa & Uganda. Review of African Political Economy 25(76), 241-262.

Goetz, A.M. and Hassim S., 2003. Women in power in Uganda and South Africa. 1-28.

Goetz, A.M., Hassim S. and Schäfer, R., 2004. No Shortcuts to Power. African Women in Politics and Policy Making, 39(2), 301-304.

Goetz, A.M., 2007. Political Cleaners: Women as the New Anti - Corruption Force?. Development and Change 38(1), 87-105.

Hansen, H. and Tarp F., 2001. Aid and growth regressions. Journal of development Economics, 64(2), 547-570.

Hicks, D.L., Hicks J.H. and Maldonado, B., 2016 Women as policy makers and donors: Female legislators and foreign aid. European Journal of Political Economy 41, 46-60.

Islam, N., 1995. Growth empirics: a panel data approach. The Quarterly Journal of Economics 1127-1170.

Islam, N., 2003. Political regimes and the effects of foreign aid on economic growth. The Journal of Developing Areas 37(1), 35-53.

Juselius, K., Møller N.F. and Tarp F., 2014. The Long - Run Impact of Foreign Aid in 36 African Countries: Insights from Multivariate Time Series Analysis. Oxford Bulletin of Economics and Statistics 76(2), 153-184.

Kaufmann, D., Kraay, A. and Mastruzzi, M., 2010. The Worldwide Governance Indicators: Methodology and Analytical Issues. World Bank Policy Research Working Paper No. 5430.

Knack, S., 2001. Aid dependence and the quality of governance: cross-country empirical tests. Southern Economic Journal 68(2) 310-329.

Meier, G.M. and Stiglitz J.E., 2002. Frontiers of Development Economics: The Future in Perspective. The World Bank and Oxford University Press.

Michaelowa, K. and Weber A., 2008. Aid effectiveness in primary, secondary and tertiary education. Background paper prepared for the Education for All Monitoring Report 2008.

Mishra, P. and Newhouse D.L., 2009. Does health aid matter?. Journal of health economics 28(4), 855-872.

Moyo, D., 2009. Dead aid: Why aid is not working and how there is a better way for Africa. Macmillan.

OECD, 2014. Creditor Reporting System (CRS) in OECD International development Statistics.

OECD, 2014. Technical Guide to the DAC Statistics database. OECD Aid Statistics.

Ovaska, T., 2003. The Failure of Development Aid. Cato Journal 23(2) 175-188.

Paxton, P. and Kunovich S., 2003. Women's political representation: The importance of ideology. Social Forces 82(1), 87-113.

Powley, E., 2006. Rwanda: The impact of women legislators on policy outcomes affecting children and families. Background paper: The State of the World's Children 2007, UNICEF.

Rajan R.G. and Subramanian A., 2007. Does aid affect governance?. The American Economic Review 97(2), 322-327.

Rajan R.G. and Subramanian A., 2008. Aid and growth: What does the cross-country evidence really show?. The Review of economics and Statistics 90(4), 643-665.

Rajan R.G. and Subramanian A., 2011. Aid, Dutch disease, and manufacturing growth, Journal of Development Economics 94(1), 106-118.

Roeder, P.G., 2001. Ethnolinguistic fractionalization (ELF) indices, 1961 and 1985.

Roodman, D., 2007. The anarchy of numbers: aid, development, and cross-country empirics. The World Bank Economic Review 21(2), 255-277.

Sachs, J., McArthur, J. W., Schmidt-Traub, G., Kruk, M., Bahadur, C., Faye, M. and McCord, G., 2004. Ending Africa's poverty trap. Brookings papers on economic activity 2004(1), 117-240.

Schulze, G.G. and Frank B., 2003. Deterrence versus intrinsic motivation: Experimental evidence on the determinants of corruptibility. Economics of Governance 4(2), 143-160.

Schwindt-Bayer, L.A., 2006. Still supermadres? Gender and the policy priorities of Latin American legislators. American Journal of Political Science 50(3), 570-585.

Shevchenko, I., 2002. Who cares about women's problems? Female legislators in the 1995 and 1999 Russian State Dumas. Europe-Asia Studies 54(8) 1201-1222.

Shukralla, E. and Allan W. Foreign Aid, women in parliament and corruption: empirical evidence from the 2000s'. Economics Bulletin 31(1), 519-533.

Swamy, A., Knack, S., Lee, Y. and Azfar, O., 2001. Gender and corruption Journal of development economics 64(1), 25-55.

Treisman, D., 2007. What have we learned about the causes of corruption from ten years of cross-national empirical research?. Annu. Rev. Polit. Sci. 10 211-244.

World Bank, annual publications 1995-2012. World Development Indicators.

Williams A., 2011, Shining a Light on the Resource Curse: An Empirical Analysis of the Relationship Between Natural Resources, Transparency, and Economic Growth, World Development 39(4), 490-505

Yontcheva, B. and Masud N., 2005. Does foreign aid reduce poverty? Empirical evidence from nongovernmental and bilateral aid. International Monetary Fund, 5-100.