



# IMF Working Paper

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## Fiscal Decentralization and Governance: A Cross-Country Analysis

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**IMF Working Paper**

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**Fiscal Decentralization and Governance: A Cross-Country Analysis**

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**Abstract**

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Based on cross-country data for up to 78 countries, this paper shows that fiscal decentralization—the assignment of expenditure and revenue mobilization functions to subnational levels of government—is associated with various indicators of governance, such as corruption, rule of law, and government effectiveness. Unlike previous studies in the decentralization/governance literature, which focus primarily on expenditure-based measures of decentralization, the results reported in this paper show that the relationship between decentralization and governance depends on how subnational expenditures are financed. The higher the share in total subnational revenues of nontax revenues and grants and transfers from higher levels of government, the stronger the association between decentralization and governance.

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## I. INTRODUCTION

Strengthening governance—the institutions by which authority is exercised and public resources are managed in a given country—has been a key objective of most reform programs implemented in recent years. Countries that have already achieved macroeconomic stability through first-generation reforms have designed and implemented second-generation reforms to upgrade the social and legal institutions that encourage and support better governance.

Some countries currently preparing Poverty Reduction Strategy Papers (PRSPs) have identified decentralization as an explicit policy instrument to improve governance. In these documents, emphasis is placed on judicial reform, fight against corruption, and strengthening the rule of law. Decentralization is also pursued to (1) improve service delivery; (2) coordinate, implement, and monitor donor-financed poverty-alleviation programs; (3) strengthen budget preparation and execution; (4) bring the administration closer to the people and to encourage their participation in the management of public affairs; and (5) enable local governments and grassroots communities to take responsibility for their own development.

Fiscal decentralization—the assignment of expenditure functions and revenue sources to subnational levels of governments—has a recognized bearing on governance and on the quality of government (Humplick and Estache, 1995; Huther and Shah, 1998; Fisman and Gatti, 2000; and Treisman, 2000). Related literature shows that macroeconomic governance is affected not only by fiscal decentralization but also by how subnational expenditures are financed. Decentralization programs that encourage revenue mobilization, rather than reliance on grants and transfers from higher levels of government to finance local expenditures, are known to have smaller governments (measured as the share of government spending to GDP) and lower budget deficits (Ter-Minassian, 1997; Stein, 1998; Fukasaku and de Mello, 1998 and 1999; and de Mello, 1999 and 2000a). This paper aims to test the hypotheses that (1) fiscal decentralization improves governance, and that (2) the association between decentralization and governance is stronger when decentralization promotes subnational revenue mobilization.

Lack of data has limited this type of empirical analysis. The data needed to construct decentralization indicators have been widely available for many countries over a considerable time span. However, because governance is a multidimensional concept, quantitative indicators are much harder to construct and require data not readily available, particularly for developing countries. In recent years, considerable effort has been made to construct governance indicators for a cross-section of developing and developed countries. The data set available from Kaufmann, Kraay, and Zoido-Lobaton (1999a) focuses on different aspects of governance such as corruption, rule of law, voice and accountability, political instability, and quality of the bureaucracy. This is the main source of governance data to be used in this paper. Other governance indicators that have been widely used in the empirical literature are the Heritage Foundation's index of property rights, the Freedom House's indices of equality of citizens before the law and economic freedom (Messick,

1996), and the indices of perceived corruption available from Transparency International, International Country Risk Guide (ICRG), and Gallup, among others.<sup>2</sup>

The rest of this paper is organized as follows. Section II surveys the literature on decentralization and governance. Section III describes the data used in the empirical sections and provides preliminary evidence of an association between decentralization and governance. Section IV reports the econometric results. Section V focuses on revenue mobilization capacity and the association between governance and decentralization. Conclusions and policy implications are provided in Section VI.

## II. LITERATURE REVIEW

A growing body of literature has emerged in recent years hypothesizing a positive association between decentralization and governance. Based on the public finance principle of subsidiarity, a better match can be achieved between the supply of goods and services provided by the public sector and the demands of the population, as long as the costs associated with revenue mobilization are borne by the same jurisdiction that can internalize the benefits of public sector provision. This closer association between expenditures and revenue mobilization at the subnational level may lead to better accountability of government actions (Inter-American Development Bank, 1997; Bahl, 1999; and Oates, 1999). Corruption may also be reduced in decentralized governments as long as autonomous jurisdictions compete with each other for bribes and kickbacks (Weingast, 1995; Breton, 1996; and Treisman, 2000). Fiscal decentralization may lead to allocative inefficiencies, as well as poor accountability and governance, if expenditures and revenue mobilization functions are not clearly assigned across the different levels of government (Hommes, 1995; Inter-American Development Bank, 1997; World Bank, 1999; and Fukasaku and de Mello, 1999). Fiscal decentralization has also been shown to strengthen social capital, and encourage political participation (Inman and Rubinfeld, 1997; and de Mello, 2000b).<sup>3</sup> Electoral rules and other mechanisms are nevertheless needed to encourage voter participation and improve accountability through more general and continuous participation of civil society in the political process (World Bank, 1999).

Related literature focuses on the relationship between fiscal and political decentralization.<sup>4</sup> Bardhan and Mookherjee (1998) argue that an agency problem arises when local bureaucrats

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<sup>2</sup> For more information on these indices, see [www.heritage.org/index/methodology.html](http://www.heritage.org/index/methodology.html) and [www.freedomhouse.org/survey99/method](http://www.freedomhouse.org/survey99/method). See also Messick (1996), and de Mello and Sab (2000), for more information.

<sup>3</sup> It has also been argued that “when a country finds itself deeply divided, especially along geographic or ethnic lines, decentralization provides an institutional mechanism for bringing opposition groups into a formal, rules-bound bargaining process” (World Bank, 1999, p. 107).

<sup>4</sup> Some authors have distinguished devolution of fiscal functions in decentralized systems from deconcentration within a centralized system (Parker, 1995).

are appointed by the central government, rather than locally elected, because the central government may have limited ability to monitor their performance.<sup>5</sup> In the same vein, Seabright (1995) argues that decentralization can strengthen accountability because it increases the proximity between representatives and the electorate. Central government representatives do not necessarily need to be elected in all subnational jurisdictions, whereas each local representative has to win the election in his/her own jurisdiction. Subnational governments may therefore be more accountable to their electorate than the central government.

The literature also recommends caution in assessing the benefits of fiscal and political decentralization as a catalyst for improved governance. Blanchard and Shleifer (2000) discuss the risks of local capture of political power by vested interests in transition economies, and argue that some degree of political centralization may be warranted. Bardhan and Mookherjee (1998) also argue that if local accountability is limited, decentralization will lead to local capture. Political decentralization may therefore simply transfer power from national to local elites. In this respect, it has often been argued that the institutional foundations for fiscal decentralization, such as revenue-sharing arrangements and expenditure rules, should be in place before political liberalization begins. Fiscal decentralization may lead to allocative inefficiencies, as well as poor accountability and governance, if expenditures and revenue mobilization functions are not clearly assigned across the different levels of government (Hommes, 1995; Inter-American Development Bank, 1997; World Bank, 1999; and Fukasaku and de Mello, 1999).

