

**Volume 31, Issue 1****Foreign aid, women in parliament and corruption: empirical evidence from the 2000s**

Elias K Shukralla  
*Siena College*

William J Allan  
*Siena College*

**Abstract**

Using data for the 2000s, this paper explores the impact of foreign aid and the percentage of women in parliament on corruption. In doing so, it combines the aid – corruption literature with the literature that addresses the impact of gender on corruption. We also inquire if aid is more effective in countries with a larger participation of women in parliament. We find that neither aid nor the percentage of women in parliament affects perceived corruption in a significant way. Moreover, the impact of aid on corruption does not seem to be affected by the share of women in parliament. On the other hand, a long-established democracy is consistently found to be significant in affecting corruption. Our results are robust to various specifications, alternative measures of corruption and use of estimation techniques.

---

The authors would like to thank an anonymous referee for valuable comments.

**Citation:** Elias K Shukralla and William J Allan, (2011) "Foreign aid, women in parliament and corruption: empirical evidence from the 2000s", *Economics Bulletin*, Vol. 31 no.1 pp. 519-533.

**Submitted:** Aug 01 2010. **Published:** February 14, 2011.

## 1. Introduction

Corruption is usually defined or understood as the misuse of public office/property for personal/private gain (See, for example, Shleifer *et al.* 1993, Svensson 2005, and Treisman 2007). In line with the main purpose of our paper, however, we will use the Political Risk Services (PRS) Group's definition of corruption which states that corruption is "a threat to foreign investment by distorting the economic and financial environment, reducing the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability, and introducing inherent instability into the political process."<sup>1</sup> This definition reflects the fact that corruption is a multifaceted variable which can affect and be affected by a number of factors.

In this paper we look at the impact of foreign aid and political gender equality (measured as the percentage of women in parliament) on corruption. In doing so, we combine two important topics in the corruption literature. The first one relates foreign aid to corruption and the other looks at the impact of gender on corruption. The existing literature tries to address the impact of one of these variables without controlling for the other. Moreover, partly because of lack of compelling theory to guide the selection of control variables, different studies use different specifications controlling for different sets of variables which makes comparison of the existing results difficult. This paper attempts to fill the gap in the literature by introducing both foreign aid and gender in a framework established by Serra (2008). Using a "Global Sensitivity Analysis" based on the E. E. Leamer's Extreme-Bounds Analysis, Serra (2008) has identified five variables that are robustly correlated to corruption. These variables are per capita GDP, protestant religion, colonial/legal heritage, democracy, and political stability.

We construct the baseline model using those five variables and add foreign aid and women's participation in government. Moreover, we argue that if women's involvement in politics helps curtail corruption (as argued by Dollar *et al.* 2001) and if one major reason for foreign aid's 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. To capture this idea, we interacted aid and a measure of women participation. This primarily accounts for our paper's novelty.

### 1.1 Gender and Corruption

A rationale for the possible impact of gender on corruption is the idea that women are less individually oriented than men (Dollar *et al.* 2001). Moreover, members of parliament may influence the level of corruption through the passage of laws or executive branch appointments or through making the process more visible to the public (Swamy *et al.* 2001). Based on the literature on behavioral studies, Dollar *et al.* (2001) argue that women should be particularly effective in promoting honest government. Their empirical results also show that "the greater the representation of women in parliament, the lower the level of corruption". Swamy *et al.* (2001) also find that corruption is less severe in countries where a higher percentage of women are a larger part of the government and labor force. The simple policy implication of these two major studies is to increase the participation of women in government in order to reduce corruption.

---

<sup>1</sup> "Selected Data Report." PRS Group (2010).

Sung (2003), however, argues that although female participation in government may be correlated to lower levels of corruption, the relationship loses significance if one controls for the effects of constitutional liberalism or functioning liberal democratic institutions. Using a panel of U.S. states, Cheung and Hernandez-Julian (2006) find no significant relationship between gender and government corruption. More recently, using economic experiments, Alatas *et al.* (2009) find Australian men to be more likely to engage in corruption than are Australian women. However, they find no systematic gender differences in India, Indonesia, and Singapore. They conclude that gender differences in attitudes toward corruption appear not to be as robust and may be culture specific. On the other hand, Michailova and Melnykovska (2009) provide evidence of a negative relationship between corruption and increased representation of women in parliament in transition economies.

