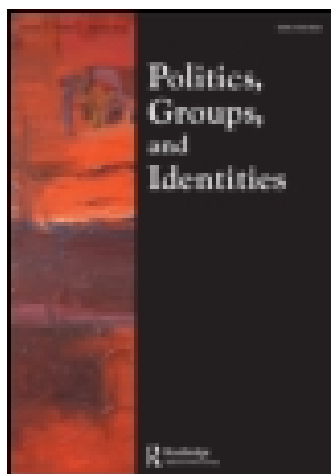


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Kelan Lu<sup>a</sup> & Marijke Breuning<sup>b</sup>

<sup>a</sup> Department of Political Science, University of South Carolina, Columbia, SC, USA

<sup>b</sup> Department of Political Science, University of North Texas, Denton, TX, USA

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## Gender and generosity: does women's representation affect development cooperation?

Kelan Lu<sup>a\*</sup> and Marijke Breuning<sup>b</sup>

<sup>a</sup>*Department of Political Science, University of South Carolina, Columbia, SC, USA;* <sup>b</sup>*Department of Political Science, University of North Texas, Denton, TX, USA*

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Does women's representation influence foreign (aid) policy? And, if so, is this best explained as a function of women's unique values or attributable to the impact of greater gender equality? Building on previous work, we investigate whether women's greater presence in political life – evidence of greater gender equality – is associated with greater generosity, or whether women's values and (some) women's ability to influence policy as ministers affect aid's generosity. We find that women's representation in the parliament and in the cabinet is positively associated with a donor state's generosity, but that female ministers of foreign policy-related ministries do not influence the state's generosity. These findings suggest that gender equality is a more promising explanation for the generosity of states' foreign aid than women's values.

**Keywords:** gender studies; international relations; women and gender; political economy

### Introduction

Are states in which women have attained greater prominence in political life more generous aid donors? And, if so, is this attributable to the unique contributions of women or to the impact of greater gender equality? The former presumes that women bring their own values to politics, whereas the latter focuses on the political consequences of (in)equality between women and men.

Previous work (Breuning 2001; Koch and Fulton 2008) has shown that women's descriptive representation in political decision-making is associated with greater generosity regarding aid. Koch and Fulton (2008) suggest that this is evidence that women's representation is associated with foreign policies that seek to foster change toward a more equitable world. However, other studies have suggested that greater domestic socio-economic equality is associated with more generous aid policies (Noël and Thérien 1995, 2000). Neither focus explicitly on gender equality but, taken together, the findings suggest that foreign aid is a suitable area of foreign policy in which to explore whether women's values or gender equality provide a better explanation for the variation in generosity of donor states. After all, Noël and Thérien (1995, 2000) suggest that domestic equality influences foreign aid policy, but do not include gender-specific variables, whereas Koch and Fulton (2008) focus on women's representation without explicitly addressing gender equality. Yet, Tickner (1999, 2001) and other feminist scholars (Caprioli 2000, 2005; Melander 2005; Hudson et al. 2012; True 2012) have argued that political change results from gender equality rather than women's values.

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\*Corresponding author. Email: [lu3@mailbox.sc.edu](mailto:lu3@mailbox.sc.edu)

Evidence that women's representation in political life influences policy decisions has been largely studied in the context of women's impact on various domestic policies (Randall 1987; Thomas 1991; Conway et al. 1997; Atkeson and Carrillo 2007; Kittilson 2008; Wängnerud 2009; Bolzendahl 2011). There is less work that investigates whether women's descriptive representation also affects foreign policy and most of it has focused on the propensity of states to engage in conflict (Caprioli 2000; Caprioli and Boyer 2001; Regan and Paskeviciute 2003; Koch and Fulton 2011). This research finds that states in which women have acquired greater representation are less likely to engage in conflict.

What is less clear from such studies is how the political impact of descriptive representation should be interpreted. Is the impact of women's representation evidence that they hold different values from their male counterparts? Or does descriptive representation measure greater gender equality? We pursue this question, taking advantage of the different political roles women play in legislatures and cabinets, as we will explain in greater detail below.

### **Women's values or gender equality?**

This study is not the first to investigate whether women's increasing prominence in political life makes a difference regarding foreign policy. However, previous quantitative studies have generally focused on women's descriptive representation in the legislative branch. Most such studies are agnostic with regard to whether women's substantive political impact suggests the influence of women's values or is a consequence of greater gender equality. An exception is Caprioli (2000), who explicitly uses women's representation in parliament as a measure of political equality. Quantitative studies have occasionally been criticized by feminist scholars, who sometimes view this as too simplistic approach to gender (Tickner 2001; True 2012; Sjoberg 2013). Although we understand the concerns of the latter, we argue that quantitative analyses can provide useful insights.

What are the findings of studies that have sought to establish the impact of women on foreign policy? A recent study by Koch and Fulton demonstrates that women's descriptive presence in government affects "the national security policy of democratic states in substantive ways" (2011, 13). Earlier, Breuning (2001) showed that women's descriptive presence in the parliament affected a state's generosity with foreign aid. Both studies suggest that women's descriptive representation in politics has a substantive impact on the foreign policies that governments pursue.

Related work has shown that the presence of women in political life matters for the propensity of the state to engage in war (Caprioli 2000, 2005; Caprioli and Boyer 2001; Regan and Paskeviciute 2003; Melander 2005; Hudson et al. 2008, 2012). Collectively, this research supports the notion that gender equality has political benefits: it reduces the probability that a state will be involved in either inter- or intrastate war.