The potential for increased efficiency in the provision of local public goods may not be fulfilled if institutional capacity is weak at the subnational level. It can also be argued that corruption may increase in decentralized governments, rather than decline, because of the proximity between local government officials and private individuals (Prud'homme, 1995; and Tanzi, 1995). When subnational governments, in addition to the central government, are granted autonomy to regulate economic activity, decentralization may increase corruption through the "overgrazing" of the bribe base (Shleifer and Vishny, 1993). These are issues of particular concern for developing countries. Other problems include limited exploitation of economies of scale in the decentralized provision of goods and services, and lack of coordination and equity across jurisdictions (Bardhan and Mookerjee, 1998).<sup>6</sup>

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<sup>5</sup> This may be attributed "(...) to costs of communication and supervision, better information held at the local level regarding delivery costs and needs, and the conflict of interest between corrupt bureaucrats and elected politicians" (Bardhan and Mookherjee, 1998, p.6). Local capture of the democratic process by special interest groups may depend on various factors, such as income inequality, which reflects the ability of the wealthy to use the political process to their advantage.

<sup>6</sup> A case in point is the provision of regional public goods, which may suffer as a result of decentralization, unless coordination is strengthened among subnational jurisdictions to avoid underprovision and disruption in service delivery.

Despite its comprehensiveness, the main weakness of the literature, which this paper does not aim to overcome, is the absence of formal theoretical models dealing with the different aspects of the relationship between decentralization and governance (Bardhan and Mookherjee, 1998). This is due, at least in part, to the multidimensional nature of governance, which makes it hard for the analyst to model its different aspects in a single theoretical framework.

The empirical literature has not tested all of the theoretical hypotheses earlier mentioned. Using cross-country data, Humplick and Estache (1995) estimate the impact of decentralization on the performance of several infrastructure projects, including roads, electricity, and water. Using different measures of decentralization in each sector, the authors find that at least one performance indicator improved in each sector under examination as a result of decentralization. Nevertheless, the correlation between decentralization and performance was not strong in general. Also in a cross-section of countries, Huther and Shah (1998) report positive correlations between decentralization and various governance indicators. By not controlling for any other determinants of governance, however, their findings are potentially subject to omitted variable biases. In a similar manner, Fisman and Gatti (2000) focus primarily on corruption as their governance indicator. They find that decentralization is strongly and significantly associated with less corruption, even after including various control variables in the estimating equation, such as GDP per capita and population, and dealing with the potential problem of endogeneity. More recently, in a paper dealing with the causes of corruption, Treisman (2000) reports cross-country evidence that corruption is perceived as more widespread in federal governments. Similar corruption data are used, but decentralization is measured by political autonomy, rather than the revenue and expenditure share indicators used by Huther and Shah (1998) and Fisman and Gatti (2000).<sup>7</sup>

Case studies are less numerous in the empirical literature. For instance, Galasso and Ravallion (2000) use data on the implementation of a partially decentralized food-for-schooling program in Bangladesh. In this program, the central government decides on the intercommunity allocation of funds, while local governments focus on intracommunity assignments.<sup>8</sup> They find that targeting is somewhat propoor, and local capture does not seem to be sizeable. Isham, Kaufmann, and Pritchett (1997) and Pritchett and Kaufmann (1998) also assess the determinants of governance in public investment projects.

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<sup>7</sup> The classification of federal states used in the paper is that of Elazar (1995). This classification focuses on the constitutional division of powers between central and regional governments, rather than the relative size of each level of government in expenditure and revenue mobilization.

<sup>8</sup> See also Barenstein (1994, 2000).

### III. DATA AND PRELIMINARY FINDINGS

#### A. Decentralization Indicators

Decentralization indicators can be constructed using the data available in the IMF's Government Finance Statistics (GFS). GFS data are available for many developing and industrial countries since the early 1970s.

The main decentralization indicator used in the empirical analysis is the share of subnational spending in total government expenditures.<sup>9</sup> Subnational governments may comprise local and middle-tier jurisdictions.<sup>10</sup> Out of the more than 90 countries for which GFS data are reported for at least two levels of government, just over 20 countries provide information on spending at both the local and the middle-tier levels and about half of these countries are defined as federal.<sup>11</sup> For the remaining 70 or so countries, 5 countries provide information only at the middle-tier level, and the remaining 65 countries report subnational spending data at the local level only, including those countries, such as Italy and Belgium, where data are reported for middle-tier and local governments together.

The coverage of the expenditure data needed for the construction of decentralization indicators varies across countries. In the case of central government spending, for instance, in 14 countries out of the potential sample of 90 countries, data are available for the budgetary central government only, rather than for the consolidated central government thereby excluding, among others, social security funds and public enterprises. In this case, the narrower the coverage of the public sector, the lower the spending share of the central

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<sup>9</sup> Other decentralization indicators have also been widely used in the literature. For example, a commonly used indicator measuring vertical imbalances in intergovernmental fiscal relations is the share of transfers and grants from higher levels of government in total subnational government revenues. To measure the extent of fiscal decentralization from the revenue perspective, a standard indicator is the ratio of subnational governments' own revenues to their total revenues. These indicators will be discussed and used later. For more information, see de Mello (1999 and 2000).

<sup>10</sup> Most countries for which GFS data are available only report data for one subnational level, typically local governments. There can be several reasons for this. One possibility is that the country does not have formally defined middle-tier governments: this is typically the case in smaller countries. Alternatively, the data may already be reported for both subnational levels together, as in the case of Belgium and Italy, for example. Another possible reason is that, whereas a particular level of government may exist as a separate entity, it is not really independent from higher levels of government. The 1986 GFS manual states: "A central issue in the separate reporting of statistics for both regional and local governments, therefore, is whether they may be judged to have a separate existence, that is, whether they have sufficient discretion in the management of their own affairs to distinguish them as separate from the administrative structure of another government. A government may be considered to have substantial autonomy when it has the power to raise a substantial portion of its revenue from sources it controls and its officers are independent of external administrative control in the actual operation of the unit's activities" (p. 14).

<sup>11</sup> For the whole sample, only about 20 percent of the countries are defined as federal.

government relative to subnational governments is, and the higher the implied degree of decentralization is.

## B. Governance Indicators

Indicators of governance should in principle provide information not only on the way governments are elected, monitored and replaced, as well as their capacity to formulate and implement sound policies effectively, but also on the attitude of the citizenry/electorate, as well as of their representatives, toward the institutions that govern economic, political, and social interactions. A number of such indicators are now available. Their main limitations are the small number of countries and the short time span for which internationally comparable information is available. Typically, there is a trade-off between the cross-country and the time-series dimensions of the data. For instance, the widely used corruption indicator constructed by the International Country Risk Guide (ICRG) is available for the post-1982 period only. The governance indicators constructed by Kaufmann, Kraay, and Zoido-Lobaton (1999a and 1999b) are available for 1997–98 only.

