

# What does influence the choice of the implementation level? Evidence from the World Bank

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Abstract: In this paper we explore the determinants of the implementation level, between national and local, in World Bank projects. In particular we empirically assess whether this choice is influenced by the relative importance of the local information at the recipient country level. Using data on 6410 World Bank projects, for the period 1995-2014, we find that, controlling for characteristics at both country and project level, transparency does influence the probability of a project being implemented locally rather than nationally. More specifically, as transparency decreases, the odds of a locally implemented projects significantly increase up to five percentage points. Moreover, our results suggest that the relative importance of transparency in the choice of the implementation level varies across regions and sectors, being more important for East Asian recipient countries and for social, rural, and urban services.

*Keywords:* foreign aid, World Bank projects, delegation, transparency

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# 1 Introduction

In the last few decades, many developing countries have undergone some steps towards decentralization, in particular in the form of delegation of service delivery systems to local governments. The rationale behind such reforms lies in the efficiency argument, according to which local officials are better informed on local needs and are more capable to provide goods and services, promoting, thereby, efficiency and economic development (among other see Oates, 1993; Bardhan 2002, 2016).<sup>1</sup> Following this reasoning, the World Bank have been actively involved with decentralization policies in many developing countries, both funding projects aimed at build decentralized structures, and allocating loans to subnational governments.<sup>2</sup>

Although it is likely that aid effectiveness could be improved by basing reform and project designs on context-specific knowledge (e.g., Besley and Persson 2011, Easterly 2008, Dixit 2009 and Dreher *et al.* 2017), the extent to which such information is actually used in aid allocation and implementation has been rarely investigated. An exception is provided by Dreher *et al.* (2017), who have shown that bilateral donors may choose to delegate some control rights over policies to recipients in order to exploit their local information.

Relying on this framework, we examine the choice of the aid implementing agency in World Bank projects. In particular, we are interested in exploring the factors that might influence the choice of a central versus a local allocation of power. Indeed it seems that the choice of an implementing partnership is going to be one of the factors determining a project' success. Very recently, Shin *et al.* (2017), focusing on World Bank projects, find that the choice of an implementing partnership is a significant indicator for if a World Bank development project will be successful or not.<sup>3</sup> Nevertheless, despite the importance of the implementing phase for a successful project, little is known about the choice of the implementation level.

Our specific contribution is then to analyze which factors influence this choice in the case of World Bank projects, focusing particularly on the role of information. Our hypothesis is that, when a recipient country is less prone to release policy-relevant information (it is less transparent), the

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<sup>1</sup>Another argument in favor of decentralization is that it improves accountability since citizens are able to monitor local governments better than central authorities. Bardhan and Mookherjee (2005, 2006), however, demonstrate that accountability, efficiency and equity in service delivery may worsen under decentralization due to the proneness of local governments to pressure from local elites.

<sup>2</sup>During the period 1990-2006, 47% of the World Bank commitments contained decentralization components (Gopal 2008).

<sup>3</sup>Specifically, one of the factors that may explain the failure of a governmental agency lies in the deficiency of expertise, which determines how resources and technologies are utilized. In contrast, a local implementing agency would be closer to the recipient and hence better able to target aid to its specific needs.

importance of the local knowledge increases relative to that of the donor (in our case the World Bank), and the need to delegate to a local implementing agency increases. Therefore, we want to test whether an informational advantage at the local level can influence the donor’s choice in favor of a local implementing agency.

Analyzing 6410 World Bank projects, for the period 1995-2014, we find that, controlling for characteristics both at the country and project level, less country’s transparency does influence the probability of a project being implemented locally rather than nationally. More specifically, as transparency increases, the odds of a locally implemented projects significantly decreases up to five percentage points. Moreover, our results suggest that the relative importance of transparency in the choice of the implementation level varies across regions and sectors, being more important for East Asian recipient countries and for social, rural, and urban services.

The rest of this paper is organized as follows. Section 2 briefly summarizes the related literature. Section 3 describes the data. Section 4 presents the empirical method and the results. Section 5 summarizes and concludes.