## 1.2 Foreign Aid and Corruption

The recent literature on foreign aid casts doubt as to its effectiveness especially in bringing about growth (see for example, Easterly (2003, 2009) and Rajan and Subramanian 2008). One major reason usually given for the ineptness of foreign aid is that it is diverted away by some recipient countries through corruption (Okonjo-Iweala 2007). In a similar vein, Rajan and Subramanian (2007) argue that aid may be associated with weak governance perhaps because the inflow of aid reduces recipient governments' incentive to tax the people. Djankov *et al.* (2009) establish a negative relationship between donor fragmentation and the effectiveness of aid. They argue that part of the reason for such a negative relationship is that donor fragmentation is associated with increased corruption in the recipient country's government.

Empirical studies that directly link aid and corruption have also provided evidence that corruption is associated with considerable cost to an economy<sup>2</sup> (Knack and Keefer 1995). Saxton (2009) cited some of the reasons why aid may increase corruption: can strengthen existing public sector bureaucracy; result in larger government spending and a larger public sector (relative to the private sector); promote more rent seeking activity; entrench a corrupt status quo elite; and foster delays in reforming existing corruption.

There are, however, some works that provide evidence that aid can actually reduce corruption (Tavares 2003, Dunning 2004, and Ear 2006). Tavares (2003), for example, cites conditionality and liquidity effects as potential explanations as to why aid might be helpful in reducing corruption. Charron (2009) finds that multilateral aid is more effective than bilateral aid in improving governance and fighting against corruption in a developing country. Charron also points out the importance of time period in which the relationship between aid and corruption has been studied. In a slightly different line of literature, Alesina and Weder (2002) find no evidence that less corrupt governments receive more foreign aid<sup>3</sup>. Croix and Delavallade (2010) argue that if there is any relationship between aid and corruption, that relationship is positive. Using a simple model, they show how giving more aid to more corrupt countries (a positive relationship) might be optimal where the heterogeneity in productivity is more important among developing countries than the heterogeneity in the quality of institutions.

---

<sup>2</sup> Some of these costs include: slowing growth and investment, tax diversion, biasing the provision of public goods, and inflation (Tavares 2003).

<sup>3</sup> For a good discussion of aid and corruption, please see Charron (2009).

### 1.3 Foreign Aid, Gender and Corruption

The literature on the determinants of corruption utilizes various variables in the control vector.<sup>4</sup> Those who focus on the relationship between aid and corruption try to do so without controlling for the possible impact of gender. The impact of gender on corruption has been studied without controlling for foreign aid. To our knowledge, there has not been any attempt to look at the impact of both aid and gender on corruption. The present paper tries to do that. More importantly, we argue that if women's involvement in politics helps curtail corruption and if a major reason for aid's ineffectiveness is corruption, then, foreign aid may be more effective in those counties with larger participation of women in politics. Accordingly, we interacted aid and a measure of women participation in government to capture the phenomenon.

Section 2 describes the variables and discusses the data used in the paper. The empirical specification and the benchmark results are described in Section 3. Section 4 talks about robustness issues and Section 5 concludes.

## 2. Variables and Data

One of the most widely used measures of corruption is the International Country Risk Guide's (ICRG) corruption index. This is a survey-based index with wider coverage and this is what we use to present our empirical results. The index takes values from zero (most corrupt) to six (least corrupt). We reversed the scales so that a higher value implies a higher level of corruption.<sup>5</sup> An idea this index is meant to capture is the extent to which illegal payments are expected at low levels of government. This is particularly important to our work as our measure of women's involvement in government is the percentage of women in lower or single parliamentary house positions.

The literature has identified a number of economic, socio cultural and institutional variables as potential determinants of corruption. However, only a few have been found to be robust. Following Serra (2008), we construct our basic specification using the five variables that she finds to be robust determinants using "Global Sensitivity Analysis". These variables are per capita GDP (GDPpc), protestant religion (prot), colonial/legal heritage (legal), democracy, and political stability (stable). To these variables, we add foreign aid per capita, a measure of women participation in politics (percentage of women in lower or single parliamentary house positions), and the interaction of aid and women in parliament. Our basic specification is the following:

---

<sup>4</sup> The conditioning variables include: GDP per capita, adult literacy, military expenditure, government stability/instability, political risk rating, location, infant mortality, ethnic fractionalization, population, health care expenditure, a dummy for oil exporters, openness to trade, location dummy, government expenditure and the amount of tax payments in a given developing country. For more on variables, please refer to Serra (2008) and Treisman (2007).