Another important shortcoming is that, unlike the decentralization indicators, which are based on standard public finance aggregates, the governance indicators are subjective. These indicators use the information collected through market and business confidence surveys, polls of experts, and commercial/political risk assessment reports; they reflect the subjective perception of the citizenry and/or the business community of different aspects of governance in a given country. Data are typically available from a variety of sources, ranging from political and business risk rating agencies and think-tanks, to international financial institutions and nongovernmental organizations.

The governance indices used in the empirical section are as follows:<sup>12</sup>

- The **ICRG corruption index** measures the degree to which special or illegal payments are expected and demanded at various levels of government within each country.<sup>13</sup> We use annual data for the period 1984-1998 (unlike Fisman and Gatti

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<sup>12</sup> More detailed definitions of these indicators are provided in Appendix I. Kaufmann, Kraay, and Zoido-Lobaton (1999a) explain how they construct these aggregate governance indicators, using an unobserved components model. Their data are available via the Internet at [www.worldbank.org/wbi/governance/datasets.htm](http://www.worldbank.org/wbi/governance/datasets.htm). For a discussion of why such inherently subjective data are useful in measuring governance, see Kaufmann, Kraay, and Zoido-Lobaton (1999b, pp. 2–5). The authors also comment on the advantages and disadvantages of polls as opposed to surveys in obtaining such data.

<sup>13</sup> The ICRG index, produced by Political Risk Services (PRS), is available via the Internet at [www.prsgroup.com](http://www.prsgroup.com). This is the main governance indicator used by Fisman and Gatti (2000), who rescale the index to take on values between zero (least corrupt) and one (most corrupt). In order to make our results comparable to theirs, we have performed the same rescaling.

(2000), who only use data for 1982-1990), from which we construct a single average for each country.

- Additional governance indices are available from Kaufmann, Kraay, and Zoido-Lobaton (1999a and 1999b). The authors organize governance data from different sources into six clusters corresponding to basic aspects of governance. Two of these, **graft and rule of law**, summarize the respect of citizens and the state for the institutions that govern their interactions. **Government effectiveness** and **regulatory burden**, on the other hand, include various indicators of the government's ability to formulate and implement sound policies. The final two indicators, **voice and accountability** and **political instability and violence**, measure the process by which those in authority are elected and replaced. Data are available for these indicators for 1997-98, from which a single average is constructed for each country.

### C. Preliminary Findings

Preliminary statistical interpretations of the data are reported in Table 1. Simple correlations between the decentralization indicator (the share of subnational spending in total government expenditures) and selected governance indicators are presented in Figure 1. The two top panels show the correlation between the ICRG corruption index (in its original scale and after rescaling) and the decentralization indicator. Note that a higher score in the original ICRG index denotes less, not more, perceived corruption. The remaining panels show the correlations between the decentralization indicator and four of the governance indicators available from Kaufmann, Kraay and Zoido-Lobaton (1999a and 1999b): graft, voice and accountability, government effectiveness, and rule of law. These bivariate correlations provide *prima facie* evidence of a statistical association between governance and decentralization, as hypothesized above. More rigorous multivariate tests are presented in the following section.

## IV. MAIN FINDINGS

### A. Testable Hypothesis

The association between fiscal decentralization and governance can be estimated by regressing the cross-section of above-described governance indicators on a set of regressors of two types: a measure of fiscal decentralization and control variables. The basic equation to be estimated is as follows:

$$I_{ij} = E_{0j} + E_{1j}D_{ij} + E_{2j}C_{ij} + \varepsilon_{ij}, \quad (1)$$

where  $I_{ij}$  denotes the  $j$ -th governance index, with  $j = (1, \dots, M)$ , for the  $i$ -th country in the sample;  $D_{ij}$  denotes the fiscal decentralization indicator in country  $i$  when indicator  $j$  is used as the governance indicator;  $C_{ij}$  is a vector of control variables; and  $\varepsilon_{ij}$  is an error term.

