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Does foreign aid corrupt?

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Abstract

We estimate the impact of foreign aid on corruption using geographical and cultural distance to the donor countries as instrumental variables to assess causality. Aid decreases corruption. Our results are statistically and economically significant and robust to different controls.

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1. Introduction

A persistent feature of the world economy is the large difference in income per capita between countries. It remains controversial whether there has been convergence or divergence of relative incomes¹ but the absolute difference in income per capita between rich and poor countries remains staggering. The annual income of a citizen of Luxembourg is 61 times that of a citizen of Ethiopia.² This difference in absolute income will likely continue to motivate citizens in rich countries to offer aid to poorer countries. However, many observers criticize the perverse effects of international aid: it may foster poor governance and slow down growth. A large number of the criticisms associate foreign aid with corruption.

In recent years foreign aid has increased in volume, growing from 3.89 to 9.52 of recipient countries' GDP between the 1960s and the 1990s, according to Easterly and Sewadeh (2001). If foreign aid corrupts, the case for international aid is substantially weakened since, as shown in Mauro

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¹See Barro (1991) and Pritchett (1997) for different views on income convergence.

²Data in constant US dollars, as in Easterly and Sewadeh (2001).

(1995), higher levels of corruption are associated with low economic growth. Alesina and Weder (2002) examine whether less corrupt governments are rewarded with increases in bilateral aid. They find that, if anything, it is more corrupt countries that receive more aid. These authors also take a first look at the reverse direction of causality and find weak evidence that aid causes corruption to increase. Knack (2001) finds that some forms of aid, namely technical assistance, erode bureaucratic quality and the rule of law but aid levels are not significantly related to corruption. On the broader issue of aid and the political system, Knack (2000) uses several indices of political rights and finds no evidence that aid promotes democracy.³

In this paper we attempt to answer one question: does foreign aid corrupt? We add to the current literature by examining the impact of total aid inflows on the recipient country's corruption level and addressing the issue of causality. Our instrument for the GDP share of foreign aid inflows are indicators of the recipient country's geographical and cultural proximity to OECD donor countries interacted with the latter's aid outflows. We use several determinants of corruption suggested in the literature as controls, correct for heteroskedasticity and exclude outliers. Our results are robust to these factors.

2. Aid and corruption

Influential studies of corruption as an economic phenomenon, such as those of Rose-Ackerman (1975) and Klitgaard (1988), advanced definitions of corruption based on the presence of discretionary decision making. Bliss and Di Tella (1997) propose a taxonomy that divides corruption into the cost reducing and the surplus-division types. The latter cannot be welfare-enhancing as it arises in a non-productive context, as a given cake is divided among alternative ends. These studies bring into evidence that corruption is likely to arise in situations where resources are transferred with substantial discretion without accountability to the decision maker, in other words, when there are rents to be appropriated.⁴ Foreign aid is, by definition, such an instance: it provides goods or finance at below market prices to governments or population groups. Aid disbursements are typically handed free to local authorities that then distribute them, with considerable discretion, among their fellow citizens.⁵ Aid is thus ripe territory for corruption.

Recent research has established conclusively that aid flows follow cultural and historic ties rather than need or merit. Alesina and Dollar (2002) used bilateral trade data to show that the amount of aid is weakly related to the recipient country's economic performance and strongly related to indicators of cultural and historic proximity between the countries. Burnside and Dollar (1998, 2000) and Collier and Dollar (1998) report that aid is uncorrelated with the recipient country's economic growth or poverty incidence.⁶ If aid is not channeled to productive uses or to poverty reduction, it may be going somewhere else. One possibility is that aid is channeled to uses that promote corruption.⁷

³In our sample political rights and corruption are negatively related, with a simple correlation coefficient of -0.51 .

⁴See Ales and DiTella (1999) for the relationship between rents and corruption, with incidence on the issue of international trade.

⁵Moreover, the distribution of international aid typically involves public-sector employees who earn low wages, which can foster low-level corruption, according to a standard efficiency-wage rationale. See Tanzi (1998) and Treisman (2000).

⁶For the sample of 'good policy', where good policy refers to countries open to international trade and pursuing responsible fiscal and monetary policies, higher amounts of aid foster growth and reduce poverty.

⁷Alesina and Dollar (2002) document that two-thirds of all aid flows goes for government consumption.

