Discussion Paper Series

Fiscal Transparency and Corruption

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Abstract

This paper tests the proposition that fiscal transparency, measured by a newly constructed data on budget openness, can be a powerful control on corruption. This result is robust to the choice of index of corruption, conditioning variables, country sample, exclusion of outliers, and the use of different instrumentation and estimation techniques.

Keywords: Fiscal transparency; Corruption

JEL classification: C21; H61

1. Introduction

The past two decades have seen growing interest in fiscal transparency that promotes public access to information on budgets and financial activities of the governments in order to make them accountable to their citizens. This interest reflects the understanding that greater fiscal transparency reduces corruption and thereby improves governance by enhancing governmental accountability and providing vital information to the public.

Fiscal transparency has now become such an integral part of public sector design that both the IMF and the OECD have recently developed Codes of Best Practice to guide countries towards a more open fiscal policy decision process.[1] According to the IMF, "transparency in government operations is widely regarded as an important precondition for macroeconomic fiscal sustainability, good governance, and overall fiscal rectitude" (Kopits and Craig, 1998). However, while such effects are asserted by many, this issue has not surfaced in the growing literature that examines the determinants of corruption (e.g., Treisman, 2000, 2007; Freille et al, 2007). To this extent, this paper tests the proposition that more fiscal transparency of the government may be a powerful control on corruption.

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[1] The IMF, the World Bank and the OECD have developed comprehensive questionnaires and diagnostic tools to examine fiscal transparency and budget practices and procedures (World Bank, 2003 and IMF, 2007).

2. Data

For a measure of fiscal transparency[2] we use the Open Budget Index (OBI) – a newly constructed data published by The International Budget Partnership (IBP). The IBP has worked with civil society and academic partners in 59 countries to collect a comparative data set on public access to budget information at the central government level for 2006. According to IBP, this is the first index to rate countries on how open their budget books are to their citizens. [3]

For a measure of corruption, we use the corruption perception index (CPI) of Transparency International (TI) that has been most commonly used in the empirical work on corruption. The CPI ranks countries according to the extent corruption in public (and political) office is perceived to exist. We rescale the CPI to range between 0 (highly clean) and 10 (highly corrupt) so that higher budgetary transparency is associated with a negative effect on corruption.

Figure 1: OBI and Corruption
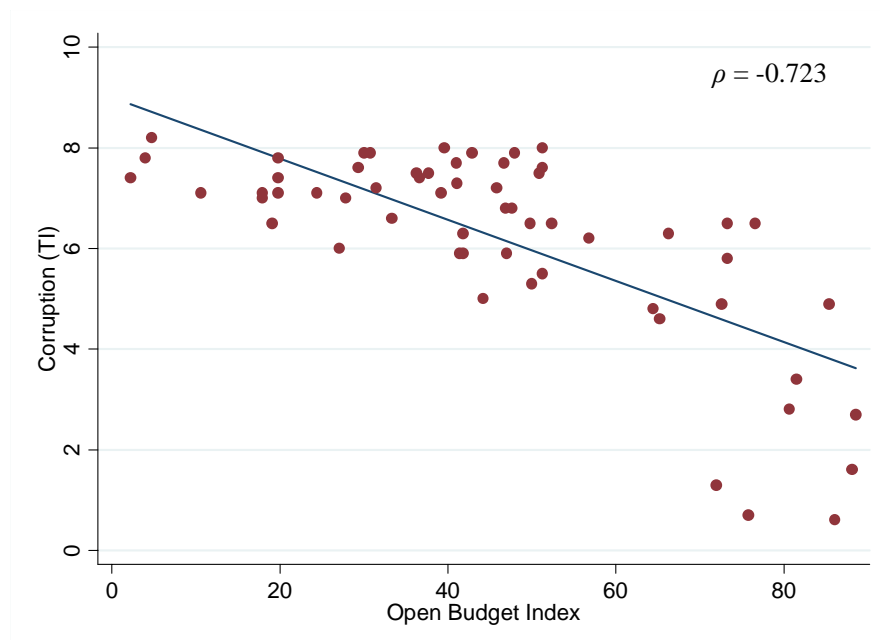
Before undertaking formal analysis, we show in Figure 1 a scatterplot of fiscal transparency against corruption which provides preliminary evidence that a government

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[2] For definitions, see Alt and Lassen (2006).
[3] There are two other sources of data for fiscal transparency, (Hameed, 2005; Alt and Lassen, 2006), which have an even smaller number of countries. For a common set of 29 countries, the OBI is highly correlated ($\rho = 0.64$) with the IMF produced index.

budget more open to the general public is strongly negatively correlated (with ρ = -0.723) with corruption.