## 2 Related literature

This paper relates several strands of literature. The first is the (vast) literature on decentralization and development topical both in economics and in political science (Bardhan and Mookherjee 2006, Bardhan 2002, 2016; Gadenne and Singhal 2014; Kholi 1986; Lessmann and Markwardt 2010a, 2012; Oates 1993).<sup>4</sup> More specifically, as foreign aid is concerned, despite the increasing number of aid projects allocated locally, the role of the federal structure of aid-receiving countries in affecting both aid allocation and efficiency has generally been neglected by the literature. An exception is provided by Lessmann and Markwardt (2012), who examine whether the degree of fiscal decentralization matters in explaining the effect of aid on growth. Using panel data for 60 developing countries during the period 1966-2001, the authors find that foreign aid increases economic growth in highly centralized economies, while it may be even harmful in decentralized countries. Case study analysis leads them to conclude that increased corruption and coordination problems are the most likely transmission channel through which decentralization affects aid effectiveness.

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<sup>4</sup>Gadenne and Singhal (2014) consider how the tradeoffs associated with fiscal federalism apply in developing countries and discuss reasons for their relatively low levels of decentralization. Bardhan and Mookherjee (2005, 2006) demonstrate that accountability, efficiency and equity in service delivery may worsen under decentralization due to the proneness of local governments to pressure from local elites. Lessmann and Markwardt (2010a) find evidence that decentralization increases corruption in countries lacking bodies which can effectively monitor bureaucrats (such as a free press).

The second strand of literature to which this paper relates is primarily concerned with the role of information in designing development reforms. Quite a few papers have argued that institutions, organizations, and policies are context-specific and that, for their successful implementation, conditional programs should suit better recipient countries' specific needs (Asmus *et al.* 2017; Basurto *et al.* 2017; Besley and Persson 2011; Dreher *et al.* 2017; Easterly 2008; Dixit 2009 and Marchesi *et al.* 2011). Although it is likely that aid "effectiveness" could be improved by basing reform and project designs on context-specific knowledge, the extent to which such information is actually used in aid allocation and implementation has been rarely investigated.<sup>5</sup> An exception is provided by Dreher *et al.* (2017), who have shown that bilateral donors may choose to delegate some control rights over policies to recipients in order to exploit their local information.<sup>6</sup>

More specifically, Dreher *et al.* (2017) examine the role of information transmission in the context of aid programs. They investigate the degree of leeway donors of foreign aid should grant to recipient governments when their preferences over how to implement the aid are different, and both the donor and recipient possess some private information about the most effective policies. Their theoretical results show that donors should stay in control (centralized aid) of how their aid is spent when their own private information is more important than the private information of the recipient. When local knowledge is instead crucial, an increase in the difference of preferences between donors and recipients can increase the leeway that donors should grant the recipients (decentralized aid), as they become less likely to communicate truthfully. Testing the model using dyadic data for 28 bilateral aid donors and 112 recipients, over the years 1995-2010, they find that misaligned interests and informational asymmetries indeed influence the shares of aid given as budget and project aid, which represent decentralized and centralized aid respectively.

Finally, the contribution of this paper is to some degree also empirical. This paper is related to a growing body of literature which focuses on project-level aid (rather than country-level), especially in the case of World Bank projects. See, for example, Denizer *et al.* (2013), Dreher *et al.* (2013, 2015), Feeny and Vuong (2017), Kilby (2013, 2015), Öhler and Nunnenkamp (2014), Shin *et al.* (2017). More specifically, Shin *et al.* (2017), focusing on World Bank projects, find that the choice of an implementing partnership seems indeed to be a significant indicator for if a World Bank development project will be successful or not. One of the important factors for

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<sup>5</sup>In different contexts, Marchesi *et al.* (2011), who—building on the cheap talk literature (Crawford and Sobel 1982, Dessein 2002, Harris and Raviv 2005, 2008)—have identified and tested the conditions under which it is optimal for the IMF to delegate control to a recipient country in order to maximize the quality of a reform program. More recently, Dreher *et al.* (2018) explore the role of information transmission in explaining the optimal degree of decentralization across countries.

<sup>6</sup>Basurto *et al.* (2015) have shown that a decentralized allocation of subsidies in rural Malawi may offer informational advantages, despite of being prone to elite capture.

a successful allocation would be the expertise of the related implementing partner, such as skills (knowledge and experience) and governance (organizational and institutional aspects).

Most of these paper actually focus on projects performance rather than project allocation. An exception is the paper by Kilby (2015) who finds substantially shorter project preparation periods for World Bank loans to countries that are geopolitically important (especially to the U.S.). This channel of donor influence provides a new angle to examine the cost of favoritism and the impact of project preparation.<sup>7</sup>

We contribute to the literature analyzing the role of information in the choice of the implementation level, between national and local, of World Bank projects. Despite the importance of the implementing partner for project effectiveness (e.g., Shin *et al.* 2017), the factors that influence the implementing phase represent still an underexplored area of research. To our knowledge, this is the first paper that aims at investigate the determinants of a central versus a local allocation of implementing power in this context.