Several empirical studies have provided evidence that the costs of corruption are considerable. Mauro (1995) estimates that an increase in corruption of one sample standard deviation decreases investment and growth by 5 and 0.5% of GDP, respectively. Keefer and Knack (1995) confirm the existence of a direct negative effect of corruption on growth, in addition to the effect of corruption on investment. In addition, corruption makes it difficult for governments to raise revenue to finance public services since corrupt environments drive businesses underground to avoid formal taxation (Loayza, 1996). More, since bribes are harder to collect on certain transactions, corruption biases the provision of public goods away from education.⁸ On the monetary front, Al-Marhubi (2000) shows that corruption and inflation are positively associated, even after controlling for other determinants of inflation such as political instability and central-bank independence.

For any of the four reasons above—slowing growth and investment, diverting tax receipts, biasing the provision of public goods or fostering inflation—corrupt countries may become poor performers and find themselves relying increasingly on international aid. In the ensuing vicious circle, a possible link between foreign aid and corruption may be not only harmful but also self-reinforcing.

3. Specification, causality and results

We present empirical results for the effect of foreign aid on corruption using the International Country Risk Guide indicator of corruption (ICRG, 2001). This is a survey-based indicator, which has been widely used in the economics literature.⁹ We have computed the data as 5-year averages, with the exception of initial GDP per capita, which is measured at the beginning of each 5-year period. Our country sample includes only non-OECD countries as aid recipients, but OECD aid outflows are used to construct the instrumental variables, as explained below.¹⁰

Our basic specification includes initial GDP per capita as a control: if efficient and transparent institutions are a normal good with positive elasticity of demand then corruption should decrease with income per capita. The other controls used are: political rights (variable taking the value 1 if the country is a full democracy and 0 at the other extreme); ethno-linguistic fractionalization (the likelihood that two citizens belong to a different ethnic or linguistic group);¹¹ oil exporter (a dummy indicating whether the country is a major oil exporter);¹² total population;¹³ government expenditures, that is, the share of public expenditures on GDP;¹⁴ and whether the country was ever a colony as

⁸Mauro (1998) documents a decrease in the share of education expenditures in GDP as a result of corruption. This author interprets it as stemming from the fact that it is harder to “collect bribes on textbooks and on teacher salaries than on large infrastructure projects”.

⁹The ICRG indicator covers the widest sample of countries and the most recent time period.

¹⁰See Appendix A for data sources and definitions.

¹¹Ethno-linguistic diversity was used in Mauro (1995) as the instrumental variable to analyze corruption’s impact on economic growth.

¹²Sachs and Warner (2001) show that natural resource economies grow more slowly, suggesting this is in part due to lower government corruption. Leite and Weidmann (1999) model and document this relationship.

¹³Knack and Azfar (2000) report that, given the interests of foreign investors, large countries (in population or area) are over-sampled in corruption indices, creating sample selection bias.

¹⁴As suggested in Tanzi (1998), governments that are more involved in the economy are more prone to private pressures including corruption.

former colonies may inherit inadequate judicial and governance systems. Finally, we add dummies for the time period, region of the world and origin of the legal system, as well as the percentage of individuals in each country affiliated with the major religions.¹⁵

Since our aim is to address the issue of causality, we create variables that should affect the level of foreign aid received by a country while being exogenous to that country's institutions, namely corruption. Our procedure is as follows:¹⁶

1. Select the 11 largest OECD economies according to 1990 GDP. These are: Australia, Canada, France, Germany, Italy, Japan, Korea, Netherlands, Spain, United Kingdom and the United States.

2. Compute, for each pair developing country/OECD economy four variables that capture geographic and cultural proximity, namely the inverse of the bilateral distance and three dummy variables, for common land border, same majority religion and same official language.

3. Take the constant US dollar value of aid outflows of the OECD economy for each 5-year period and multiply it by the dummy variables in 2. For bilateral distance, multiply aid outflows by the inverse of the distance. For each developing country, the summation of OECD aid outflows times each of the proximity variables constitutes the instrument for the receiving country's level of aid.

The reasoning is that, when a OECD country increases its total aid outflows (irrespective of where they are directed), developing countries that are culturally and geographically closer to that donor country experience an exogenous increase in aid inflows as a share of their GDP. In the first stage we regress aid inflows for each developing country on the four exogenous instruments above. The predicted value of the dependent variable in that regression is then used in the second stage regression to explain corruption. We infer the causal effect of foreign aid on developing country's corruption from the coefficient of aid in the second stage regression.