<sup>5</sup> Corruption is such a hard variable to measure and most available measures of corruption capture perception rather than experience. The other two widely measures are the TI index by transparency international and the World bank's Control of Corruption index. All the three indices tend to be highly correlated (Fréchet 2006). As perception may not be a good predictor of experience (Treisman 2007 and Fan et al. 2009), our results should be interpreted cautiously.

$$\text{Corrupt}_i = \alpha + \beta_1 \text{GDPpc}_i + \beta_2 \text{Prot}_i + \beta_3 \text{legal}_i + \beta_4 \text{democracy}_i + \beta_5 \text{stable}_i + \beta_6 \text{wparliament}_i + \beta_7 \text{aid}_i + \beta_7 \text{aid}_i * \text{wparliament} + \varepsilon_i \quad (1)^6$$

Generally, perceived corruption tends to decline with the development of the national economy, in more democratic societies that are stable. Increasing women’s political participation may be valued on the basis of gender equality and other reasons. However, the impact of gender on corruption and whether aid is more effective in countries where more women participate in the political process is part of the empirical question that we try to address. The impact of foreign aid on corruption can either be positive or negative as implied by the reviewed literature.

Data was collected as ten years average (for most variables) for 76 countries.<sup>7</sup> We focus on the 2000s, a decade that entirely falls in the post anti-corruption era.<sup>8</sup> A descriptive statistics for the main variables of interest is given in table 1. Description on all variables along with data sources is given in the appendix.

Table 1: Summary Statistics of Key Variables

Variable	Mean	Std. Dev	Min	Max	N
Corrupt	2.82	0.671	1.03	4.88	76
GDPpc	2996.61	3172.36	122.83	16737.32	76
Prot	8.79	15.85	0	66	70
Legal	0.263	0.443	0	1	76
Democracy	4.73	3.52	0	10	66
Stable	8.83	1.10	6.18	11.17	76
Wparliament	13.02	7.01	0.42	34.59	76
Aid	33.67	30.09	2.3	149.49	76
Education	65.19	27.04	8.62	100	73
FLabParticipate	50.83	16.73	18.3	86.7	76

A major concern in the gender – corruption literature that we briefly reviewed earlier is the omission of a measure of democracy that obscures results (Sung 2003). Moreover, continued and stable democracy is more important than short lived democracy (Treisman 2000 and 2007). Accordingly, we include a measure of democracy that is an average for a long period of time (1975 – 2006) as a control.<sup>9</sup> On the other hand, a major concern in the aid-corruption literature is the potential endogeneity of aid. We, therefore, instrument aid using the logs of initial values of

<sup>6</sup> i indexes country

<sup>7</sup> These are mostly developing countries with some economies in transition; the list of countries is given in the appendix. . The choice of countries is based on the availability of data. The major exceptions with regard to ten year averages are the democracy variable which is measured as an average value for 32 years. This is in line with (Treisman 2007). The other variable is religion (protestant) which is given for the year 1980 as used in La Porta et al (1999). Please note that averaging variables over time helps to reduce measurement error (You and Khagram 2005). Moreover, ten year averages may be better in capturing perception ratings. For criticism on using panel data (single year) in measuring perceptions, please refer to Treisman (2007).

<sup>8</sup> Studies have referred the ‘anti –corruption movement’ beginning the 1990s (Charron 2009)

<sup>9</sup> For explanation of the inclusion of the other control variables, please see, among others, Swamy et al. 2001, Tavares 2003, Serra 2008, Treisman 2000 and 2007, and Fan et al. 2009.

infant mortality and population. These variables reflect donors' and recipients' interests and are commonly used in the literature (see, for example, Knack 2004).

### 3. Results

The first column of table 2 shows OLS results for our baseline regression before we add aid or gender. Column two represents results when both aid and gender are added. Column three further adds their interaction term. The only variable that we find to be consistently significant in affecting perceived corruption in the 2000s is democracy. This captures the idea that long lived democracy is associated with lower perceived corruption. Per capita GDP is significant in about half of the regressions and marginally loses significance in the remaining half. When we look at our variables of interest, neither aid nor women in parliament is found to be a significant determinant of corruption although the coefficients on both variables appear with negative signs throughout. The interaction of aid and women in parliament also turns out to be insignificant.