These studies do not specifically address the impact of gender on foreign policy-making. Instead, they demonstrate that greater gender equality constrains the state's choices and improves the odds that conflicts – both between and within countries – are resolved through non-violent or non-militarized means. If gender equality has this impact broadly, then we should also expect gender to matter in political decision-making in more direct ways. Indeed, Koch and Fulton (2011) showed that women's increasing presence in political decision-making influenced national security policy.

The foreign policy impact of women beyond the national security arena has received limited attention. One study, however, did show that as "the percentage of women in office increases, states move away from traditional power politics" and "employ higher levels of foreign aid, to bring about change in the international system" (Koch and Fulton 2008, 19). In other words, women's presence in political life coincides with a shift toward foreign policies that are ostensibly

designed to facilitate greater international equity – a frequent justification for more generous development aid policies.<sup>1</sup>

These findings are agnostic about, but consistent with, the claim that women bring a greater focus on peace and social justice to the foreign policy arena – a traditional claim that reaches back to the nineteenth century, but remains popular (Papachristou 1990; Jeffries-Jones 1995; Fukuyama 1998; Pearson d’Estrée and Babbitt 1998; Jabri and O’Gorman 1999; Hunt 2007). This is a claim that sits uncomfortably with much feminist scholarship in international relations.

For instance, Tickner has argued that the notion that women bring a greater focus on peace and social justice has “served to disempower women and keep them in their place” (1999, 8; see also Tickner 2001; Sjoberg 2013), because it has so frequently been used as an excuse for “keeping women out of power” in the first place (Tickner 1999, 4; see also D’Amico 1995). As a result, Tickner favors “getting rid of idealistic associations of women with peace” (1999, 8), while simultaneously recognizing the finding that “war is more likely in societies with greater gender inequality” (Tickner 1999, 11; see also Hudson et al. 2012).

Tickner’s (1999; see also Hudson et al. 2012; Sjoberg 2013) argument contains a subtle but important shift: it implies that women are not innately different from men – and therefore not inherently more peaceful – but rather that greater gender equality results in changes in policy choices. In other words, Tickner suggests that it is not women’s presence in political life causes states to pursue more peaceful policies, but instead that women’s presence in political life is evidence of greater gender equality, and that this greater gender equality has an impact on policy choice. Tickner’s shift from an emphasis on the impact of women’s values to a focus on gender equality runs counter to Gilligan’s (1982) influential argument. The latter exemplifies the women’s values thesis and argues that women offer a unique “voice.” Fukuyama (1998) and Hunt (2007) are consistent with Gilligan’s (1982) position.

Empirical research on foreign policy attitudes has also found differences between women and men, although it generally does not take a stand on whether such differences arise from socialization or the (presumed) essential characteristics of women. Several studies find that women are less likely to support the use of force (Holsti and Rosenau 1981; Nincic and Nincic 2002; Eichenberg 2003). Another study found that women “were significantly more likely to hold altruistic foreign policy goals,” although they were also less likely “to favor economic aid” (Fite, Genest, and Wilcox 1990, 498). In addition, studies have repeatedly found that women favor policies that foster social equity (Shapiro and Mahajan 1986; Gidengil 1995; Jaquette 1997). This finding is relevant for attitudes regarding foreign aid, because a number of authors have argued that there is a link between preferences for greater social and economic equity domestically and support for development assistance internationally (Pratt 1990; Stokke 1989; Lumsdaine 1993; Noël and Thérien 1995, 2000). Furthermore, Togeby has shown that women were more supportive of aid to the developing world than men, an attitude which she linked to a “combination of general left-wing orientations and specific women’s issues” (1994, 386). Likewise, Wängnerud has suggested that women in parliaments “tend to be more leftist than men” (2009, 62). In contrast, Jaquette (1997) found that women were more conservative and less likely to vote for parties on the left, although she also found that women favor the regulation of business to protect consumers, the environment, and vulnerable groups in the society.

These findings suggest that the impact of women’s increased prominence in political life may be contingent upon other social and economic factors, such as the dominance of particular parties in the political system and the degree to which parties can control the voting behavior of their members in the legislature. However, Koch and Fulton (2011, 13) found that the impact of women’s representation remained “even after controlling for alternative explanations and confounding variables.”

A second implication is that the impact of women's representation on foreign aid may be contingent on whether or not such policy is explicitly framed in terms of (international) social equity. The findings of Breuning (2001) and Koch and Fulton (2008) suggest that it is not unreasonable to expect that women's presence in parliament affects the generosity of the state's foreign aid policy. Whether this suggests that women bring unique values to political decision-making or that gender equity influences policy-making is the issue we seek to untangle.

### **Women's political prominence and development cooperation**

Although there has been extensive research on donor motivations (Cingranelli and Pasquarello 1985; Poe 1990, 1991, 1992; Kegley and Hook 1991; Hook 1995; Noël and Thérien 1995, 2000; Poe and Meernik 1995; Boone 1996; Meernik, Krueger, and Poe 1998; Schraeder, Hook, and Taylor 1998; Alesina and Dollar 2000; Breuning and Ishiyama 2003; Lancaster 2007), not much attention has been paid to the impact of gender on foreign aid (Breuning 2001; Koch and Fulton 2008). And although foreign aid has frequently failed to yield economic development (Easterly 2006; Moyo 2009), it does hold out the promise that cooperation between north and south, or rich and poor, can bring about a more equitable world.