### 3 Data

We use the AidData (2016) dataset, which provides information on 6410 World Bank projects in the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) lending lines, approved from 1995 to 2014. Among them, we consider projects implemented by national or local governments. In particular, we code ministries and public agencies directly linked to the national government as national implementing agencies, while subnational bodies are classified as local implementing agencies.<sup>8</sup>

Our sample includes over 5200 projects approved between 1995 and 2012, in a maximum of 136 countries.<sup>9</sup> Table 1 shows that projects are widely distributed across regions. From Table 1, we can also observe that the projects implemented by local agencies are more frequent in South and East Asia, and Latin America, while Africa, Europe and the Middle East have the smallest number of "loca" projects. Table 2 reports the distribution across the 10 major sectors as classified by the World Bank.<sup>10</sup> As can be seen, most of the projects implemented by local agencies are

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<sup>7</sup>Kilby (2015) then assesses the impact of World Bank project preparation on project outcomes finding that projects with longer preparation periods are significantly more likely to have satisfactory outcome ratings.

<sup>8</sup>When the information on the implementing agency was missing, we tried to fill the gaps in the dataset relying on the World Bank's project-specific documentation. We excluded those projects which involved more than one country or which are implemented by private companies or NGOs.

<sup>9</sup>Table A1 in the Appendix lists the countries in the sample.

<sup>10</sup>We consider the sector in which the project is mostly concentrated.

concentrated in the transport and water sectors, while is more likely that the implementing power is centralized when the project falls into the public administration sector. Only 40 projects concern the information and communication sector, and none of them are implemented by national agencies.

## TABLES 1 AND 2 HERE

As our variable of interests is concerned, in order to examine the role of information in the choice of the implementing agency, we use the *Transparency index*, an indicator of information and accountability transparency, with lower values indicating a lower ability to get access to reliable information (Williams, 2015).<sup>11</sup>

Following Denizer *et al.* (2013), we consider both project-level and country-level control variables. Among the first group of variables we include *total amount*, that is the amount of commitment measured in million U.S. dollars, to capture project complexity. We also include *investment project*, a dummy equal to 1 if a specific investment project is financed, and 0 if the project consists in development policy lending, capturing general budget support, and a dummy indicating whether the project is funded by the IBRD (as opposed to IDA lending). We expect that both investment and IBRD projects are mostly implemented at local level. The committed amount varies considerably, but the average amount is similar for projects implemented by national and local agencies. Nearly 80 percent of the projects in our sample consist of investment projects, confirming the tendency to abandon general budget support (common during the 1980s) in favor of specific spending projects. The projects are, instead, equally distributed between IBRD and IDA. Finally, we control for project sectors as described above.

As country-level variable, we include *Bureaucratic quality* from the Guide's (PRS Group, 2012), in which higher scores indicate that the bureaucracy has the strength and expertise to govern. We expect that the higher the quality of the bureaucracy at national level, the higher is the probability that local governments' bureaucrats are as qualified as those in national governments

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<sup>11</sup>Our index is given by the average of the two indicators (Information Transparency and Accountability) constructed by Williams (2015) using 29 different sources. Data are available for 190 countries until 2010. In the Appendix, we show also the results obtained using three alternative proxies for the availability of information: *Missing data*, *Transparency Index*, and *Press Freedom*. The first index is given by the share of data series included in the World Development Indicators (World Bank, 2013) for which data are available in a given country and year (Dreher *et al.*, 2017). *Transparency Index* is an indicator constructed by Hollyer *et al.* (2014) that captures the government's willingness to release policy-relevant information. *Press Freedom* evaluates the legal environment for the media, political pressures that influence reporting, and economic factors that affect access to news and information (Freedom House, 2012).

(Lessmann and Markwardt, 2010b), and, therefore, the incentives to delegate the project to a local implementing agency increase with the increasing bureaucratic quality. Moreover, we take into account whether the country has a unitary or federal structure (*Federal System*), and the level of (*Ethnic fractionalization*).<sup>12</sup> Finally, we control for *GDP per capita* to take account of development, and *population*, which also capture "need," but can as well be taken as proxy for the ease of obtaining a country's political cooperation.<sup>13</sup> This choice is also consistent with the standard specification in the decentralization literature to which this paper can also be related.<sup>14</sup> We provide the details of the definitions and sources of the variables included in the regressions and descriptive statistics in Table A2 and A3 in the Appendix, while Table A7 shows the correlations of the variables included in the analysis.