3. Empirical evidence

We begin our investigation by carrying out a cross-section analysis with OLS that gradually introduces conditioning variables found to be prominent determinants of corruption in the literature. To limit potential endogeneity bias, corruption refers to 2007 while all right-hand-side variables correspond to 2006. Additional regressions control for regional dummies and consider alternative instrumentation of endogenous variables. Regressions are limited to cross-section analysis as the OBI is only available for 2006. A panel analysis is left for the future when more time-series data would become available.

We start our estimation with a parsimonious model where corruption depends primarily on the OBI. Column 1 in Table 1 reports the OLS regression of CPI on OBI. It suggests that OBI has a significant negative impact on corruption indicating that an increase in fiscal transparency can significantly reduce corruption, the estimated partial effect being 6.1 percent.

Table 1: Benchmark findings

	(1)	(2)	(3)	(4)	(5)	(6)
OBI	-0.061***	-0.026***	-0.020***	-0.021***	-0.014**	-0.011***
	(0.009)	(0.008)	(0.006)	(0.007)	(0.006)	(0.002)
Per capita income		-1.868***	-1.367***	-0.808***	-0.807***	-0.884***
		(0.349)	(0.272)	(0.243)	(0.272)	(0.064)
Democracy for 50 years			-1.226***	-0.920***	-0.413	-0.448***
			(0.445)	(0.315)	(0.275)	(0.115)
Protestant Dummy			-1.981***	-1.842***	-0.763*	-0.746**
			(0.535)	(0.548)	(0.456)	(0.379)
Political Rights				-0.228**	0.004	0.037*
				(0.096)	(0.099)	(0.021)
Trade				-0.007***	-0.008***	-0.007***
				(0.003)	(0.003)	(0.001)
Restrictions on Press Freedom				0.043***	0.027***	0.025***
				(0.009)	(0.009)	(0.002)
Observations	59	59	59	55	55	55
R^2	0.524	0.709	0.804	0.878	0.929	
Regional dummies	No	No	No	No	Yes	Yes

Notes: Robust standard errors are in parentheses. *, **, and *** indicate the level of significance at 10%, 5% and 1%, respectively. Constant term and regional dummies controlling for East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, Sub-Saharan Africa, and South Asia not reported.

3.1. Robustness analysis: conditioning variables

To address the issue of omitted variable bias, we gradually control for variables consistently found to be robustly related to corruption by empirical studies (Treisman, 2000, 2007; Freille et al, 2007). These are a measure for economic development, a dummy for the persistence of democracy, a dummy for Protestantism[4], an index of political rights, trade share in GDP, and restrictions on press freedom.

We add income per capita in column 2 despite potential identification problems (see Chowdhury, 2004), mainly because this has been found to explain the largest cross-country variation in corruption (Treisman, 2000, 2007). Doing so does not alter the significance of fiscal transparency, though the magnitude is now reduced. We then introduce democracy and Protestantism in column 3, while column 4 adds three more important variables: political rights, trade openness, and press freedom. As seen from the table, addition of these variables further reduces the effect of fiscal transparency on corruption without limiting its significance.

Following Gokcekus and Knörich (2006) and Chowdhury (2004), we also control for regional dummies in Columns 5 and 6. Note that column 6 uses a FGLS estimator that adjusts standard errors for cross-sectional heteroskedasticity. In both columns, regional dummies (not shown) exhibit a significant positive effect highlighting the difference in corruption between the included regions and the comparison group (Western Europe). As before, the OBI remains highly significant, implying that the results are not driven by any particular region.

3.2. Robustness analysis: IV estimation

To address endogeneity issues, we use 2SLS regressions and start by instrumenting for the OBI. Our findings are presented in Table 2. Following Alt and Lassen (2006), we instrument OBI in column 1 with (i) the fraction of seats held by the government in parliament – as a proxy for political competition; it considers that if the incumbent government has a small majority of seats it could be in its interests to implement transparent budget institutions to decrease opportunistic behavior, (ii) the budget surplus – as governments with good fiscal performance are the governments most likely to establish more transparent fiscal reporting, (iii) a tradition of British legal system – as found to place a greater emphasis on individual property rights and restrain the power of the state, and (iv) a presidential executive system – as a proxy of divided governments where the demand for

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[4] We have also used the percentage of population of Protestants with qualitatively similar results.

transparency by the legislature and the executive may differ.[5] In column 2, following Alt et al (2005) we extend the instrument set to include an index of political polarization, while column 3 also considers enrolment rates in tertiary education. In column 4 we replace education with a measure of government effectiveness (World Bank). The intuitions for including these variables in columns 2 to 4 are simple. If the country is politically polarized, the government may have an incentive not to disclose information on its activities, while more educated citizens can better articulate their demand for a more open budget. Finally, a more effective government would not fear to disclose information to the public.