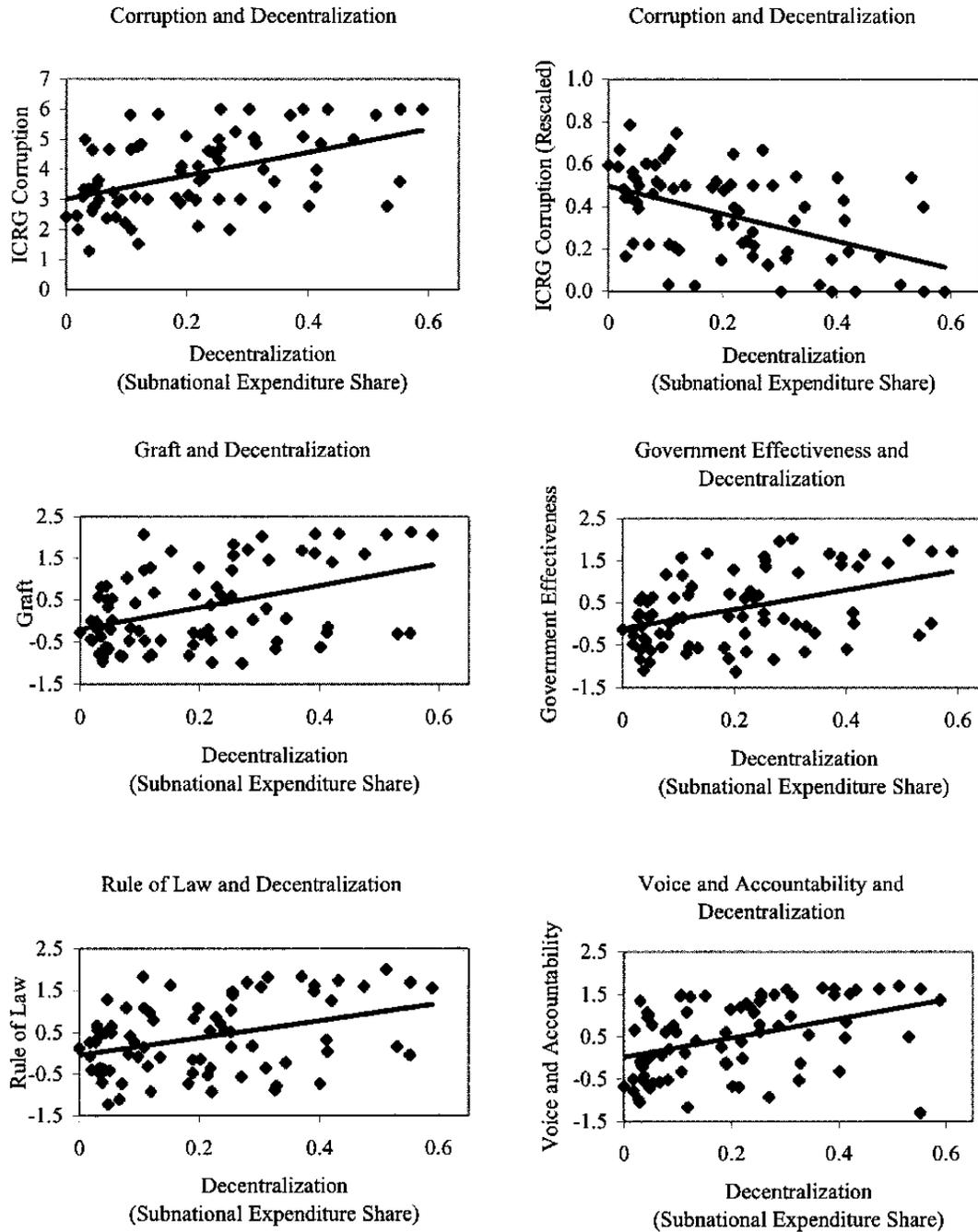
Table 1. Descriptive Statistics

	Number of Observations	Mean	Standard deviation	Minimum	Maximum
<b>Governance indicators</b>					
ICRG corruption index	76	0.36	0.21	0.00	0.79
Graft	79	0.31	0.95	-1.00	2.13
Government effectiveness	79	0.34	0.85	-1.13	2.03
Voice and accountability	79	0.48	0.86	-1.30	1.69
Rule of law	79	0.35	0.86	-1.22	2.00
Political instability and violence	79	0.28	0.82	-1.69	1.69
Regulatory burden	79	0.42	0.55	-1.47	1.21
<b>Decentralization indicators</b>					
Expenditure share	81	0.21	0.17	0.00	0.77
Vertical imbalances	78	0.35	0.23	0.02	0.96
Tax autonomy	78	0.45	0.21	0.02	0.85
Nontax autonomy	78	0.20	0.13	0.03	0.61
<b>Other variables</b>					
GDP per capita	79	7,492	6,171	438	21,573
Population (in millions)	80	48.54	156.27	0.19	1114.24
Land area (in squared kilometers)	80	1,189,190	2,834,523	690	17,075,400
GASTIL civil liberties index	77	3.21	1.60	1.00	6.45

Notes: Sample averages using 1980 data until most recent.

(except for expshare which uses earliest available expshare figure from 1970 on).

Figure 1. Governance and Decentralization: Period Averages, 1980-98



Source: Government Finance Statistics; ICRG; and Kaufmann, Kraay, and Zoido-Lobaton (1999); and IMF staff calculations.

Equation (1) is estimated separately for each governance indicator. The basic hypothesis to be tested is whether  $\beta_{1j} \neq 0$ , for each  $j$ , in equation (1). The set of controls comprises the (logarithm of) GDP per capita in PPP terms (period averages), and the (logarithm of) population.<sup>14</sup> The rationale for the use of these control variables is simple: wealthier societies tend to have better scores in governance indicators, and to have more solid and mature institutions. Also, governance may be more difficult in more populous countries for reasons that range from regional disparities in income, climate, and ethnicity, as well as needs and preferences, among others.

### **B. Baseline Regressions and Sensitivity Analysis**

The baseline regressions are reported in Table 2. Cross-sectional data for as many as 78 countries are used in the estimations.<sup>15</sup> The relationship between governance and decentralization is signed as hypothesized and statistically significant at classical levels for a number of governance indicators, including the ICRG corruption index. For the ICRG corruption index, a Tobit estimation procedure was used due to the presence of limit observations for about 10 percent of the sample. This was not the case for the other governance indices, which were constructed so as to avoid observations at the limit of the scale. For these indices, the weighted OLS estimator was used. The weights were the relevant index's standard deviation for each country (as various sources were used in each country to construct the aggregate index). The weights place greater emphasis on the cases where different governance indices produce similar predictions. Our findings, however, are robust to other estimation techniques, including straight OLS, which produced very similar results.

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<sup>14</sup> Unlike Fisman and Gatti (2000), we exclude the civil liberties indicator from the baseline regressions because it is highly correlated with the decentralization indicator: countries that have better civil liberty scores also tend to be more decentralized. This correlation is likely to produce an upward bias in the parameter estimate of the decentralization indicator. Also, measures of civil liberties are included, by construction, in several governance indicators, such as voice and accountability. Likewise, indices of perceived corruption are used in the construction of the civil liberties indicator. It would therefore be inappropriate to include civil liberties as a right-hand side variable in the regressions.

<sup>15</sup> Our sample comprises 22 OECD countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxemburg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and United States), 13 transition economies (Albania, Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Hungary, Estonia, Latvia, Lithuania, Poland, Romania, and the Russian Federation), 16 Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, and Uruguay), 12 African countries (Botswana, Burkina Faso, Ethiopia, the Gambia, Kenya, Malawi, Mauritius, South Africa, Swaziland, Uganda, Zambia, and Zimbabwe), 3 Middle Eastern and North African countries (Bahrain, Egypt, and Tunisia), 11 Asian countries (China, Fiji, India, Indonesia, Iran, Malaysia, Papua New Guinea, the Philippines, Sri Lanka, Mongolia, and Thailand), as well as Israel.

Table 2. Expenditure Decentralization and Governance: Cross-Sectional Analysis, 1980–1998

	Corruption	Graft	Government effectiveness	Voice and accountability	Rule of Law	Political instability and violence	Regulatory burden
Expenditure share	-0.51 *** (-3.60)	1.14 ** (2.24)	0.83 * (2.02)	0.94 (1.54)	0.74 * (1.70)	1.14 ** (2.46)	-0.21 (-0.41)
Log of GDP per capita	-0.11 *** (-5.45)	0.58 *** (6.89)	0.56 *** (7.26)	0.55 *** (5.81)	0.51 *** (6.22)	0.43 *** (4.97)	0.31 *** (6.11)
Log of population	0.03 *** (2.73)	-0.10 ** (-2.23)	-0.05 (-1.32)	-0.06 (-1.23)	-0.06 (-1.34)	-0.06 (-1.11)	0.00 (-0.10)
Fraction Positive	0.92						
Log-Likelihood	28.34						
No. of observations	75	78	78	78	78	78	78
Adjusted R2		0.56	0.55	0.52	0.50	0.39	0.26
F statistic		33.06	32.25	29.18	26.21	17.45	10.08
Estimator	Tobit	Weighted OLS	Weighted OLS	Weighted OLS	Weighted OLS	Weighted OLS	Weighted OLS
Sensitivity Analysis							
Expshare w/ Gastil	-0.48 *** (-3.46)	0.86 * (2.00)	0.62 (1.41)	0.57 (1.02)	0.50 (1.18)	0.89 * (1.68)	-0.42 (-0.87)
Expshare w/ OECD dummy	-0.49 *** (-3.97)	0.91 ** (2.07)	0.65 * (1.78)	0.87 (1.48)	0.53 (1.36)	1.02 ** (2.19)	-0.31 (-0.62)
Expshare w/ Democracy	-0.40 *** (-2.88)	0.61 (1.13)	0.31 (0.66)	1.22 (0.26)	0.15 (0.29)	0.58 (0.92)	-0.27 (-0.43)
Expshare w/ Protestant	-0.29 ** (-2.05)	0.40 (0.72)	0.48 (0.95)	0.91 (0.96)	0.41 (0.73)	0.97 * (1.63)	-0.37 (0.59)
Expshare w/ Autonomy	-0.47 *** (-2.59)	0.48 (0.51)	-0.05 (-0.07)	0.55 (0.73)	0.30 (0.31)	0.58 (0.83)	-0.76 (-0.80)
Expshare w/ State Constitution	-0.66 *** (-4.20)	1.37 ** (2.29)	1.14 * (1.76)	1.67 * (1.90)	1.07 (1.61)	1.27 (1.62)	-0.39 (-0.70)
Expshare w/ State/Local Election	-0.52 *** (-3.40)	1.04 * (1.85)	0.83 (1.64)	1.00 (1.36)	0.74 (1.36)	0.86 (1.41)	-0.09 (-0.16)

Notes: White's heteroskedastic-consistent t-statistics are in parentheses. (\*\*\*), (\*\*), (\*) denote significance at the 1, 5, and 10 percent levels.