## 4 Method and results

In this section, we examine the determinants of decentralized implementing agencies using data for a maximum of 5282 projects from 136 countries over the 1995-2012 period. We use a logit and a conditional logit model to estimate:

$$y_{ijt} = \beta T_{it-1} + \gamma X_{it} + \delta Z_{jt-1} + \tau_t + u_{it} \quad (1)$$

where  $y$  indicates whether project  $i$  in country  $j$  at time  $t$  is implemented by a local implementing agency,  $T$  is the transparency indicator evaluated at time  $t - 1$ ,  $X$  denotes the set of control variables related to project  $i$ ,  $Z$  includes country-level variables at time  $t - 1$ . We include sector dummies and time fixed effects in all specifications.

Table 3 presents our main results. In the first three columns we add regional dummies to the specification presented in equation (1). In column 1, the probability of having a local implementing agency is negatively correlated with greater transparency, at the one percent level. As for the

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<sup>12</sup>Federal system classifications are available from Norris (2008) and Elazar (1995), the latter being updated by Treisman (2008). Ethnic fractionalization is given by the combined linguistic and racial indicator provided by Alesina *et al.* (2003).

<sup>13</sup>There is substantial empirical evidence linking a country's geopolitical proximity to the World Bank's major shareholders with a variety of types of preferential treatment (e.g., Dreher *et al.* 2009, Kaja and Werker 2010; Kilby 2009, 2013). We therefore included UNSC temporary membership, voting in line with the US in the UNGA, commercial ties with the US or the amount of US aid. Neither of those, however, was found to be significantly associated to the decision of a local vs. national level of implementation. Results are available on request.

<sup>14</sup>Per capita GDP is included in most studies that try to explain decentralization and a country's (log) population is a proxy for its size that is frequently included in the related literature. See, for example, Panizza 1999, and Treisman 2006.

control variables, the coefficient of the dummy for IBRD projects is positive and significant at the one percent level, as expected, while the coefficients for investment projects is positive but not significant. The quality of bureaucracy is positively correlated to a local implementation. As supposed in the previous section, this result could be explained by the fact that this variable, although measured at national level, reflects also the quality of local government's staff.

The coefficient of transparency remains significant in column 2, in which we also control for a country being a federal or a unitary one. The coefficient of *federal system* is positive and significant, at the one percent level, showing that federal countries are indeed more likely to have a local level of implementation of a World Bank project, as the intuition would suggest. The coefficient of the bureaucratic quality and the dummy for IBRD projects now turn insignificant, while the coefficient of the committed amount becomes negative and significant, at the one percent level, but its size is almost negligible.

The results are quite similar when we control for ethnic fractionalization (column 3). In this case, while the coefficient of our variable of interest is still negative and significant, the commitment amount is not significant and the IBRD dummy is positive and significant at the one percent level. Ethnic fractionalization is negative and significant at the one percent level, suggesting that, as the racial and linguistic heterogeneity increases, the distance between the preferences of the donor and that of the recipient governments also increases, leading to lower incentives to delegate the project implementation to a local agency.

In columns 4 and 5 we estimate a country fixed effects model (conditional logit) to account for unobserved characteristics that might be correlated with our variables of interest. In column 4, we only include project-level variables in addition to our measure of transparency and bureaucratic quality. The coefficient of the transparency indicator is still negative and significant, although at the ten percent level. The coefficient for the commitment amount is negative and significant at the one percent level, keeping its negligible size. These results hold also when we control for GDP per capita and population (column 5), but their coefficients are statistically insignificant.<sup>15</sup>

As mentioned in the previous section, in Table 3 we have analyzed the role of information transparency using the index constructed by Williams (2015). This index evaluates both the supply-side of information, that is the quantity and quality of information which is actually released by a country's government, and whether the access to this information provides a check on the behavior of the government, promoting, thereby, accountability. In Tables A4-A6, we use three different

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<sup>15</sup>The results presented in Table 3 also hold when we aggregate project sectors into four macrosectors, as described below. Results are available on request.

indicators that allow to disentangle these two components of transparency.