	OLS	OLS	OLS	IV(2SLS)	IV(2SLS)	Ordered Probit
Democracy	-0.08 (0.029)**	0.078 (0.031)**	-0.080 (0.032)**	-0.079 (0.043)**	-0.080 (0.035)**	-0.138 (0.054)**
Prot	0.0001 (0.0062)	0.0007 (0.006)	-0.0008 (0.007)	0.0003 (0.007)	-0.0005 (0.007)	0.001 (0.012)
Stable	-0.153 (0.103)	-0.144 (0.105)	-0.157 (0.108)	-0.151 (0.126)	-0.167 (0.128)	-0.276 (0.187)
GDPpc	-0.00005 (0.00003)*	-0.00005 (0.00003)*	-0.00005 (0.00003)	-0.00005 (0.00004)	-0.00005 (0.00003)*	-0.0001 (0.00006)**
Legal	0.211 (0.199)	0.205 (0.202)	0.206 (0.205)	0.210 (0.206)	0.214 (0.207)	0.336 (0.348)
Aid		-0.002 (0.003)	-0.006 (0.004)	-0.0005 (0.007)	-0.008 (0.010)	-0.012 (0.008)
Gender		-0.001 (0.009)	-0.01 (0.008)	-0.001 (0.010)	-0.015 (0.011)	-0.021 (0.015)
Aid *gender			0.0004 (0.0003)		0.0006 (0.0006)	0.0007 (0.0005)
N	61	61	61	61	61	61
R <sup>2</sup> /pseudo R <sup>2</sup>	.27	.29	0.30	.29	0.30	0.07

Note: Dependent variable is the ICRG corruption index. Robust standard errors are in parentheses. Instruments in the IV estimation include log infant mortality in 2000, and log population 2000 (log of initial per capita GDP used as an alternative). \* indicates significance at 10% and \*\* indicates significance at 5%. All regressions include the constant term.

A major concern with the OLS results, in particular the one concerning with the coefficient of aid, is that aid could be endogenous to corruption. We isolate the causality from aid to corruption from that which operates in the reverse direction by using instrumented aid<sup>10</sup>. As can be seen

<sup>10</sup> The first stage regression (not reported here for brevity) includes the log of the initial (2000 level) values of infant mortality and population and the five basic controls in the corruption regression.

from columns four and five of table two, the basic results remain the same: the coefficients on aid and women in parliament remain negative but not significant.

#### 4. Robustness Checks

As argued by Treisman (2007), corruption indices such as the ICRG's should not be treated as strictly continuous and ordered probit is more appropriate than OLS. However, in the literature the ratings are usually treated as interval level measures (Knack 2004). In the last column of table two we present our results using ordered probit regression that takes into account the issue of levels of measurement in variables. The results remain qualitatively the same; aid and the percentage of women in parliament remain unrelated to the level of perceived corruption. The interaction term also remains insignificant. As before, more democratic countries are associated with the likelihood of lower perceived corruption.<sup>11</sup>

We also try other specifications by adding other commonly used variables in the literature<sup>12</sup> (even though they did not pass Serra's (2008) sensitivity tests). These variables include: oil exporter dummy (column 2), ethnic fractionalization (columns 3, 6, and 7)<sup>13</sup>, government expenditure (column 4), and a location dummy (column 5). As can be seen from table 3, successive inclusion of the variables does not change our basic results. Moreover, none of the additional controls turns out to be significant. Even some of the variables<sup>14</sup> that Serra (2008) has identified to be robust determinants of corruption lose their significance in our study. We would like to point out that our paper focuses on the 2000s while the focus of Serra's paper is the 1990s. As argued by Roodman (2007), fragility in regression results mainly arises due to modifying the sample<sup>15</sup>. On the other hand, while Serra (2008) uses the *Graft Index*, we use the *International Country Risk Guide (ICRG) corruption index by Political Risk Services*. The use of a different measure of corruption (the dependent variable) can also be a potential explanation for the lack of significance in some of the variables in the control vector. The Graft index is not updated for the 2000s to be used in our study.

Though the results are not reported for the sake of brevity, the core results stand when the Corruption Perception Index for 2009 by Transparency International (TI) is used as a dependent variable. However, we notice that the income variable becomes highly significant as in Treisman (2007) and the coefficient of aid becomes positive but still not significant. In all our regressions, the democracy variable is significant which is in line with the existing literature.

---

<sup>11</sup> the signs and statistical significance of the ordered probit coefficients can be interpreted in the same way as for linear regression although they do not simply measure the marginal effect of a one-unit increase in the variable of interest on perceived corruption (Fan et al 2009).

<sup>12</sup> We add one variable at a time because of data limitation.

<sup>13</sup> The fractionalization variable is included in both IV and ordered probit estimation as the variable is very widely used in the literature.

<sup>14</sup> These variables refer to the proportion of the population that is protestant, legal/colonial origin, and political stability (although the later shows some significance in a few regressions that we tried)

<sup>15</sup> Charron (2009) also points out that the time period of the study matters for the aid-corruption relationship and did not find significance in all the control variables. We also note the use of robust standard errors.