In Table 1 we estimate the impact of aid on corruption, using both actual aid data (inflows of foreign aid as a share of GDP) and instrumented aid.¹⁷ We use the logarithm of GDP as a control and successively add time, region, legal origin and religion controls. As can be verified, both aid and

Table 1

Foreign aid and corruption (ICRG): ordinary least squares versus instrumental variables excluding outliers, with controls

	OLS	IV	Time period		Region		Legal origin		Religion	
			OLS	IV	OLS	IV	OLS	IV	OLS	IV
Foreign aid	-0.06** (2.24)	-0.16** (2.22)	-0.04 (1.63)	-0.10 (1.47)	-0.04* (1.65)	-0.15** (1.97)	-0.07** (3.02)	-0.25** (3.62)	-0.07** (2.99)	-0.19** (2.74)
GDP per capita	-0.99** (4.77)	-1.51** (3.86)	-0.91** (4.72)	-1.24** (3.25)	-1.20** (4.72)	-1.62** (4.23)	-1.00** (5.15)	-1.89** (5.17)	-1.16** (6.17)	-1.75** (4.91)
Nr. of Observations	200	200	200	200	200	200	200	200	200	200
R ²	0.12	0.05	0.18	0.16	0.14	0.08	0.19	0.11	0.19	0.11

Note: Below the coefficient value, in parentheses, we report the *t*-statistic, computed using heteroskedastic-consistent standard deviations. ** Denotes significance at the 5 percent level whereas * denotes significant at the 10 percent level. Time period includes dummies for each five-year period; regional, legal origin and religious dummies are described in the data appendix. We do not report the coefficients on period, legal, religious and regional controls for reasons of parsimony.

¹⁵The latter have been found to influence the quality of institutions in LaPorta et al. (1999).

¹⁶See also Larraín and Tavares (2001) and Wei (2000).

¹⁷We have excluded any outlier in aid flows through the method presented in Hadi and Simonoff (1993).

instrumented aid are negatively related to the level of corruption, significantly so except in the case where only time dummies are used.¹⁸ The main difference is that the coefficient on instrumented aid is, without exception, higher in absolute value than the coefficient on actual aid. An increase in aid inflows of 1% of GDP leads to a decrease in corruption of ~ 0.2 points out of a possible range of 10. Alesina and Weder (2002) suggest that more corrupt countries may actually receive larger aid inflows. If they are right, our results are exactly the pattern one would expect: the coefficient on actual aid flows is biased down by reverse causation. In other words, even if aid leads to less corruption, the fact that less corrupt countries tend to receive less aid biases the size of the coefficient. Instrumenting for aid inflows uncovers the real relationship: aid decreases corruption.¹⁹

In Table 2 we present results for the ICRG corruption index, after excluding the outliers in aid flows. We present the specification with seven different controls and then add legal, religious and regional dummies. As can be verified, successive inclusion of additional controls and the exclusion of the outliers do not change the results in any substantial way. The coefficients on other variables tend

Table 2

Foreign aid and corruption (ICRG): instrumental variables – excluding outliers – with period dummies and all controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7) Region	(8) Legal Origin	(9) Religion
Foreign aid	-0.27** (-3.22)	-0.24** (-2.85)	-0.24** (-2.80)	-0.25** (-2.59)	-0.26** (-2.25)	-0.25** (-2.22)	-0.21** (-1.84)	-0.24** (-2.29)	-0.21** (-2.02)
GDPpc	-2.12** (-3.80)	-2.07** (-3.76)	-2.03** (-3.66)	-2.00** (-3.72)	-2.05** (-3.26)	-1.94** (-3.08)	-2.07** (-3.34)	-1.89** (-3.15)	-1.71** (-2.89)
Fractionalization	-0.24 (-0.36)	-0.32 (-0.48)	-0.23 (-0.35)	-0.21 (-0.31)	0.05 (0.07)	1.27 (0.02)	0.01* (1.93)	-0.11 (-0.16)	0.33 (0.49)
Oil exporter		0.50 (1.20)	0.66 (1.52)	0.60 (1.30)	0.63 (1.36)	0.58 (1.27)	0.78* (1.68)	0.62 (1.40)	0.38 (0.85)
Ever a colony			0.93* (1.82)	1.05* (1.93)	1.08* (1.96)	1.10** (2.05)	1.25** (2.09)	1.13** (2.15)	0.88 (1.55)
Public expenditure				2.10 (0.69)	1.86 (0.58)	1.43 (0.44)	1.90 (0.64)	0.88 (0.29)	0.48 (0.16)
Population					-0.0040** (-2.22)	-0.0037** (-2.00)	-0.0047** (-2.37)	-0.0035** (-2.02)	-0.0026 (-1.35)
Political rights						-0.32 (-0.56)	-0.59 (-0.99)	-0.41 (-0.71)	-0.19 (-0.30)
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nr. of observations	182	182	182	182	181	181	182	183	184