In particular, Table A4 presents the results considering data availability as a proxy for information transparency (*Missing data*). Following Dreher *et al.* (2017), we evaluate the government decision to disclose information considering all data series included in the World Development Indicators (World Bank, 2013). The resulting indicator is the share of series for which data are available in a given country and year. In table A5 we exploit the transparency index (*Transparency index HRV*) provided by Hollyer *et al.* (2014), which likewise captures the government willingness to release policy-relevant information, but it evaluates only those data series related to economic policy and debt. Finally, in table A6 we focus on the accountability transparency, using the indicator, released by Freedom House (2012), of the freedom of the press (*Press Freedom*). As widely recognized in the literature, a free press can make politicians and bureaucrats more accountable, applying constraints upon their actions and raising the opportunity cost of engaging in corrupt or unethical behavior (Besley and Burgess, 2001; Besley and Prat, 2006; Brunetti and Weder, 2003). Freedom House assesses the degree of print, broadcast, and digital media freedom and categorizes each country with a score that determines the status designation as free, partly free and not free.

As in the previous analysis, the coefficients of *Missing data* and *Press Freedom* are always negative and significant when we apply the logit model, confirming that, when the information transparency increases, the probability that the project is implemented by a local agency decreases. *Transparency index HRV* is instead not generally significant at conventional levels, except for the specification described in column 2, in which we control for the federal system, in which its coefficient turns negative and significant at the five percent level.<sup>16</sup> In all cases, however, these three alternative indicators turn insignificant when we implement a conditional logit.

In table 4 we estimate a conditional model distinguishing by regions. According to our results, the probability of having a local implementing agency is negatively and significantly correlated with greater transparency (at the ten percent level) only in the case of East Asia, whose locally implemented projects account for about 32 percent of the total number of World Bank’s projects implemented in this region. To the contrary, a recipient’s country’s transparency seems not to be taken into account when deciding about the level of implementation either in the region with the highest number of locally implemented projects (South East Asia), or in the region in which most of the projects are funded (Africa).

TABLE 4 HERE

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<sup>16</sup>These results may suggest that, in the choice of the implementation level, the World Bank does not consider economic transparency as crucial, but it also takes into account other aspects of transparency.

Finally, we split our sample considering four macrosectors.<sup>17</sup> Table 5 shows that the *Transparency index* is negative and significant at the one percent level in all the macrosectors but in the energy and industry sector. However, if we consider the ten sectors separately, we find that these results are mainly driven by projects that concern social services, transportation, and water, sanitation and flood protection.<sup>18</sup>

TABLE 5 HERE

In summary, we find evidence that the World Bank decides the implementation level of its projects, on average, taking a recipient country’s transparency into account. Since transparency is an indicator of the importance of the information at the local level, more transparent countries receive more project which are implemented at the national level as compared to less transparent ones, which is consistent with related results in this literature (Marchesi *et al.*, 2011; Dreher *et al.* 2017). In particular, for each decrease in the transparency indicator, the odds of having a local implementing agency increase by 3-5 percentage points, depending on the controls included in the model specification. This suggests that the World Bank is less in need to rely on the recipient’s local knowledge when transparency is high. This is particularly important for East Asian recipient countries, and for social, rural, and urban services.

## 5 Conclusions

In this paper we have explored the role of local information transmission in explaining the choice of the level of implementation, between national and local levels of government in World Bank projects. In particular, we empirically assess whether this choice is influenced by the relative importance of the local information at the recipient country level. Exploiting the Aid Data (2016) large dataset containing information on 6410 World Bank projects for the period 1995-2014, we find that, controlling for characteristics at both the country and the project level, (less) transparency does influence the probability of a project being implemented locally rather than nationally. More specifically, as transparency increases, the odds of a locally implemented projects significantly

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<sup>17</sup>We aggregate: a) education, finance, public administration, law and justice, and health and other social services (*Public administration and social services*); b) agriculture, fishing and forestry, and water, sanitation and flood protection (*Agriculture and water*); c) energy and mining, and industry and trade (*Energy and industry*); d) information and communications, and transportation (*Information and transportation*).

<sup>18</sup>Results are available on request.

decrease up to five percentage points. Our results suggests that the relative importance of transparency in the implementation level choice varies across types of region, being more important for East Asian recipient countries, and sectors, counting more for social, rural, and urban services.

Future research might then want to investigate whether those parts of projects that are given in relation to informational advantages are indeed more effective in improving outcomes than others. For example, greater “decentralization” may contribute to the creation of social capital and also increase the efficiency of foreign aid by encouraging greater use of local knowledge in reforms design. Finally, we also intend to compare our results with the choice of the implementation level of other bilateral (DAC and non-DAC) donors.