Table 3: Foreign Aid, Women in Parliament and Corruption (Robustness Checks)

	OLS	OLS	OLS	OLS	OLS	IV(2SLS)	Ordered Probit
Democracy	-0.080 (0.032)**	-0.080 (0.032)**	-0.111 (0.034)**	-0.078 (0.038)**	-0.084 (0.032)**	-0.118 (0.036)**	-0.218 (0.055)***
Prot	-0.0008 (0.007)	-0.0008 (0.007)	-0.005 (0.010)	-0.0007 (0.007)	-0.001 (0.007)	-0.004 (0.008)	0.014 (0.016)
Stable	-0.157 (0.108)	-0.157 (0.108)	-0.260 (0.095)**	-0.163 (0.109)	-0.159 (0.109)	-0.283 (0.110)**	-0.508 (0.158)***
GDPpc	-0.00005 (0.00003)	-0.00005 (0.00003)	-0.00003 (0.00007)	-0.00006 (0.00004)	-0.00006 (0.00003)*	-0.00002 (0.00005)	-0.00008 (0.0001)
Legal	0.206 (0.205)	0.201 (0.204)	0.174 (0.293)	0.199 (0.201)	0.207 (0.211)	0.205 (0.245)	0.319 (0.502)
Aid	-0.006 (0.004)	-0.006 (0.005)	-0.005 (0.005)	-0.006 (0.005)	-0.006 (0.005)	-0.0002 (0.012)	-0.011 (0.009)
Gender	-0.01 (0.008)	-0.01 (0.008)	-0.008 (0.012)	-0.011 (0.009)	-0.010 (0.009)	-0.005 (0.022)	-0.019 (0.021)
Aid*Gender	0.0004 (0.0003)	0.0004 (0.0003)	0.0004 (0.0003)	0.0004 (0.0003)	0.0004 (0.0003)	0.0003 (0.0008)	0.0008 (0.0004)
Oil Exporter		-0.029 (0.202)					
Fraction			-0.060 (0.347)			-0.015 (0.362)	-0.253 (0.579)
Government Expenditure Location				-0.007 (0.024)			
					-0.154 (0.202)		
N	61	61	52	61	61	52	52
R <sup>2</sup> /pseudo	.30	.30	.37	.30	.31	.37	.09
R <sup>2</sup>							

Note: Dependent variable is the ICRG corruption index. Robust standard errors are in parentheses. Instruments in the IV estimation include log infant mortality in 2000, and log population 2000 (log initial per capita GDP used as an alternative). \* indicates significance at 10% and \*\* indicates significance at 5%. All regressions include the constant term.

To put our results in the context of the existing empirical literature, in table 4, we further present more robustness checks to highlight the similarities as well as the differences between our results (based on data for the 2000s) and earlier works. We first run two regressions where aid and gender enter into the model separately and neither variable is found to be significant<sup>16</sup> (see columns 1 and 2). We then add more regional dummies than we used earlier but the results remain qualitatively the same (column 3). We further checked our results using a dummy for former colony (column 4), education (column 5), and female labor force participation (column 7) and none of these variables turns out to be significant at the conventional levels, although labor force participation enters with the right sign. We, however, unveil an interesting finding when we interact aid with democracy (Column 6). We find the aid-democracy interaction term to be negative and significant which implies that aid is more effective in combating corruption in long established democracies<sup>17</sup>.

<sup>16</sup> Please refer to our brief review on the empirical literature which is at best mixed.

<sup>17</sup> We interacted democracy with women in parliament but that interaction term does not turn out to be significant.



Table 4: Foreign Aid, Women in Parliament and Corruption (More Robustness Checks)<sup>18</sup>