Note that when the (rescaled) ICRG index is used as the dependent variable, a negatively signed expenditure share indicator shows that more decentralization is associated with less, not more, perceived corruption. The finding that fiscal decentralization reduces corruption is in line with the evidence reported by Fisman and Gatti (2000), although our parameter estimates are slightly lower.<sup>16</sup>

When the other governance indicators are used as the dependent variables, the parameter estimates are also statistically significant, except for the indicators of regulatory burden and voice and accountability. The coefficients are nevertheless smaller in magnitude than in the case of the ICRG corruption index: a one-standard deviation increase in the decentralization indicator improves governance by 20 percent of a standard deviation, instead of approximately 40 percent in the case of the ICRG corruption indicator.

The baseline regressions include the (logarithm of) GDP per capita in PPP terms and the (logarithm of) population to control for income and size, as discussed earlier. Both variables are signed as expected. Income (population) is associated with better (worse) governance indicators. The results are robust to the inclusion of the Gastil index of civil liberties in the regressions, as in Fisman and Gatti (2000), in the case of both the ICRG corruption index and the graft indicator. The results also hold, in general, when the equations are re-estimated including an OECD country dummy to identify the countries in the sample that are more likely to have a better governance track record (Huther and Shah, 1998). Moreover, the parameter estimates, slightly lower in these regressions, are in general robust to the inclusion of variables capturing religious tradition and democracy.<sup>17</sup> These variables have been identified as important determinants of corruption.

Political decentralization may affect governance, particularly corruption, as discussed previously. The baseline parameter estimates are also robust to the inclusion of three indicators of political decentralization: (1) an indicator of whether state/local governments

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<sup>16</sup> Our sample is larger; even if we restrict attention to the 1980s and to the countries that report GFS data for the consolidated central government. Also, Fisman and Gatti (2000) use GDP and population data from the Summers-Heston Penn World dataset, which does not cover the late 1990s, thus excluding information on most transition countries. Instead, we use more updated data available from the World Bank's World Development Indicators (WDI). Incidentally, we experimented with including a dummy variable to identify the transition economies in the sample. The transition economy dummy tends to be significant, suggesting that these countries, controlling for all else, have worse governance outcomes. Nevertheless, the interaction of the transition country dummy and the decentralization indicator is not in general statistically significant.

<sup>17</sup> The proportion of Protestants in a country's population is used to proxy for religious traditions. Democracy is proxied by a dummy variable identifying the countries in the sample that have been democracies continuously since 1950. Both variables are available from Treisman (2000). Both Protestantism and democracy are expected to be associated with less perceived corruption. Although not reported in Table 2, the coefficient of Protestantism and democracy are indeed associated with better governance in the relevant equations.

are locally elected;<sup>18</sup> (2) a dummy variable identifying the countries in the sample where subnational governments have significant authority over taxing, spending, and legislating; and (3) a dummy variable identifying the countries where the senate is appointed or elected through middle-tier constituencies (i.e., states and provinces), rather than on a national basis. It can be argued that subnational interests are reinforced when the constituencies of national legislators match those of subnational jurisdictions. These indicators are obtained from the political institutions data set constructed by Beck and others (2000). Moreover, the sensitivity analysis shows that the state/local election indicator is positively associated with political instability and violence, the subnational authority dummy is positively associated with graft and government effectiveness, and the senate election dummy is positively associated with corruption at classical levels.

### C. Dealing with Reverse Causality

Parameter estimates may be biased due to reverse causality, as well as omitted variables. It can be argued that reverse causality is unlikely in the estimation of equation (1) because decentralization and governance indicators have been constructed using data for different time periods. Earlier data were used to construct the decentralization averages, starting in the early 1980s, whereas the governance indicators have been constructed using data for 1997–98, with the exception of the ICRG corruption index.

Notwithstanding these considerations, we examined the possibility of reverse causality more thoroughly by re-estimating the baseline regressions by two-stage least squares. The choice of adequate instruments for the decentralization indicator is far from settled in the literature. For instance, Fisman and Gatti (2000) use dummies identifying the countries' legal origins (British, French, Socialist, Germanic, or Scandinavian) as instruments for decentralization. This choice of instruments was motivated by La Porta and others (1998). The argument is that a country's political and social institutions determine governance outcomes and that these institutions can be inherited from colonial powers (Acemoglu, Johnson, and Robinson, 2000; and Treisman, 2000). In line with the literature, we also used these legal origin dummies as the instruments for decentralization and obtained consistent results.<sup>19</sup>

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<sup>18</sup> The variable takes value 0, if neither the local executive nor the local legislature are locally elected; 1, if the local executive is appointed, but the local legislature is elected; and 2, if both the executive and the legislature are elected. Separate scores for local and middle-tier jurisdictions are averaged.

<sup>19</sup> Based on a later paper on corporate governance by Rajan and Zingales (1996), Fisman and Gatti (2000) argue that legal origin affects corruption primarily through its association with fiscal decentralization. The legal origin dummies performed well in the first-stage equations, which also included an intercept. The explanatory power of the first-stage regression is large, with an R-squared statistic of 0.25. Unlike the French origin dummy, most of the dummies were significant relative to the omitted British origin dummy. However, most countries in the sample have either French or British legal origin. When we tested for a direct impact of these instruments on corruption, in a regression that also included the expenditure share indicator as an explanatory variable, we found, as expected, that most dummies were not statistically significant, except for the Scandinavian legal origin dummy. See Treisman (2000), for a detailed discussion on the association between legal origin, colonial heritage, and corruption.

The results reported in Table 3 show that, in several cases, the coefficient of the decentralization indicator is still statistically significant and signed as expected, and greater in magnitude when instrumented by the legal origin dummies. Statistical significance of the decentralization indicators is nevertheless lost when equation (1) is estimated for the indicators of graft, government effectiveness, voice and accountability, and rule of law. We also experimented with other possible instruments, including the initial expenditure share for each country. The results are also reported in Table 3.<sup>20</sup> Moreover, we experimented with the country's land area as an alternative instrument for decentralization, in the belief that it would be positively associated with decentralization, for geographical reasons that might affect communications and logistics. The results compare poorly with those obtained when the legal origin dummies are used as instruments for decentralization, and were therefore omitted.<sup>21</sup>

## V. DECENTRALIZATION AND SUBNATIONAL REVENUE MOBILIZATION

### A. Revenue Mobilization Capacity

It has often been argued that governance is affected not only by fiscal decentralization but also by how subnational expenditures are financed. The key argument is that, as discussed earlier, a closer match between local expenditures and revenue mobilization is likely to improve accountability (Ter-Minassian, 1997; and de Mello, 1999 and 2000a). To test the hypothesis that subnational revenue mobilization affects the association between decentralization and governance, we created three separate expenditure share indicators depending on their financing sources: tax revenues, nontax revenues, and grants and transfers from higher levels of government.