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**Table 1: Distribution of projects across regions**

	Total		Local implementing agency		
	Number	% of total projects	Number	% of projects implemented by local agencies	% of total projects
Africa	1502	28.44	57	7.69	3.79
East Asia	727	13.76	196	26.45	26.96
Europe	1050	19.88	105	14.17	10
Middle East	321	6.08	16	2.16	4.98
Latin America	1078	20.41	163	22.00	15.12
South Asia	604	11.44	204	27.53	33.77
<b>Total</b>	<b>5282</b>	<b>100</b>	<b>741</b>	<b>100</b>	

**Table 2: Distribution of projects across sectors**

	Total		Local implementing agency		
	Number	% of total projects	Number	% of projects implemented by local agencies	% of total projects
Agriculture, fishing, and forestry	500	9.47	114	15.38	22.8
Education	508	9.62	37	4.99	7.28
Energy and mining	273	5.17	58	7.83	21.25
Finance	279	5.28	10	1.35	3.58
Health and other social services	759	14.37	65	8.77	8.56
Industry and trade	302	5.72	30	4.05	9.93
Information and communication	40	0.769	0	0	0
Public Administration, Law, and Justice	1525	28.87	97	13.09	6.36
Transportation	613	11.61	160	21.59	26.10
Water, sanitation and flood protection	483	9.14	170	22.94	35.20
<b>Total</b>	<b>5282</b>	<b>100</b>	<b>741</b>	<b>100</b>	

**Table 3: Decentralization of Implementing Agencies, Logit and Conditional Logit**

	Logit 1	Logit 2	Logit 3	CL 4	CL 5
Transparency Index	-0.051*** (-7.919)	-0.029*** (-3.186)	-0.043*** (-5.262)	-0.031* (-1.809)	-0.032* (-1.722)
Bureaucratic Quality	0.308*** (3.658)	-0.019 (-0.127)	0.147 (1.264)	0.106 (0.480)	0.105 (0.471)
Total Amount	-0.000 (-1.075)	-0.002*** (-3.673)	-0.001 (-1.454)	-0.002*** (-3.539)	-0.002*** (-3.638)
Investment Projects	0.006 (0.047)	-0.165 (-0.848)	0.118 (0.682)	0.264 (1.165)	0.252 (1.110)
IBRD	0.984*** (5.477)	-0.356 (-1.483)	0.952*** (4.175)		
Federal System		2.258*** (11.672)			
Ethnic fractionalization			-0.015*** (-4.648)		
GDP per capita (log)					0.131 (0.209)
Population (log)					0.263 (0.132)
Observations	3,682	2,502	2,437	3,034	3,017
Number of country				59	59
Sector dummies	YES	YES	YES	YES	YES
Regional dummies	YES	YES	YES	NO	NO
Country FE	NO	NO	NO	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 4: Decentralization of implementing agencies by regions**

	Africa	East Asia	Europe	Latin America	Middle East	South Asia
	1	2	3	4	5	6
Transparency index	0.084 (1.407)	-0.134** (-1.979)	0.024 (0.318)	-0.067 (-1.057)	0.031 (0.146)	0.055 (0.959)
Bureaucratic Quality	-0.066 (-0.108)	-0.399 (-0.796)	-0.790 (-0.871)	0.744* (1.656)	-31.663 (-0.001)	0.456 (0.308)
Total Amount	-0.001 (-0.208)	-0.001 (-0.663)	-0.004* (-1.833)	-0.001 (-1.402)	-0.010 (-0.870)	-0.003*** (-2.955)
Investment Projects	16.634 (0.011)	14.366 (0.019)	0.462 (0.531)	0.306 (0.650)	67.716 (0.007)	-0.657 (-1.464)
Observations	643	496	515	730	251	399
Number of country	12	6	17	12	8	4
Sector dummies	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: Decentralization of implementing agencies by sectors**

	Public Administration and social services	Agriculture and water	Energy and industry	Information and Tranportation
	1	2	3	4
Transparency index	-0.072*** (-8.113)	-0.044*** (-3.673)	-0.019 (-0.775)	-0.057*** (-3.315)
Bureaucratic Quality	0.330*** (2.660)	0.235 (1.370)	0.334 (1.047)	0.393** (2.057)
Total Amount	-0.000 (-0.718)	0.000 (0.321)	0.002 (1.183)	-0.000 (-0.487)
Investment Projects	-0.169 (-0.992)	-0.166 (-0.534)	-	-
IBRD	0.761*** (2.972)	0.671** (2.163)	1.301** (2.197)	1.336*** (2.966)
Observations	2,138	714	285	457
Regional dummies	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## Appendix