As discussed above, there is evidence that greater gender equality lowers the propensity of the state to engage in conflict (Caprioli 2000; Caprioli and Boyer 2001; Regan and Paskeviciute 2003). In addition, Koch and Fulton (2008) noted that women's increasing prominence in political life is associated with a shift away from power politics. It is therefore not unreasonable to expect that women's descriptive representation is associated with a stronger emphasis on development cooperation (Breuning 2001; Koch and Fulton 2008). However, it is not yet clear whether this is best explained as a consequence of the influence of women's values or of greater gender equality.

Several studies have explicitly employed women's representation in parliament as a measure of gender equality (Caprioli 2000; Caprioli and Boyer 2001; Melander 2005). Representation in the legislative branch provides women with general access to political power. As an indicator, it also correlates with broader measures of gender equality in society (Inglehart and Norris 2003), making women's representation in parliament a useful proxy for gender equality in political life. Hence, we propose to employ the proportion of women in parliament to evaluate the impact of gender equality on foreign aid policy.

To evaluate the possibility that women bring different values to policy-making, we need a more direct measure of women's impact on decision-making. Women who serve in the executive branch, and especially those who serve as ministers, have a more direct impact on policy than women in the legislature. Of course, individual women in the executive branch may act in ways that defy gender stereotypes. One need to mention only Margaret Thatcher, Golda Meir, or Indira Gandhi (Tickner 1997, 1999). This could be the case for two reasons: One, specific women may not be representative of women in general. This may be especially likely in cases where women are rare in political decision-making, as was the case for all three of the women mentioned. Two, women's actions as leaders (like men's) may be influenced by the extent to which the decision-making context is gender-hierarchical or gender-equal. Research on women's impact in domestic politics often employs the concept of "critical mass" to suggest that the ability of female legislators to affect policy is contingent upon the presence of a sufficient number of women (Childs and Krook 2008). The latter concept implies that women bring different values to political decision-making and that those values should become especially evident when women have attained significant representation – Thomas (1991) concluded that women were more likely to have an impact when they accounted for about 30% of the legislature.

We suggest that, if women do indeed bring different values to their positions, and if women do indeed tend to value social equity, then women in relevant ministerial posts should influence

foreign aid policy in the direction of greater generosity, and this should be especially evident when women make up a larger proportion both in the cabinet and in the parliament. If, on the other hand, gender equality leads to policy change, then it should not matter whether the relevant minister is a woman, because greater gender equality should lead both male and female political decision-makers to support greater generosity in aid.

Hence, if gender equality best explains a state's generosity with development aid, we should find a statistically significant association between the proportion of women in the parliament and in the state's official development assistance (ODA), taken as a proportion of gross national income (GNI). The proportion of women in the cabinet should similarly indicate an impact of gender equality. If, on the other hand, women's values play a significant role, then we should expect to find specific (positive) effects for female ministers of development cooperation, foreign affairs, and economic affairs or trade – the cabinet posts that are most closely associated with foreign aid. In sum, we propose to test the following hypotheses:

H1: As women's representation in parliament increases, so does the state's generosity with development aid. (Gender equality thesis.)

H2: As women's presence in the cabinet increases, so does the state's generosity with development cooperation. (Gender equality thesis.)

H3: If the minister of development cooperation, minister of foreign affairs, and/or minister of economic affairs are women, the state will be more generous with development aid. (Women's impact thesis.)

These effects of gender equality and women's values on the generosity of development aid are likely to be mediated by several variables, which will be included in our models as control variables.

First, the composition of the legislature and/or government is likely to influence a state's generosity. For instance, Noël and Thérien (1995, 2000) found that left-party dominance is associated with more generous development aid policies. In addition, Wängnerud (2009) and Togeby (1994) have suggested that women are more likely to represent parties of the left. If so, then we should expect the impact of women on development cooperation to be largely a function of party affiliation. It is therefore important to include a measure regarding the left–right leanings of the government.

Second, political systems vary in the degree to which individual legislators are free to pursue their individual preferences. In party-centered political systems, legislators generally vote with their parties. In such cases, the gender of the legislator may matter very little in determining her or his vote. Hence, it is necessary to control for the degree to which the party controls the career path of the politicians elected under its banner.

Third, wealthier countries may be expected to find it easier to devote some portion of the government budget to development aid. Hence, we include a measure of the average wealth of the donor states in our data-set.

Lastly, the more economically interdependent a country is, the more likely it will use aid as an instrument in its foreign policy. Such aid is not necessarily targeted at development objectives, but may play an important role in enabling the donor state to access markets. We therefore include a measure of the state's export dependence.

In the following section, we describe our data and discuss the reasons for the specific statistical methods we employ in our analyses.

## Data and methods

To investigate the gender equality and women's values hypotheses outlined above, we created a data-set by bringing together variables derived from several different sources and, where

necessary, supplemented these data with our own. The data sources are identified as we discuss each of the variables. We include data for the period 1990–2001. This means that we employ a time-series cross-section data-set that includes 21 donor countries, all of which are members of the Development Assistance Committee (DAC) of the Organization of Economic Cooperation and Development (OECD). The countries that are included in the data-set are all Global North countries (Table 1).

The measures of the dependent and independent variables are presented in Table 2. Our dependent variable, foreign aid, is a donor state’s ODA, which is reported in millions of US dollars as a proportion of GNI. The ODA data are provided by the OECD (2000, 2004, 2005, 2006). This dependent variable is called “foreign aid.”