Equation (1) was redefined as:

$$I_{ij} = E_{0j} + \sum_k E_{1jk} (D_{ij} * R_{ijk}) + E_{2j} C_{ij} + \varepsilon_{ij}, \quad (2)$$

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<sup>20</sup> It may be argued that the initial expenditure share is not a good instrument for current decentralization because decentralization indicators tend to exhibit little variation over time. In this case, the difference between current and initial values of decentralization may be too small. Because of the limited within-country variation in the data, we did not proceed to estimate the equations as a panel.

<sup>21</sup> In the first-stage regression, the association between land area and expenditure share is statistically significant and correctly signed, and the R-squared statistic is about 0.15. The explanatory power of land area remains significant even after we control for GDP per capita and population. However, in the second-stage regression, the instrumented expenditure share loses significance. Panizza (1999) finds that a country's land area is significantly correlated with decentralization, even after controlling for other determinants of decentralization, such as ethnic fractionalization and indices of democracy. The association between decentralization and democracy and ethnic fractionalization is nevertheless not robust to different sample sizes.

Table 3. Instrumental Expenditure Decentralization and Governance: Cross-Sectional Analysis, 1980–1998

	Corruption		Graft		Government Effectiveness		Voice and Accountability		Rule of Law		Political Instability Violence		Regulatory Burden	
	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share	Legal origin	Initial expenditure share
Expenditure share	-0.57 *** (-2.77)	-0.51 *** (-4.81)	1.04 (1.15)	1.56 *** (2.97)	0.20 (0.24)	1.08 ** (2.46)	0.56 (0.69)	0.84 (1.34)	1.08 (1.38)	0.97 ** (2.10)	1.49 * (2.02)	1.36 *** (2.85)	-1.28 * (-1.69)	-0.07 (-0.14)
Log of GDP per capita	-0.10 *** (-4.25)	-0.10 *** (-5.54)	0.59 *** (5.99)	0.55 *** (6.53)	0.61 *** (6.58)	0.54 *** (7.16)	0.58 *** (5.78)	0.56 *** (6.00)	0.48 *** (5.12)	0.49 *** (6.18)	0.40 *** (4.06)	0.41 *** (4.89)	0.39 *** (5.79)	0.30 *** (6.22)
Log of population	0.03 *** (3.09)	0.03 *** (3.46)	-0.09 * (-1.86)	-0.11 ** (-2.60)	-0.03 (-0.61)	-0.06 (-1.57)	-0.05 (-0.90)	-0.06 (-1.16)	-0.07 (-1.53)	-0.07 (-1.58)	-0.08 (-1.34)	-0.07 (-1.32)	0.04 (0.72)	-0.01 (-0.22)
No. of observations	75	75	78	78	78	78	78	78	78	78	78	78	78	78
Adjusted R2	0.53	0.53	0.56	0.55	0.54	0.55	0.52	0.52	0.49	0.49	0.39	0.39	0.21	0.26
First Stage R2 w/o controls	0.22	0.78	0.22	0.78	0.22	0.78	0.22	0.78	0.22	0.78	0.22	0.78	0.22	0.78
First Stage R2 with controls	0.57	0.89	0.57	0.89	0.57	0.89	0.57	0.89	0.57	0.89	0.57	0.89	0.57	0.89
Sargan's P														
F/PZ*E	0.17	0.00	9.14	0.00	4.52	0.00	1.16	0.00	4.51	0.00	1.61	0.00	1.17	0.00

Note: White's heteroskedasticity-consistent t-statistics are in parentheses. (\*\*\*) (\*\*), (\*) denote significance at the 1, 5, and 10 percent levels. For Corruption, the first-stage regressions have 4 additional observations.

where  $I_{ij}$  denotes the  $j$ -th governance indicator for the  $i$ -th country in the sample;  $D_{ij}$  is the fiscal decentralization indicator;  $R_{ijk}$  denotes the  $k$ -th revenue mobilization indicator, for  $k = (1, \dots, N)$ ;  $C_{ij}$  is a vector of control variables; and  $\varepsilon_{ij}$  is an error term. The basic hypothesis to be tested is  $\beta_{ijk} \neq 0$ , for each  $j$  and at least one  $k$ .

The revenue mobilization indicators are (1) the **tax autonomy** indicator, defined as the share of local governments' own tax revenues in total subnational revenues; (2) the **vertical imbalance** indicator, defined as the share of grants and transfers from the central government in total subnational revenues; and (3) the **nontax autonomy** indicator, defined as the share of nontax revenues in total subnational revenues.

The results of the estimation of equation (2) for each separate governance indicator are reported in Table 4.<sup>22</sup> In general, some parameter estimates tend to be statistically significant when the ICRG corruption and graft indices are used as the dependent variables, even after controlling for OECD membership. When the ICRG corruption index is used as the dependent variable, we find that governance is improved by increasing the share of subnational expenditures financed through grants and transfers from higher levels of government and nontaxes. For the indicator of graft, subnational expenditures financed through nontax revenues have a statistically significant association with governance, even after controlling for OECD membership. These results are consistent with the literature in that the mobilization of nontax revenues at the subnational level—primarily via user charges—is associated with better governance (Humplick and Estache, 1995).

## B. Does the Level of Decentralization Matter?

Expenditure decentralization financed through subnational tax revenues does not seem to affect governance strongly. This is surprising because taxes are the main source of subnational revenues in the sample, with a mean share in total subnational revenues of 45 percent, relative to 20 percent for nontax revenues. Moreover, we argue that the impact of subnational revenue mobilization on governance depends on the country's level of decentralization.<sup>23</sup> To this end, we experimented with including the revenue mobilization and

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<sup>22</sup> We started by including the revenue mobilization indicators in the estimating equation one by one, without controlling for the level of subnational expenditures, and found that these indicators do not seem to have an impact on governance. The findings are robust, however, to the inclusion of the expenditure share indicator in the regressions, together with the tax revenue mobilization indicator (except when the indices of graft and voice and accountability are used as the dependent variables), and the nontax revenue mobilization indicator. These results suggest that subnational nontax revenue is positively associated with better governance, as expected. The empirical results, not reported to economize on space, are available upon request.

<sup>23</sup> Stein (1998), in a different context, also makes the argument that the coefficient on the revenue source should not be of the same magnitude and significance at different levels of local expenditure.