**Table A1: Countries**

Afghanistan	Guinea	Peru
Albania	Guinea-Bissau	Philippines
Algeria	Guyana	Poland
Angola	Haiti	Romania
Argentina	Honduras	Russian Federation
Armenia	Hungary	Rwanda
Azerbaijan	India	Samoa
Bangladesh	Indonesia	Sao Tome and Principe
Barbados	Iran, Islamic Republic of	Senegal
Belarus	Iraq	Serbia
Belize	Jamaica	Seychelles
Benin	Jordan	Sierra Leone
Bhutan	Kazakhstan	Slovak Republic
Bolivia	Kenya	Slovenia
Bosnia and Herzegovina	Kiribati	Solomon Islands
Botswana	Korea, Republic of	South Africa
Brazil	Kosovo	Sri Lanka
Bulgaria	Kyrgyz Republic	St. Kitts and Nevis
Burkina Faso	Lao People's Democratic	St. Lucia
Burundi	Republic	St. Vincent and the Grenadines
Cabo Verde	Latvia	Swaziland
Cambodia	Lebanon	Tajikistan
Cameroon	Lesotho	Tanzania
Central African Republic	Liberia	Thailand
Chad	Lithuania	Timor-Leste
Chile	Macedonia, former Yugoslav	Togo
China	Republic of	Tonga
Colombia	Madagascar	Trinidad and Tobago
Comoros	Malawi	Tunisia
Congo, Democratic Republic of	Malaysia	Turkey
Congo, Republic of	Maldives	Turkmenistan
Costa Rica	Mali	Uganda
Cote d'Ivoire	Mauritania	Ukraine
Croatia	Mauritius	Uruguay
Djibouti	Mexico	Uzbekistan
Dominica	Moldova	Venezuela, Republica
Dominican Republic	Mongolia	Bolivariana de
Ecuador	Montenegro	Vietnam
Egypt, Arab Republic of	Morocco	Yemen, Republic of
El Salvador	Mozambique	Zambia
Eritrea	Namibia	Zimbabwe
Estonia	Nepal	
Ethiopia	Nicaragua	
Gabon	Niger	
Gambia, The	Nigeria	
Georgia	Pakistan	
Ghana	Panama	
Grenada	Papua New Guinea	
Guatemala	Paraguay	

**Table A2: Variable definitions and sources**

	Definition	Source
Local Implementing Agency	Dummy=1 for project implemented by a local agency	Own elaboration from AidData (2016)
Combined Transparency Index	Average of Information Transparency and Accountability Transparency	Williams (2015)
Missing Data	Share of series included in the World Bank's World Development Indicators for which data are available.	Dreher <i>et al.</i> (2017)
Transparency Index (HRV)	Share of variables related to Economic Policy and Debt included in the World Bank's World Development Indicators for which data are available.	Hollyer <i>et al.</i> (2011)
Press Freedom	Status of press freedom: 3 = Free; 2= Partly Free; 1= Not Free.	Freedom House (2012)
Bureaucratic Quality	Quality of bureaucracy	PRS Group, 2012
Total Amount	Commitment Amount (US\$, million)	AidData (2016)
Investment project	Dummy=1 for investment project	AidData (2016)
IBRD	Dummy=1 for IBRD projects	AidData (2016)
Federal type	Dummy=1 for federal type	Norton (2008), updated by Elazar (1995)
Per capita GDP (log)	Log of GDP per capita (con 2000 US\$)	World Bank (2013)
Population (log)	Log of total population	World Bank (2013)
Ethnic fractionalization	Combined linguistic and racial indicator of fractionalization	Alesina (2003)

**TableA3: Summary Statistics**

	Mean	SD	Min	Max
Local Implementing Agency	0.14	0.34	0	1
Transparency Index	50.73	11.59	15	76
Bureaucratic quality	1.77	0.79	0	4
Total Amount	92.70	166.61	0.14	3000
Investment project	0.79	0.41	0	1
IBRD	0.46	0.50	0	1
Federal type	0.43	0.50	0	1
Ethnic fractionalization	44.92	23.02	0.2	93.02
Per capita GDP (log)	6.99	1.06	4.78	9.58
Population (log)	16.87	1.91	10.69	21.02