	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Democracy	-0.078 (0.030)**	-0.080 (0.030)**	-0.099 (0.035)**	-0.082 (0.032)**	-0.094 (0.033)**	-0.113 (0.038)**	-0.079 (0.032)**
Prot	-0.0006 (0.006)	-0.0002 (0.006)	-0.001 (0.007)	-0.001 (0.007)	-0.0008 (0.007)	-0.0005 (0.006)	0.0006 (0.007)
Stable	-0.143 (0.104)	-0.157 (0.103)	-0.106 (0.108)	-0.161 (0.112)	-0.164 (0.109)	-0.145 (0.08)*	-0.162 (0.116)
GDPpc	-0.00006 (0.00002)**	-0.00005 (0.00002)*	-0.00007 (0.00004)*	-0.00005 (0.00004)*	-0.00009 (0.00004)*	-0.0005 (0.0002)*	-0.00005 (0.0002)*
Legal	0.2036 (0.1998)	0.212 (0.201)	0.301 (0.269)		0.26 (0.231)	0.226 (0.206)	0.206 (0.214)
Aid	-0.002 (0.003)		-0.005 (0.004)	-0.006 (0.005)	-0.008 (0.005)	-0.0008 (0.003)	-0.006 (0.005)
Gender		-0.001 (0.009)	-0.015 (0.011)	-0.009 (0.008)	-0.013 (0.009)	-0.005 (0.022)	-0.01 (0.008)
Aid*Gender			0.0004 (0.0003)	0.0004 (0.0004)	0.0004 (0.0003)		0.0004 (0.0003)
SSA			-0.086 (0.278)				
L. America			0.232 (0.327)				
E.Europe			0.379 (0.365)				
MENA			-0.214 (0.399)				
Colony				0.078 (0.191)			
Education					0.007 (0.005)		
Aid*Democr acy						-0.001 (0.0005)* *	
FLabParticip ate							-0.0005 (0.006)
N	61	61	61	61	59	61	60
R <sup>2</sup>	.29	.29	.35	.29	.34	.31	.30

Note: Dependent variable is the ICRG corruption index. Robust standard errors are in parentheses. All regressions include the constant term. ) . \* indicates significance at 10% and \*\* indicates significance at 5%.

<sup>18</sup> the use of OLS here is mainly to make our results comparable across a broad range of studies. Results with instrumented aid are qualitatively the same.

## 5. Concluding Remarks

In this paper we ask if foreign aid and the percentage of women in parliament affect perceived corruption using data for the 2000s. We also inquire if aid is more effective in countries with a larger participation of women in parliament. We find that neither aid nor the percentage of women in parliament affects perceived corruption in a significant way. Moreover, the impact of aid on corruption does not seem to be affected by the share of women in parliament. Democracy is the only variable that turns out to be significant in all the regressions which shows that a long lived democracy is associated with lower level of perceived corruption. This is in line with the existing literature and this may be a direction interested parties should look deeper. The interaction of democracy and aid is also negative and significant implying that aid works better in combating corruption in long-established democracies. The income variable is found to be significant in the majority of the regressions and marginally loses its significance in others. Our results are robust to the use of various specification and estimation methods. Some points are worth mentioning:

First, the mere increase in the percentage of women in parliament does not necessarily affect policy decisions. In the words of Beaman *et al.* (2007) “In a world where candidates care about electoral success and can commit to policies before elections, voter preferences, rather than the legislator’s gender identity, will determine policy outcomes. Further, if men and women are equally likely to vote and monitor elected officials, the implemented policies should not exhibit any gender bias.” Our results are consistent with Sung (2003) who argues that any correlation one might have found between corruption and a larger share of women in parliament or government is driven by other aspects of democratic societies.

Second, we should recall that the variable “women in parliament” refers to the share of women in the lower house of parliament. Women representation at that level may not be as effective as women’s representation at upper houses. Our choice of this variable is largely driven by the availability of data.

Third, our review of the literature on the link between aid and corruption is at best mixed and the lack of a significant relationship may not be surprising. However, given the fact that we focus on the 2000s, an entirely post anti corruption era, our results cast doubt on the claim that aid’s impact on corruption is better after the mid 1990s compared to earlier years.

Finally, findings from this analysis should be interpreted cautiously. The lack of a relationship between corruption and women in parliament, for example, does not imply that increasing women’s participation in government should not be a policy priority. What the results simply tell us is that a mere increase in the number of women (e.g., through a quota system) may not be enough to solve complex problems like dealing with corruption.