The first major independent variable is the proportion of women in parliament, which is measured by the percent of women in the lower house of the legislature. These data are from the IPU (1995, 2013).<sup>2</sup> The second major independent variable is the proportion of women in the cabinet. This is measured as the number of female ministers divided by all cabinet members. In addition to the proportion of women in the cabinet, we also take into consideration the impact of female ministers in three major ministries, including the foreign ministry, the ministry of development cooperation, and the ministry of economics and trade. We rely on Atchison and Down (2009) for the data on the proportion of women in the cabinet and supplemented it with our own calculations using the same formula that these authors employed. The coding of the female ministers in foreign affairs, development cooperation, and economics and trade is our own. In each case, we coded this variable as “1” if the minister was a woman for a given year and “0” otherwise. We expect that female ministers have a positive impact on the donor state’s ODA.

The major control variables include partisanship, party control, wealth (measured as Gross Domestic Product (GDP) per capita), and economic openness (measured as exports + imports divided by GNI), as well as a quadratic term of the economic openness variable. Some scholars have argued for a significant correlation between gender and partisanship (Norris and Lovenduski 1995; Welch 1985). As discussed above, they argue that women are more likely to hold a left-leaning political ideology, while men are more likely to have right-leaning political ideology. Furthermore, left governments tend to provide more ODA, whereas right-leaning governments tend to provide less. In other words, political partisanship may serve as a confounding variable in explaining the relationship between women’s representation and foreign aid. Therefore, our analyses include the partisanship variable as a control variable. There may be an interaction between women’s representation and the partisan variable, and this interaction may have significant impact on ODA from a donor state. The major control variable “partisanship” is measured by taking the opposite sign for the values of partisanship measured by Koch and Fulton (2011).<sup>3</sup>

Table 1. Countries in the data-set.

Australia	Japan
Austria	Netherlands
Belgium	New Zealand
Canada	Norway
Denmark	Portugal
Finland	Spain
France	Sweden
Germany	Switzerland
Greece	UK
Ireland	USA
Italy	

Table 2. Data description.

Variable name	Definition	Measurement and symbol	
Foreign aid	(value of provided foreign aid at year end, in USD million)/GNI (USD million)	ODA/GNI	Oda_gni
Proportion of female in cabinet	Share of the female ministers in a cabinet	Number of female ministers/total number of ministers in the cabinet	Fem_cobprop
Proportion of female in parliament	Share of female parliament members in a parliament	Female MPs/total number of MPs in a parliament	Fem_mpsprop
Partisanship	Measure whether the government is left-oriented or right-oriented	Weighted mean score of the government, with each party's left-right score weighted by the percentage of seats it controls among all the parties in government	Govleft2
Women in leg. *Women in cabinet	Interaction term between proportion of female in cabinet and proportion of female in parliament	Fem_cabprop*Fem_mpsprop	Fem_cabprop_fem_mpsprop
Women in cab*partisanship	Interaction term between proportion of female in cabinet and partisanship	Fem_cabprop*partisan	Fem_cabprop_govleft2
Party control	Parties' capability to control their legislators, i.e., party-centered systems vs. candidate-centered systems	0 indicates majoritarian or preferential voting; 2 indicates closed-list proportional representation voting	Party_control
Women in parliament*party control	Interaction term between female proportion in parliament and party control	Fem_mpsprop*party_control	Fem_mpsprop_party_control
Relative wealth of donor state	GDP per capita	Gdp per capita	Gdp_per_cap
Economic openness	Yearly trade amount as a proportion of GNI	(Exports + Imports)/gni	Openness2
Female foreign minister	Whether the foreign ministry is a female at year $t$	=1 if female =0 if male	Foreignminister
Female minister for development cooperation	Whether the minister for development and cooperation ministry is female	=1 if female =0 if male	developmentandcooperation
Female minister of economy and trade	Whether the minister for economic and trade ministry is female	=1 if female =0 if male	Economicandtrade

Note: MPs, members of parliament.



Another control variable is party control, which measures the ability of parties to control their members of parliament (MPs). This is an ordinal variable, with 0 indicating majoritarian or preferential voting and 2 indicating closed-list proportional representation voting (Gerring, Thacker, and Moreno 2005; Koch and Fulton 2011). According to Koch and Fulton (2011), the legislators' ability to make decisions on behalf of certain groups is dependent upon whether the political system is party- or candidate-centered. In other words, the legislators' capability to pursue their individual preferences (such as women representatives pursuing redistribution of wealth across countries through foreign aid) varies across different political systems (i.e., party-centered vs. candidate-centered system). In party-centered political systems, legislators generally vote with their parties. In such cases, the gender of the legislator may matter very little in determining her or his vote. More specifically, it is possible that the decision to provide ODA is not sensitive to women's representation in parliament but rather to the party's control of the parliament. Hence, the degree to which the party controls the career path of the politicians elected under its banner should be treated as a confounding variable. It is also possible that the decision to provide more generous ODA may be impacted by the interaction between women in parliament and party control. The party control data are also from Koch and Fulton (2011).

Furthermore, we argue that wealthier countries are likely to be in a position to provide more generous ODA – this does not mean that they necessarily have larger aid programs, but only that wealthier states have a greater capacity for generosity.