**Table A4: Robustness check - Missing Data**

	Logit	Logit	Logit	CL	CL
	1	2	3	4	5
Missing Data	-5.594*** (-10.936)	-6.721*** (-8.136)	-5.868*** (-8.094)	2.879 (1.300)	2.898 (1.257)
Bureaucratic Quality	0.278*** (3.847)	0.121 (0.981)	0.127 (1.236)	0.165 (0.771)	0.151 (0.693)
Total Amount	-0.000 (-0.643)	-0.002*** (-3.230)	-0.000 (-1.024)	-0.002*** (-4.048)	-0.002*** (-4.153)
Investment Projects	0.335** (2.235)	0.460* (1.950)	0.598*** (2.787)	0.187 (0.922)	0.167 (0.824)
IBRD	1.119*** (6.644)	-0.146 (-0.607)	1.162*** (5.470)		
Federal System		2.294*** (12.633)			
Ethnic fractionalization			-0.012*** (-3.621)		
GDP per capita (log)					-0.294 (-0.566)
Population (log)					-0.377 (-0.220)
Observations	4,127	2,629	2,563	3,396	3,375
Number of country				59	59
Sector dummies	YES	YES	YES	YES	YES
Regional dummies	YES	YES	YES	NO	NO
Country FE	NO	NO	NO	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table A5: Robustness check - Transparency Index (HRV)**

	Logit 1	Logit 2	Logit 3	CL 4	CL 5
Transparency index (HRV)	0.053 (1.301)	-0.222** (-2.421)	-0.053 (-0.990)	-0.092 (-0.819)	-0.102 (-0.798)
Bureaucratic Quality	0.045 (0.566)	-0.230 (-1.380)	-0.118 (-1.032)	0.116 (0.524)	0.107 (0.476)
Total Amount	-0.000 (-0.605)	-0.002*** (-3.310)	-0.000 (-0.972)	-0.002*** (-3.705)	-0.002*** (-3.883)
Investment Projects	-0.165 (-1.173)	0.007 (0.035)	-0.054 (-0.307)	0.219 (0.945)	0.204 (0.878)
IBRD	0.220 (1.272)	-0.855*** (-2.785)	0.670*** (2.988)		
Federal System		2.798*** (11.835)			
Ethnic fractionalization			-0.022*** (-6.742)		
GDP per capita (log)					-0.314 (-0.457)
Population (log)					-0.125 (-0.056)
Observations	3,393	2,218	2,218	2,757	2,740
Number of country				48	48
Sector dummies	YES	YES	YES	YES	YES
Regional dummies	YES	YES	YES	NO	NO
Country FE	NO	NO	NO	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table A6: Robustness check - Press Freedom**

	Logit 1	Logit 2	Logit 3	CL 4	CL 5
Press Freedom	-0.555*** (-6.308)	-0.293** (-2.028)	-0.669*** (-5.364)	0.001 (0.007)	0.020 (0.105)
Bureaucratic Quality	0.213*** (2.808)	-0.009 (-0.065)	0.204* (1.813)	0.179 (0.834)	0.162 (0.740)
Total Amount	-0.000 (-1.360)	-0.002*** (-4.154)	-0.001* (-1.921)	-0.002*** (-3.983)	-0.002*** (-4.106)
Investment Projects	-0.145 (-1.171)	-0.352* (-1.957)	-0.075 (-0.457)	0.205 (1.005)	0.187 (0.910)
IBRD	0.526*** (3.821)	-0.580*** (-2.710)	0.635*** (3.451)		
Federal System		2.316*** (11.996)			
Ethnic fractionalization			-0.018*** (-5.667)		
GDP per capita (log)					-0.352 (-0.678)
Population (log)					0.033 (0.019)
Observations	4,102	2,629	2,563	3,371	3,350
Number of country				59	59
Sector dummies	YES	YES	YES	YES	YES
Regional dummies	YES	YES	YES	NO	NO
Country FE	NO	NO	NO	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust z-statistics in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table A7: Correlation**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
Local Implementing Agency	(1)	1										
Transparency index	(2)	-0.05	1									
Missing	(3)	0.07	0.43	1								
Transparency (HRV)	(4)	-0.04	0.68	0.54	1							
Press freedom	(5)	-0.09	0.76	0.06	0.35	1						
Bureaucratic quality	(6)	0.24	0.20	0.11	0.16	0.26	1					
Total Amount	(7)	0.03	0.07	0.08	0.17	0.05	0.23	1				
Investment Projects	(8)	0.18	-0.12	-0.07	-0.11	-0.09	0.03	-0.34	1			
IBRD	(9)	0.002	0.39	0.28	0.55	0.14	0.13	0.12	-0.05	1		
Federal	(10)	0.39	0.05	0.25	0.21	-0.12	0.34	0.26	0.10	0.26	1	
Ethnic Fractionalization	(11)	-0.19	0.01	0.01	-0.17	0.06	-0.20	-0.09	-0.08	-0.13	-0.06	1

Notes: Simple correlations between all variables included in the empirical section