Table 4. Financing Source Decentralization and Governance: Cross-Sectional Analysis, 1980–1998

	Corruption		Graft		Government Effectiveness		Voice and Accountability		Rule of Law		Political Instability and Violence		Regulatory Burden	
Expshare * vertical imbalance	-0.69 ** (-2.17)	-0.54 * (-1.90)	1.10 (0.70)	0.32 (0.27)	1.75 (1.30)	1.00 (0.95)	1.77 (1.52)	1.36 (1.33)	0.99 (0.67)	0.29 (0.25)	1.03 (0.68)	0.54 (0.40)	0.08 (0.06)	-0.24 (-0.20)
Expshare * tax autonomy	-0.19 (-0.76)	-0.37 (-1.58)	-0.70 (-0.55)	0.10 (0.12)	-0.60 (-0.44)	0.15 (0.15)	-0.84 (-0.68)	-0.39 (-0.34)	-0.49 (-0.39)	0.15 (0.19)	0.79 (0.65)	1.24 (1.26)	-1.81 (-1.40)	-1.54 (-1.27)
Expshare * nontax autonomy	-1.54 * (-1.92)	-0.77 (-1.04)	10.86 ** (2.05)	5.97 * (1.80)	6.03 (0.94)	1.76 (0.36)	5.80 (1.07)	3.44 (0.72)	7.02 (1.61)	2.93 (1.20)	4.19 (0.98)	1.53 (0.48)	6.66 (1.20)	4.97 (0.96)
Log of GDP per capita	-0.11 *** (-5.16)	-0.03 (-1.16)	0.56 *** (5.62)	0.15 * (1.76)	0.55 *** (5.37)	0.18 * (1.83)	0.56 *** (5.11)	0.33 ** (2.63)	0.48 *** (4.75)	0.11 (0.84)	0.42 *** (4.11)	0.17 (1.18)	0.27 *** (3.69)	0.14 (1.62)
Log of population	0.04 *** (3.37)	0.04 *** (3.44)	-0.13 *** (-3.03)	-0.12 *** (-3.30)	-0.08 * (-1.77)	-0.06 * (-1.71)	-0.08 * (-1.74)	-0.08 (-1.66)	-0.08 (-1.64)	-0.07 * (-1.87)	-0.08 (-1.34)	-0.08 (-1.31)	-0.01 (-0.19)	-0.01 (-0.13)
OECD dummy		-0.24 *** (-4.16)		1.32 *** (6.01)		1.16 *** (5.00)		0.68 *** (3.06)		1.23 *** (4.54)		0.78 ** (2.51)		0.44 ** (2.30)
Fraction Positive	0.91	0.91												
Log-Likelihood	25.97	33.80												
No. of observations	66	66	69	69	69	69	69	69	69	69	69	69	69	69
Adjusted R2			0.63	0.77	0.58	0.71	0.60	0.64	0.50	0.65	0.38	0.43	0.28	0.31
F statistic			23.93	38.00	19.90	28.34	21.15	21.33	14.84	22.30	9.26	9.59	6.34	6.20

Note: White's heteroskedastic-consistent t-statistics are in parentheses. (\*\*\*), (\*\*), (\*) denote significance at the 1, 5, and 10 percent levels.

decentralization indicators as interaction terms in the estimating equation. In this case, for instance, the interaction of the expenditure share indicator with the local financing ratio, defined as the share of tax and nontax revenues in total subnational revenues, is included together with the local financing ratio and the expenditure share indicator as separate regressors.<sup>24</sup> The results are reported in equation (3):

$$I_i = -4.32 + 5.77 D_i - 6.67 (D_i * R_i) + 1.27 R_i + 0.61 \ln(GDP/pop)_i - 0.10 \ln(pop)_i \quad (3)$$

(-3.43)    (2.97)    (-2.20)            (2.10)    (6.98)                    (-2.34)

where  $I_i$  is the graft index for country  $i$ ,  $D_i$  is the subnational expenditure share in country  $i$ , and  $R_i$  is the local financing ratio (taxes and nontaxes combined) in country  $i$ . The numbers in parentheses are t-statistics. All coefficients are significant at the 5 percent level or higher.<sup>25</sup>

Equation (3) shows that the interaction term is statistically significant, as well as the direct effect of local financing and the coefficient of the expenditure share indicator.<sup>26</sup> Nevertheless, the interaction term is negatively signed, suggesting that governance deteriorates through decentralization when subnational revenue mobilization is high.<sup>27</sup> The turning point for the decentralization indicator is 19 percent (1.27 divided by 6.67), which is close to the sample mean of 21 percent. In other words, governance deteriorates when further subnational revenue mobilization is pursued in the course of decentralization in countries where subnational governments already account for more than 19 percent of total government spending. This may be due to primarily lack of accountability and/or weak capacity at the local level. By corollary, subnational revenue mobilization is associated with

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<sup>24</sup> In this case, equation (1) was re-estimated as follows:  $I_{ij} = \beta_{0j} + \beta_{1j}D_{ij} + \beta_{2j}(D_{ij} * R_{ij}) + \beta_{3j}R_{ij} + \beta_{4j}C_{ij} + \varepsilon_{ij}$ , where  $I_{ij}$  denotes the governance indicator, as before;  $D_{ij}$  is the fiscal decentralization indicator;  $R_{ij}$  is the revenue mobilization indicator;  $C_{ij}$  is a vector of control variables; and  $\varepsilon_{ij}$  is an error term. The basic hypotheses to be tested are  $\beta_{1j} \neq 0$ ,  $\beta_{2j} \neq 0$ , and  $\beta_{3j} \neq 0$ , for each  $j$ . The results of the estimation of this equation are available upon request.

<sup>25</sup> Seventy-three observations were used in this regression, and the F-statistic for zero slopes is 20.31. The results using the government effectiveness index as the dependent variable are similar in magnitude and statistical significance. For the ICRG corruption index, the expenditure share and the interaction term are still significant, but the coefficient of the separate local financing ratio is not. For the other governance indices, the results are also not significant for this variable, or even its interaction with the expenditure share.

<sup>26</sup> Tax and nontax revenues were combined in a single local financing variable. When these terms, as well as their interactions with the expenditure share, were included separately in the estimating equation, the results were found to be less promising, especially for the nontax autonomy indicator.

<sup>27</sup> We also performed an  $F$ -test of joint significance for the expenditure share and the interaction term, and could not accept the hypothesis that they are jointly equal to zero.

improved governance for those countries with smaller subnational governments, which comprise most of the developing countries in the sample.<sup>28</sup> The results also show that expenditure decentralization remains positively associated with governance, unless local revenue mobilization is extremely high, at 87 percent (5.77 divided by 6.67) or higher. These levels of decentralization are not common in a sample of countries where the mean local financing ratio is 65 percent and the standard deviation 22 percent.

### C. More on the Level of Decentralization

To further examine the relationship between governance and decentralization, we broke down the expenditure share indicator into quartiles and tested for possible nonlinearities in the relationship between decentralization and governance. To this end, dummy variables were constructed to identify each separate quartile in the cross-country distribution of expenditure shares.