## References

- Adserà, A., C. Boix and M. Payne (2003) “Are You Being Served? Political Accountability and Quality of Government” *Journal of Law, Economics and Organization* **19(2)**, 445-490.
- Alatas, V., L. Cameron, A. Chaudhuri, N. Erkal and L. Gangadhraran (2009) “Gender, culture, and corruption: insights from an experimental analysis” *Southern economic Journal* **75(3)**, 663-680.
- Alesina, A and B. Weder (2002) “Do Corrupt Governments Receive Less Foreign Aid” *American Economic review* **92(4)**, 1126-1137.
- Beaman, L., E. Duflo, R. Pande and P. Topalova (2007) “Women Politicians, Gender Bias, and Policy-making in Rural India” UNICEF, the State of World Children, Background Paper.
- Brunetti, A and B. Weder (2003) “A Free Press is Bad News for Corruption” *Journal of Public Economics* **87**, 1801-1824.
- Charron, N. (2009) “Exploring the Impact of Foreign Aid on Corruption: Has the ‘Anti-Corruption’ Aid been Effective?” *QoG Working Paper Series* 29.
- Cheung, A. and R. Hernandez-Julian (2006), “Gender and corruption: A panel Data Analysis” available at SSRN: <http://ssrn.com/abstract=691468>
- Croix, D and C. Delavallade (2010) “Why Corrupt Governments May Receive More Foreign Aid” *Discussion Paper*, Universit e catholique de Louvain, Belgium.
- Djankov, S., J.S. Montalvo and M. Reynal-Querol (2009) “Aid with Multiple Personalities” *Journal of Comparative Economics* **37(2)**, 217-229.
- Dollar, D., R. Fisher and R. Gatti (2001) “Are Women Really the ‘fairer’ Sex? Corruption and Women in Government” *Journal of Economic Behavior and Organization* **46**, 423-429.
- Dunning, T. (2004) “Conditioning the Effects of Aid: Cold War Politics, Donor Credibility, and Democracy in Africa”. *International Organization* **58**, 409-423.
- Ear, S. (2007) “Does Aid Dependence Worsen Governance?” *International Public Management Journal* **10(3)**, 259-286.
- Easterly, W. (2009) “Can the West Save Africa?” *Journal of Economic Literature* **47(2)**, 373-447.
- Easterly, W. (2003) “Can Foreign Aid Buy Growth?” *Journal of Economic Perspective* **17(3)**, 23-48

Fan, C. S., C. Chen and D. Treisman (2009) "Political decentralization and Corruption: Evidence from around the World" *Journal of Public Economics* **93**, 14-34

Fréchette, G.R. (2006) "Panel Data Analysis of Time-Varying Determinants of Corruption" *Center interuniversitaire de recherche en analyse des organisations (CIRANO) Working Papers*

Knack, S. (2004) "Does Foreign Aid Promote Democracy?" *International Studies Quarterly* **48(1)**, 251-266.

Knack, S and P. Keefer (1995) "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures" *Economics and Politics* **7(3)**, 207-227

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (1999) "The quality of government" *Journal of Law, Economics & Organization*, **15(1)**, 222--279.

Michailova, J and I. Melnykovska (2009) "Gender, Corruption and Sustainable Growth in Transition Countries", *University Library of Munich, Germany*, MPRA Paper No. 20469

Okonjo-Iweala, N. (2007) "Corruption: Myths and Realities in a Developing Country Context" *Second Richard Sabot Memorial Lecture*, the Brookings Institution.

PRS Group (2010) "Selected Data Report" *PRS Group* available at [http://www.prsgroup.com/prsgroup\\_shoppingcart/viewvariables5.aspx](http://www.prsgroup.com/prsgroup_shoppingcart/viewvariables5.aspx)

Rajan, R. G. and A. Subramanian (2008) "Aid and Growth: What Does the Cross-Country Evidence Really Show?" *Review of Economics and Statistics*, **90(4)**, 643–65.

Rajan, RG and A. Subramanian (2007) "Does Aid Affect Governance?" *The American Economic Review* **97(2)**, 322-327.

Roodman, D. (2007) "The Anarchy of Numbers: Aid, Development, and Cross-Country Empirics" *The World Bank Economic Review* **21(2)**, 255–277.

Saxton, J. (1999) "Can IMF Lending Promote Corruption?" *Joint Economic Committee Study*, Vice Chairman, United States Congress.

Serra, D. (2008) "Empirical determinants of corruption: A sensitivity analysis" Department of Economics, University of Oxford.

Serra, D. (2006) "Empirical determinants of corruption: A sensitivity analysis" *Public Choice*, **126 (1-2)**, 225-256.

Shleifer, A. (2008) "Shleifer's Data Sets" available at <http://economics.harvard.edu/faculty/shleifer/dataset>

Shleifer, A. and R. W. Vishny (1993) “Corruption”, *Quarterly Journal of Economics* **108**, 599 – 617

Sung, H. (2003) “Fairer sex or fairer system? Gender and corruption revisited”, *Social Forces* **82(2)**, 703-723.

Svensson, J. (2005) “Eight Questions about Corruption” *Journal of Economic Perspectives* **19(3)**, 19–42.

Swamy, A., S. Knack, Y. Lee and O. Azfar (2001) “Gender and Corruption” *Journal of Development Economics* **64**, 25-55.

Tavares, J. (2003) “Does foreign aid corrupt?” *Economics Letters* **79**, 99-106.

Treisman, D.(2007) “What Have We Learned About the Causes of Corruption from Ten Years of Cross-National Empirical Research?” *Annual Review of Political Science* **10**, 211-44.