The last control variable is economic openness, measured by the percentage of foreign trade out of the total GNI.<sup>4</sup> We argue that there is an inverted-U relationship between economic openness and foreign aid.<sup>5</sup> Donors with lower levels of foreign trade tend to provide less foreign aid. But as their trade with outside world increases, they are more motivated to provide aid in order to help the smooth flow of their trade with outside world, such as securing the sources of imported products or securing the overseas market for their exported products. But their provision of aid will not continue increasing as their dependence on foreign trade increases. Rather, once their trade level reaches a certain point, they are no longer motivated to use foreign aid to pave the way for trade and their provision of foreign aid starts decreasing.

In addition, trade openness impacts gender equality. According to Becker (1957), discrimination causes loss of profits for a competitive firm, and therefore the practice of discrimination is less likely to occur in a competitive market where the firms have free entry. Therefore, a gender gap, particularly in wage, might be “reduced by increased pressures from imports due to liberalization of trade, and the change in the gender gap would be more pronounced within a concentrated monopolistic industry compared within an initially competitive industry” (Schultz 2007). Since the OECD countries under study in this paper are all competitive markets with free entries for firms, we expect the trade openness to reduce gender inequality. Since trade openness impacts both foreign aid and our key explanatory variable (gender equality), it is used as a confounding variable in our model. Given the panel data structure of our data-set, we use Prais–Winsten regression with panel-corrected standard errors (PCSEs) to investigate the relationship between women's representation and foreign aid. The major advantage of Prais–Winsten regression with PCSEs is that it can take into consideration the panel heteroskedasticity, panel autocorrelation, and contemporaneous correlation, which are common problems in time-series cross-sectional data structure.

In our analyses, we did not include a lagged dependent variable (LDV) as a control variable. The major reason is that theoretically we argue the past period's foreign aid level is not a causal factor for the current period of women representation in the parliament and in the cabinet. According to the Imbens and Rubin (2006), the fundamental criteria for selecting a variable into the model is that the variable needs to impact both the dependent variable and the major explanatory

variables. Since the last period's foreign aid does not impact our key independent variable (women representation), we do not include it in our model.

Adding a LDV is not only theoretically improper, it is also empirically inappropriate. According to Kristensen and Wawro (2003), in addition to the theoretical relevance criterion, the other situation that LDV can be used with PCSEs is that adding LDV can remove the serial correlation in the panel data. Through further tests and investigation, we found that adding a LDV cannot remove the serial correlation in the panel data, which further confirmed that it is inappropriate to include a LDV in our model.

The basic dynamic mechanism of our model is as follows:

$$\text{Aid}_{it} = f(X_{it}, u_{it}), \quad (1)$$

$$X_{it} = f(X_{it-1}, e_{it}), \quad (2)$$

$$u_{it} = f(u_{it-1}, v_{it}). \quad (3)$$

As a start, we conducted a test of the existence of serial correlation and found that the null hypothesis is rejected and our panel data are serially correlated, which is very common for the panel data structure. Even if there is serial correlation, regression analysis on Equation (1) could still give us unbiased and consistent estimation (Achen 2000). However, the nominal ordinary least squares (OLS) standard errors will be wrong due to panel heteroskedasticity, panel autocorrelation, and contemporaneous correlation. But these could be well fixed by the PCSEs (Beck and Katz 1995, 1996).

Next, because our data are serially correlated, if we include a LDV in the regression analysis with PCSEs, we would introduce bias in our coefficient estimations, which will make our results unreliable. Especially given our key independent variables (women's representation in the parliament and in the cabinet) have strong trend, the inclusion of the LDV will destroy the influence of the key explanatory variables (Achen 2000). Meanwhile, the inclusion of LDV artificially inflates the effect of the LDV (Achen 2000). Sometimes, it may even distort the sign of the key independent variables (Achen 2000).

However, according to Kristensen and Wawro (2003), if the inclusion of a LDV could help entirely remove serial correlation, then we can include it in our regression analysis with PCSEs. Based on this suggestion, we conducted another test. After adding a LDV, we conducted a Lagrange multiplier test (recommended by Beck 2001) to check whether the lag takes care of the temporal dependence. We found that adding a LDV did not remove the serial correlation, which will make the OLS estimation biased and inconsistent. Therefore, for our paper, empirically it is not proper to include a LDV in our model. Since we include year dummies in our original analysis, the temporal shocks are taken into consideration in our model.

Moreover, the more recent foreign aid literature (such as Koch and Fulton 2011) no longer includes a LDV in their regression with PCSEs. Instead, the recent studies tend to use lagged independent variables in their models. Following this practice, we did another test with all the independent variables lagged by one period. The results are consistent with Model 5, which are not reported here.

## Findings

Before turning to the analyses, we first present descriptive statistics for all of the variables in our study. As Table 3 shows, the mean value of ODA/GNI from the 21 DAC members is 0.4% with standard deviation as 0.2% across year 1990–2001. The minimum yearly ODA/GNI is 0.1% and maximum is 1.2%.

Table 3. Descriptive statistics.