Note: All specifications include a different constant term for each time period. Below the coefficient value, in parentheses, we report the t -statistic, computed using heteroskedastic-consistent standard deviations. ** Denotes significance at the 5 percent level whereas * denotes significant at the 10 percent level. Regional, legal origin and religious dummies are described in the data appendix. We do not report the coefficients on period, legal, religious and regional controls for reasons of parsimony.

¹⁸Actual and instrumented aid are positively correlated at 0.27. Actual aid displays a negative correlation with income of -0.58 , while that of instrumented aid is -0.23 .

¹⁹Our results are compatible with those in Alesina and Weder (2002) for three reasons: first, our use of instrumental variables; second, the use of total rather than bilateral aid flows; third, our larger sample size.

to appear with the expected sign, with income per capita decreasing corruption and being an oil exporter increasing corruption.

4. Conclusion

In this paper we ask whether foreign aid corrupts by using data on a cross-section of developing countries and instrumenting for total aid inflows. We find that foreign aid decreases corruption. Our results are statistically and economically significant and robust to the use of different controls.

Why might aid decrease corruption? One can advance several possibilities. First, foreign aid may be associated with rules and conditions that limit the discretion of the recipient country's officials, thus decreasing corruption—a conditionality effect. Second, if foreign aid alleviates public revenue shortages and facilitates increased salaries for public employees it may diminish the supply of corruption by public officials—a liquidity effect.²⁰ One important caveat is in order. Since most actual aid flows are driven by motives other than the economic and political performance of recipient countries, as pointed out in Alesina and Dollar (2002), one cannot infer from our results that when more aid is observed lower corruption will follow. Instead we should interpret our results as pointing to the potentially beneficial impact of aid inflows on corruption once current biases in aid allocation are weeded out.

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Appendix A

Foreign aid—Source: World Bank (1998). Definition: International aid as a share of economy's GDP. Unit: Percent.

Corruption—Source: International Country Risk Guide (ICRG, 2001). Definition: Indicator of corruption as reported by international consultants. Unit: Transformed into a 0–10 scale where higher values denote more corruption.

GDPpc—Source: World Bank (1998). Definition: Logarithm of real Gross Domestic Product per capita at the beginning of the 5-year period. Unit: US Dollars Purchasing Power Parity.

Fractionalization—Source: LaPorta et al. (1999). Definition: Ethnic and linguistic fractionalization. The probability that two random selected individuals within the country belong to the same religious and ethnic group. Continuous variable between 0 and 1. Unit: Percent.

²⁰Knack (2001) provides a survey of the reasons why aid may be beneficial or harmful to country governance, including what we term here the conditionality and liquidity effects. The author mentions that, by increasing the resource base of reform-minded governments, aid may further better governance.

Ever a colony—Source: Barro and Lee (1994). Definition: Indicates whether country was a colony after 1825. Unit: Dummy taking value 1 if colony.

Oil—Source: Barro and Lee (1994). Definition: Dummy for oil exporting-countries. Unit: Dummy taking the value 1 for oil exporting countries.

Population—Source: Barro and Lee (1994). Definition: Country population. Unit: Thousands.

Public expenditures—Source: Barro and Lee (1994). Definition: Share of government expenditures in GDP. Unit: Continuous variable.

Political rights—Source: LaPorta et al. (1999). Definition: Indicator of the level of political rights, where higher value denotes in more political rights. Unit: Continuous variable between 0 and 10.

Region—Source: Barro and Lee (1994). Definition: Indicates whether the country is part of the OECD, Sub-Saharan Africa, East Asia or Latin America. Unit: Dummy.

Religion—Source: LaPorta et al. (1999). Definition: Share of each country's population affiliated with Catholicism, Other Christian, Muslim, Hindu, Confucian or Other religions. Unit: Percentage.

Legal origin—Source: LaPorta et al. (1999). Definition: Origin of country legal system. Unit: Dummy variables taking the value 1 for each British, French, German, Scandinavian and Socialist legal system and 0 otherwise.

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