Table 2: Controlling for endogeneity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
OBI	-0.049***	-0.050**	-0.041***	-0.058***	-0.045***	-0.048***	-0.049***
	(0.015)	(0.015)	(0.014)	(0.015)	(0.016)	(0.015)	(0.015)
Per capita income	-0.328	-0.314	-0.455*	-0.162	-0.799***	-0.996***	0.984***
	(0.288)	(0.294)	(0.270)	(0.302)	(0.303)	(0.379)	(0.361)
Democracy for 50 years	-0.706***	-0.700***	-0.823***	-0.636**	-0.769***	-0.688**	-0.478*
	(0.256)	(0.253)	(0.296)	(0.280)	(0.275)	(0.305)	(0.261)
Protestant Dummy	-2.055***	-2.062***	-1.931***	-2.148***	-2.213***	-1.973***	-2.497***
	(0.403)	(0.399)	(0.402)	(0.405)	(0.705)	(0.573)	(0.468)
Political Rights	-0.360**	-0.363**	-0.321**	-0.399**	-0.359	-0.447**	-0.282*
	(0.144)	(0.148)	(0.130)	(0.163)	(0.220)	(0.183)	(0.161)
Trade	-0.012***	-0.012***	-0.011***	-0.013***	-0.013***	-0.014***	-0.014***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.005)	(0.005)
Restrictions on Press Freedom	0.044***	0.044***	0.044***	0.045***	0.027	0.031	0.012
	(0.011)	(0.011)	(0.011)	(0.013)	(0.037)	(0.030)	(0.024)
Observations	51	51	49	51	41	41	41
Centered R^2	0.878	0.821	0.851	0.786	0.836	0.824	0.798
F-statistic first stage (*p*-value)	0.000	0.000	0.002	0.000	0.001	0.009	0.010
Hansen's *J*-statistic (*p*-value)	0.280	0.426	0.453	0.365	0.124	0.270	0.270

Notes: Robust, small sample corrected, standard errors are in parentheses. *, **, and *** indicate the level of significance at 10%, 5% and 1%, respectively. Instruments: as mentioned in text.

Table 2 provides strong support for our conjecture. The effect of fiscal transparency has clearly improved from the OLS estimates. The table also reports *p*-values for the first-stage regression *F*-test for the excluded instruments suggesting that instruments do well in explaining variation in corruption. Hansen's *J*-statistic also supports the validity of the instruments.[6]

In addition to OBI, we also instrument for press freedom, trade, and per capita income. As in Gokcekus and Knörich (2006), Column 5 uses ethno-linguistic fractionalization and common (British) law system as instruments for press freedom and proxies for trade

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[5] All instruments refer to year 2006 to further account for possible endogeneity.
[6] Reducing the set of instruments does not invalidate the results regarding transparency.

openness with the 'expected' level of openness calculated by subtracting its fitted values (obtained by regressing trade openness on income and distance from equator) from its actual levels. Column 6 also controls for the endogeneity of per capita income with latitude and colonial past. Finally, column 7 uses the same instruments to column 6 but uses a GMM estimator that generates efficient coefficient estimates.

It is clear from Table 2 that our main finding survives the different instrumentation and estimation techniques. It also shows that the impact of income per capita regains significance and magnitude, while press freedom seems to lose significance, once properly instrumented.

3.3. Further robustness analysis

We subject our findings to further checks by using instead of CPI the Kaufmann et al (2007) index of corruption, by excluding a country at a time from the sample, and by excluding outliers with the Hadi procedure. Although we do not report results to save space, the significance of fiscal transparency remains unchallenged.[7]

4. Conclusion

Our findings suggest that fiscal transparency, as measured by the open budget index, has a significant negative impact on corruption. These findings are insensitive to a wide range of sensitivity tests. In sum, the results echo recent voices as to the influence of fiscal transparency in limiting corruption.

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[7] Available from the authors upon request.

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