Variable name	Observations	Mean	Standard deviation	Minimum	Maximum
Foreign aid	372	0.004	0.002	0.001	0.012
Proportion of female in cabinet	377	0.222	0.127	0	0.6
Proportion of female in parliament	336	0.208	0.114	0.023	0.453
Partisanship	231	-2.33	11.178	-48.46	24.77
Women in cab*partisanship	231	-0.484	2.457	-11.89	8.03
Party control	252	0.960	0.973	0	2
Women in parliament*party control	252	0.242	0.290	0	0.85
Relative wealth	378	25498.8	5250.101	13573.03	40422.04
Economic openness	364	3789.49	12312.5	74.06	69190.53
Female foreign minister	378	0.196	0.397	0	1
Female minister for development cooperation	378	0.079	0.271	0	1
Female minister of economy and trade	378	0.077	0.266	0	1

Our main independent variables, women in parliament, women in cabinet, and the measures for women in the various ministerial positions show that, on average, 22% of cabinet members and 21% of the MPs are women across the 21 donor countries over the 18 years. The proportion of women in cabinets ranges from 0% to 60% with a standard deviation of around 13%, while the proportion of women in parliament ranges from 2% to 45% with a standard deviation around 11%. In general, there is more variation in the measure for female members of the cabinet than for female MPs. The descriptive data for the various ministerial positions (minister of development cooperation, minister of foreign affairs, and minister of economics/trade) show that women are still relatively rare in foreign (aid) policy-related ministerial positions (the mean is closer to 0 than 1).

Furthermore, the mean score of partisanship among the DAC members is -2.33 with a standard deviation of 11.18 and a range from -48.46 to 24.77. This indicates that the average political ideology is slightly to the right of center among the DAC countries across the period from 1990 to 2001. However, there is considerable variation in this variable.

In addition, the party control variable measures the degree of control that the party exercises over its members. It ranges from 0 to 2, with the former representing the least amount of party control over its representatives in the legislature (i.e., the majoritarian or preferential voting) and the latter number representing the greatest amount of party control over its representatives (i.e., the closed-list proportional representation voting).

We now turn to our analyses. To better understand the impact of the various independent variables on explaining development aid, we ran several models. Table 4 presents the first four models. The first column presents the results from Model 1, which includes only the proportion of women in parliament, partisanship, party control, relative wealth of donor states, and economic openness and its quadratic term. We expected to find that as the proportion of women in parliament increases, there will be more foreign aid provided by the donor state. The results of Model 1 do confirm this hypothesis.

In addition, one of the important control variables, *partisanship*, is found to have positive and statistically significant impact on the amount of foreign aid provided by donor state. This indicates that a left-oriented government tends to give more foreign aid than right-oriented government, all else being constant. This result is consistent with Noël and Thérien's (1995, 2000) finding that

Table 4. PCSEs results without interaction terms.

Variable name	Model 1	Model 2	Model 3	Model 4
Proportion of female in cabinet		0.007*** (0.000)		0.003*** (0.000)
Proportion of female in parliament	0.015*** (0.000)			0.013 *** (0.000)
Partisanship	0.00002*** (0.000)	0.00002*** (0.002)	0.00002*** (0.000)	0.00003*** (0.000)
Party control	0.0001 (0.162)	0.0002* (0.097)	0.0001 (0.435)	0.0001 (0.419)
Relative wealth	8.60e-08*** (0.000)	1.05e-07*** (0.000)	1.70e-07*** (0.000)	9.7e-08*** (0.001)
Economic openness	3.59e-08 (0.416)	3.44e-08 (0.191)	7.33e-08*** (0.000)	3.07e-08 (0.421)
Economic openness_squared	-5.87e-12 (0.174)	-8.39e-12*** (0.001)	-4.86e-12*** (0.004)	-8.66e-12** (0.018)
Female foreign ministry			-0.0004** (0.012)	-0.0006*** (0.002)
Female minister for development cooperation			-0.0002 (0.106)	-0.0002 (0.406)
Female minister of economy and trade			0.0003 (0.195)	0.0004 (0.166)
Constant	0.0004 (0.167)	0.001** (0.012)	0.0007* (0.059)	0.003 (0.462)
Number of observations	195	195	195	195
Number of countries	19	19	19	19
R <sup>2</sup>	0.80	0.67	0.57	0.78
χ <sup>2</sup>	2047.21***	571.76***	525.74***	2658.31***

\* $p < .10$  for one-tailed test.

\*\* $p < .05$  for one-tailed test.

\*\*\* $p < .01$  for one-tailed test.

left-party dominance is associated with more generous development aid policies. We will explore the possible intersection between the impact of women in parliament and left-oriented governments further in our discussion of Model 5. Another important finding is that the ability of parties to control the parliament, *party control*, has positive but statistically insignificant impact on foreign aid. Furthermore, the wealth of a given donor state is found to have a positive and statistically significant impact on foreign aid by the donor state. This result is consistent with our expectation that wealthier countries may find it easier to devote some portion of the government budget to development aid.<sup>6</sup>

Table 4 also reports the results from Model 2, which includes only the proportion of women in the cabinet, partisanship, party control, wealth of donor states, and economic openness. Our second hypothesis suggested that as the proportion of women in the cabinet increases, the donor state would provide more generous foreign aid. The results of Model 2 show basically the same pattern as Model 1. In other words, the proportion of women in the cabinet has positive and statistically significant impact on foreign aid. However, in Model 2, party control variable shows a positive and statistically significant impact on foreign aid. This indicates that the greater amount of party control over its representatives in a donor state, the more foreign aid is provided. In other words, countries with closed-list proportional representation system tend to provide more generous foreign aid than the majoritarian or preferential voting. In addition, we find that, although the *economic openness* variable itself is not statistically significant, its

quadratic term is found to be negative and statistically significant. This result confirms an inverted-U relationship between economic openness and foreign aid.