Treisman, D. (2000) “The causes of corruption: a cross-national study” *Journal of Public Economics* **76(3)**,399--458.

World Bank. (2010 and 2009) *World Development Indicators*. Washington, DC: World Bank.

You, J.S., and S. Khagram (2005) “A Comparative Study of Inequality and Corruption.” *American Sociological Review* **70 (1)**, 136-157.

## Appendix

Table A1: Description and Sources of Variables used in the analysis

Variable	Description and Source
Corrupt	2000 to 2009 average ICRG corruption score (scales reversed). <i>Source: International Country Risk Guide, Political Risk Services. <a href="http://www.prsgroup.com">www.prsgroup.com</a>.</i>
GDPpc	2000 to 2008 average Per capita GDP. Source: World Development Indicators
Prot	The percentage of protestant population in the country in 1980. Source: Andrei Shleifer available at <a href="http://economics.harvard.edu/faculty/shleifer/dataset">http://economics.harvard.edu/faculty/shleifer/dataset</a>
Legal	A dummy variable for the origin of the legal system: equals 1 if English – origin (common law); 0 otherwise. Source: Andrei Shleifer available at <a href="http://economics.harvard.edu/faculty/shleifer/dataset">http://economics.harvard.edu/faculty/shleifer/dataset</a>
Democracy	Average democracy score from Polity IV for the years between 1975 and 2006. The democracy indicator is an additive eleven-point scale ranging from 0 to 10, where higher values equal a higher degree of institutionalized democracy. Original source: Jagers and Marshall (2000) <i>and updates of the Polity IV Database</i> . Our source: Andrei Shleifer, available at <a href="http://economics.harvard.edu/faculty/shleifer/dataset">http://economics.harvard.edu/faculty/shleifer/dataset</a>
Stable	2000 to 2009 average level of government stability. Source: Political Risk Services (PRS) Group
Wparliament	2000 to 2009 average percentage of women elected into the lower or single parliamentary House  Source: Inter-Parliamentary Union database available at <a href="http://www.ipu.org/english/home.htm">http://www.ipu.org/english/home.htm</a>
Aid	2000 to 2007 average level of foreign aid received per capita .Source: World Development Indicators.
Aid *wparliament	Interaction of aid and women in parliament
Oil exporter	An oil exporter dummy that takes values 0 and 1.
Fractionalization	measures the probability that two randomly selected people from a given country will not belong to the same ethnolinguistic group. Source: Roodman (2004) and Andrei Shleifer (as above)
Location/SSA	A location dummy. 1 for Sub Saharan Africa, 0 otherwise.
Infant Mortality	2000 to 2008 average infant mortality per 1,000 live births Source: World development Indicators
Population	2000 to 2008 average population. Source: World development Indicators
Government	2000 to 2008 average government expenditure as a percentage of GDP. Source World development Indicators

Table A1: Description and Sources of Variables used in the analysis (Continued)

Variable	Description and Source
L. America	A location dummy for Central and South America
E. Europe	A location dummy for East Europe
MENA	A location dummy for Middle East and North Africa
Colony	A dummy variable for former British Colony. Source: Treisman (2007)
Education	Secondary school enrollment (% gross) : “Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development”, World Bank, World Development Indicators 2010.
FLabParticipate	Female Labor force participation (% of female population ages 15+): “Labor force participation rate is the proportion of the population ages 15 and older that is economically active”, World Bank, World Development Indicators (2010)

Table A2: Countries Included in the Analysis

Albania	Congo, DR	Indonesia	Morocco	Slovenia
Algeria	Cote d’ivoire	Jamaica	Namibia	South Africa
Argentina	Croatia	Jordan	Nicaragua	Sri Lanka
Armenia	Dominican Republic	Kazakhstan	Niger	Sudan
Azerbaijan	Ecuador	Kenya	Oman	Syria
Bahrain	Egypt	Latvia	Pakistan	Tanzania
Bangladesh	El Salvador	Lebanon	Papua New Guinea	Togo
Belarus	Estonia	Liberia	Paraguay	Tunisia
Bolivia	Ethiopia	Lithuania	Peru	Turkey
Botswana	Gabon	Madagascar	Philippines	Uganda
Bulgaria	Ghana	Malawi	Poland	Ukraine
Burkina Faso	Guatemala	Malaysia	Romania	Uruguay
Cameroon	Guinea	Mali	Russia	Venezuela
Chile	Honduras	Moldova	Senegal	Yemen
Colombia	Hungary	Mongolia	Sierra Leone	Zambia
				Zimbabwe