The third column of [Table 4](#) shows the results from Model 3, which excludes the female proportion in the cabinet and in the parliament, but instead includes the variables for the female ministers (female minister of development cooperation, foreign affairs, and/or economics and trade). Our third hypothesis states that if a woman holds these ministerial positions, the donor state will be more generous with development aid. The results of this third model do not confirm this hypothesis. Instead, there is a negative and statistically significant association between development aid and the presence of a female minister of foreign affairs. In other words, female foreign ministers are associated with less generous foreign aid. Moreover, the impact of a female minister of development and cooperation or a female minister of economics and trade ministry is not statistically significant.

The fourth column of [Table 4](#) shows the results for a more inclusive model. Here, we include all the female representation variables (i.e., the proportion of women in the cabinet, in the parliament, and female ministers heading the three ministries), the partisanship, the party control, wealth of donor states, and economic openness and its quadratic term. The results of Model 4 closely resemble those of Model 3 with respect to the statistical significance of the explanatory variables. However, by including the two women's representation variables (women in the cabinet and in the parliament), the  $R^2$  values have increased from 0.57 to 0.78.

What explains this result? One possible reason is that there are some underlying variables, such as interactions between the women's representation variables and the party politics variables. This leads us to perform the test reported in Model 5 ([Table 5](#)), in which we include two interaction terms (i.e., an interaction between women in the cabinet and partisanship; and an interaction between women in the parliament and party control).

As shown in [Table 5](#), we find that the proportion of women in the parliament has a statistically significant impact on foreign aid in a positive direction, which provides support for our first hypothesis. However, the partisanship variable is also statistically significant and positive, suggesting that a more left-leaning parliament is associated with a more generous aid policy. These two variables (the proportion of women in the parliament and partisanship) are not collinear, suggesting that gender equality and left-leaning government have independent effects on the state's generosity with development aid. Moreover, the proportion of women in the cabinet also has a positive and statistically significant impact on foreign aid but its interaction with partisanship does not show a statistically significant impact on foreign aid. In other words, the effect of gender equality is not due to women's presence in left-leaning parliaments and cabinets. Gender equality matters irrespective of the partisan composition of parliament and cabinet. The party control variable, not consistent with the first four models, has a negative and statistically significant impact on foreign aid. This indicates that greater amount of party control over its representatives in a donor state, the less foreign aid is provided. In other words, countries with closed-list proportional representation system (i.e., party-centered system) tend to provide less generous foreign aid than the majoritarian or preferential voting (candidate-centered system). In addition, the interaction between gender equality (measured by the proportion of women in the parliament) and party control shows a positive and statistically significant impact on foreign aid. This indicates that gender equality has a stronger impact in party-centered system than in candidate-centered system.

Last but not the least, placing a female at the head of the foreign affairs ministry has a negative and statistically significant impact on foreign aid. In other words, even if we hold the proportion of women in the cabinet and in the parliament, as well as other control variables constant, the variable of women in ministry of foreign affairs is still statistically significant and negative. This tells us female foreign ministers tend to provide less foreign aid. This, combined

Table 5. PCSEs result with interaction terms.

Variable name	Model 5	( $P >  z $ )
Proportion of female in cabinet	0.0022***	(.008)
Proportion of female in parliament	0.0063***	(.000)
Partisanship	0.00003**	(.032)
Women in cab*partisanship	-0.00003	(.538)
Party control	-0.0006***	(.005)
Women in parliament*party control	0.005***	(.000)
Relative Wealth	1.37e-07***	(.000)
Economic openness	3.81e-08	(.262)
Economic openness_square	-9.06e-12***	(.008)
Female foreign minister	-0.0005**	(.014)
Female minister for development cooperation	-0.0002	(.300)
Female minister of economy and trade	0.0004	(.156)
Constant	0.0005***	(.000)
Number of observations	195	
Number of donor countries	19	
$R^2$ (overall)	0.82	
$\chi^2$	2484.56***	

\* $p < .10$  for one-tailed test.

\*\* $p < .05$  for one-tailed test.

\*\*\* $p < .01$  for one-tailed test.

with the non-significant findings for women in charge of the ministry of economics and trade or of development cooperation, suggests a lack of support for our third hypothesis, which suggested that women holding these ministries would be associated with more generous foreign aid.

## Conclusions

The findings reported in the previous section confirm that women's representation in the parliament and in the cabinet does play a significant role in increasing the generosity of the donor state's development aid even after controlling for other potentially confounding variables. In contrast, when women serve as minister of foreign affairs, economics and trade, or development cooperation, this is not associated with more generous aid. In fact, female foreign ministers are associated with *less* foreign aid. This combination of findings suggests that it is gender equality in the donor state that matters, rather than women's values. Before elaborating on the implications of this finding, we briefly review the impact of our remaining variables.

Consistent with the literature (Noël and Thérien 1995, 2000), we find that left-oriented governments tend to provide more foreign aid. We also find that the proportion of women in the parliament has a stronger impact in party-centered system than in candidate-centered systems.

In addition, by including women's representation in the parliament, women's representation in the cabinet, as well as a measure of whether relevant ministries are headed by women, we are better able to untangle the effects of gender equality and women's values. Taken together, our findings suggest that greater descriptive representation of women is best understood as an indicator of greater gender equality. In other words, our findings do not support the notion that women bring unique values to foreign policy-making.

However, we do find that a female minister of foreign affairs has a particularly strong and negative impact on foreign aid, while female ministers of economics and trade and of development cooperation do not have a statistically significant impact on the generosity of foreign aid.

This means that the female foreign ministers in our data-set were associated with less generous aid policies than their male counterparts. One reason for this finding may be that female foreign ministers are still relatively rare – or at least they were quite rare during the period covered by our analyses. It is therefore difficult to evaluate whether the specific women who served as foreign minister are representative of women more generally. Others (Koch and Fulton 2011, 13) have suggested that women in foreign policy decision-making roles “must still overcome stereotypes of being ‘weak’ in foreign policy.” If so, this might explain the difference in our findings regarding female foreign ministers as compared to female ministers of development cooperation or economics and trade – neither of these two portfolios is as clearly associated with traditional notions of masculinity as the foreign ministry.

The non-significant impact of female ministers of development cooperation, as well as those of economics and trade, points to the conclusion that the donor state’s generosity does not depend on whether a woman or a man holds these positions. Instead, greater women’s representation in the parliament and in the cabinet tends to be more important than the gender of the relevant minister. In other words, greater gender equality, as evidenced by a larger proportion of women in the parliament and in the cabinet, appears to drive our results.

What do these findings suggest regarding the impact of women’s political prominence on the generosity of donor states? On the basis of the previous literature, our hypotheses suggested that women’s representation in the parliament and in the cabinet would be more indicative of the impact of gender equality, whereas the presence of women in the various ministries would be indicative of a direct impact of women on foreign (aid) policy-making. Our empirical investigation was focused on the DAC members of the OECD, which means that the countries in the data-set are all wealthy, democratic states of the Global North. Interpreted narrowly, our findings may be limited to the impact of gender equality on the foreign (aid) policies of these countries. However, the finding that gender equality contributes more to explaining differences in generosity than women’s unique values, may very well have implications that reach beyond the specifics of this study. Whether this is indeed the case will need to be ascertained by future research.

## Notes

1. We do not here address debates about the efficacy of aid to achieve this stated purpose. See e.g., Easterly (2006) and Moyo (2009).
2. Following Breuning (2001), we did a robustness check on a different measurement of gender equality. This measurement dichotomized the proportion of women in parliament into less and more than 30% women in parliament. Moreover, this paper also experimented with 25% as a threshold. We ran the same regression analysis with PCSEs and the results are quite consistent with using proportion of women in parliament as a measurement for gender equality. Please see [Appendices A](#) and [B](#) for the results.
3. Koch and Fulton (2011) use the “weighted mean score of the government, with each party’s left-right score weighted by the percentage of seats it controls among all the parties in government. Positive numbers indicate more right-oriented governments, and negative numbers indicate more left-leaning governments” (13).
4. Both GDP per capita and foreign trade as a proportion of GNI are calculated on the basis of data from the World Bank.
5. Economic openness has been a commonly used control variable in foreign aid literature. Earlier studies assumed trade openness has a linear effect on foreign aid, such as Schraeder et al. (1998). More recently, foreign aid literature prefer measuring trade openness by the trade policy index generated by Sachs and Warner (1995), which is updated by Wacziarg and Welch (2003). This index shows that trade openness is a dummy variable averaged over four years. There is a lack of study on a possible curve-linear relationship between trade openness and foreign aid.
6. All donor states are fairly wealthy. The coefficient of variation for the “wealth” variable is only 0.2, which indicates low variation in this variable. However, this measure differentiates among global north countries, which are all wealthy if compared globally to other countries.

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**Appendix A: Dichotomize the Proportion of Women in Parliament into Less and More Than 30%**

Variable name	Model 6	( $P >  z $ )
Proportion of Female in Cabinet	0.0039***	(0.000)
Women30	0.0026***	(0.000)
Partisanship	6.36e-06	(0.682)
Women in Cab*Partisanship	0.00002	(0.805)
Party Control	0.0001	(0.285)
Women30*Party Control	0.0003	(0.364)
Relative Wealth	9.04e-08***	(0.000)
Economic Openness	2.82e-08	(0.510)
Economic Openness_Square	-1.26e-11***	(0.002)
Female Foreign Minister	-0.0004	(0.301)
Female Minister for Development Cooperation	-0.0009	(0.003)
Female Minister of Economy and Trade	0.0007	(0.015)
Constant	0.0017***	(0.000)
Number of Observations	195	
Number of Donor Countries	19	
$R^2$ (overall)	0.81	
Chi Square	2019.00***	

Note: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  for one-tailed test.

**Appendix B: Dichotomize the Proportion of Women in Parliament into Less and More Than 25%**

Variable name	Model 7	( $P >  z $ )
Proportion of Female in Cabinet	0.0049***	(0.000)
Women25	0.0011***	(0.001)
Partisanship	0.00003***	(0.008)
Women in Cab*Partisanship	-0.00003	(0.613)
Party Control	0.00002	(0.833)
Women25*Party Control	0.0013***	(0.000)
Relative Wealth	1.04e-07***	(0.000)
Economic Openness	-3.72e-08	(0.321)
Economic Openness_Square	-1.44e-11***	(0.001)
Female Foreign Minister	-0.0007***	(0.002)
Female Minister for Development Cooperation	-0.0006***	(0.004)
Female Minister of Economy and Trade	0.0007**	(0.024)
Constant	0.0012**	(0.013)
Number of Observations	195	
Number of Donor Countries	19	
$R^2$ (overall)	0.84	
Chi Square	1532.50***	

Note: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  for one-tailed test.