Equation (1) was redefined as:

$$I_{ij} = \beta_{0j} + \sum_q \beta_{1jq} (D_{ij} * Q_{ijq}) + \beta_{2j} C_{ij} + \varepsilon_{ij}, \quad (4)$$

where, as above,  $I_{ij}$  denotes the governance indicator;  $D_{ij}$  is the fiscal decentralization indicator;  $Q_{ijq}$  denotes the  $q$ -th quartile dummy with  $q = (1, \dots, Z - 1)$ ;  $C_{ij}$  is a vector of control variables; and  $\varepsilon_{ij}$  is an error term.<sup>29</sup>

The hypothesis to be tested is that a minimum level of decentralization is needed for governance to improve. In other words, the basic hypothesis to be tested is  $\beta_{1jq} \neq 0$ , for each  $j$  and at least one  $q$  included in the regression.

The results reported in Table 5 show that only the highest quartile is statistically significant, even when the OECD country dummy is included in the estimating equation. This is suggestive that decentralization is associated with improved governance only at relatively high levels of expenditure decentralization. For the ICRG corruption index, we find that the coefficient of the highest quartile is statistically significant whereas, for the remaining governance indicators, none of the coefficients on the expenditure quartiles is statistically significant.<sup>30</sup>

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<sup>28</sup> Some of these findings are not robust to the inclusion of the OECD country dummy.

<sup>29</sup> The dummy omitted in the estimation of equation (4) was that identifying the lowest quartile in the distribution of expenditure shares in the sample.

<sup>30</sup> These coefficients are significant, however, for a subsample that excluded the 15 countries for which only budgetary central government expenditures were available.

## D. Discussion

To recap these ideas, the empirical findings reported above show that governance is improved when subnational spending is financed by mobilizing nontax revenues. This is not controversial. However, the weak correlation between governance and the mobilization of tax revenues to finance subnational spending is surprising, given that the share of tax revenues in total subnational revenues is more than double that of nontax revenues. We also find that governance is improved if subnational spending levels are very high.

These findings imply that expenditures should not be decentralized regardless of subnational revenue mobilization capacity and effort. This is in line with the literature, which recommends avoiding a mismatch between subnational revenues and expenditures in the course of decentralization (Tanzi, 1995; Prud'homme, 1995; Ter-Minassian, 1997; Bahl, 1999; de Mello, 2000a). We show that governance deteriorates when subnational revenue mobilization is pursued in countries where subnational governments already account for more than 19 percent of total government spending. The estimated ratio is close to the sample mean of 21 percent. The finding implies that, if a country is already beyond this critical level, further expenditure decentralization should be financed through nontax revenue mobilization and/or greater reliance on grants and transfers from higher levels of government, rather than increased decentralization of tax bases.

We venture three explanations for the estimated association between subnational revenue mobilization and governance.

- These findings may suggest that the countries in the sample have already reached the optimal level of tax base decentralization. To explore this line of argument fully, information would be needed on measures of optimality in the allocation of tax bases to subnational governments and tax compliance at the subnational level. Unfortunately, the former is not measurable and the latter is not readily available. In any case, the argument is as follows. Mobile tax bases are best managed by higher levels of government due to the possibility of tax exportation, factor mobility, and economies of scale, among others. In principle, these tax bases should not be assigned to subnational governments.<sup>31</sup> If the tax bases that are best managed by subnational governments have already been assigned to them—as in the likely case of countries where subnational tax autonomy ratios are already high—further decentralization of tax bases to finance subnational expenditures may lead to allocative inefficiencies, which may in turn worsen governance scores.<sup>32</sup>

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<sup>31</sup> See de Mello (2000a), for further information.

<sup>32</sup> Unfortunately, it is not possible to ascertain whether subnational tax autonomy is low because tax bases are not assigned to subnational governments or, alternatively, whether subnational governments do not fully exploit  
(continued...)

- Alternatively, subnational governments may face soft budget constraints. In this case, governance may deteriorate because of the mismatch between subnational governments' expenditure functions and revenue raising capacity. Because of this mismatch, subnational spending may rise regardless of the tax autonomy facing subnational jurisdictions. Consequently, further decentralization of tax bases may weaken governance, not because of the extent of expenditure decentralization per se, but due to the lack of hard budget constraints at the subnational level.<sup>33</sup>
- Another possible explanation for the weak correlation between governance and decentralization financed through subnational tax revenue mobilization is the political capture of local government by interest groups. A possible argument is that local elites may not fully exploit local tax bases to reduce their own tax burden, particularly when subnational governments face soft budget constraints, as discussed above. Alternatively, as suggested by Bardhan and Mokherjee (1998), local elites may increase the local tax burden on the middle class to finance the projects that benefit them (the local elites) more. The possibility of local capture supports the introduction of user charges, and nontax revenue mobilization in general, rather than general local taxation, to finance subnational government spending.

Against this background, we tested the hypothesis that governance can be improved not only as a result of fiscal decentralization, but also due to political decentralization, to the extent that local officials are elected, rather than centrally appointed. The argument is that political decentralization, proxied by local elections, may provide the checks and balances needed to avoid, or at least reduce, local capture in the context of fiscal decentralization. We used the local/municipal elections variable obtained from Beck and others, (2000) interacted with the expenditure share indicator. The results were not found to be robust to the different governance indicators. However, we did find a positive association between local elections and governance for the sample of developing countries. The weak results may be due to the difficulty in assessing the degree of decision-making autonomy enjoyed by local governments, which is not captured by the local/municipal elections variable.

## VI. CONCLUSIONS AND POLICY IMPLICATIONS

This paper sought to shed more light on the relationship between fiscal decentralization and governance. The empirical evidence provided for a sample of both developing and developed economies suggests that, despite data inadequacies and methodological limitations, governance can be enhanced through the decentralization of expenditure functions to subnational governments. Moreover, the higher the share of subnational spending in total

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the tax bases that are assigned to them. Tax autonomy may be low at the subnational level due to noncompliance, for example, rather than lack of tax bases.

<sup>33</sup> Testing this hypothesis empirically is not an easy task because the data sets used in this paper do not allow for a qualitative assessment of the budget constraints facing subnational governments.

government expenditures, the stronger the positive association between decentralization and governance. The results are in general robust to the inclusion of standard controls and a number of widely used governance indicators.

We have shown that governance is affected not only by fiscal decentralization but also by how subnational expenditures are financed. This is a considerable improvement on the previous studies in the literature, which focus almost exclusively on political and/or expenditure-based indicators of decentralization. The empirical results show that:

- For any level of fiscal decentralization, the higher the share of nontax revenues and grants and transfers from higher levels of government in total subnational revenue, the stronger the association between decentralization and governance.
- For a broader measure of subnational revenue mobilization that includes tax and nontax revenues, the level of expenditure decentralization affects the association between governance and revenue mobilization. In countries where subnational governments are large, governance may worsen when local tax revenue mobilization is pursued in the course of decentralization. Further decentralization of tax bases may therefore lead to allocative inefficiencies and hence poorer governance. This may be due to, among other things, soft budget constraints at the subnational level.

With regard to policy recommendations, the empirical evidence reported in this paper underscores the need for caution in the use of decentralization as a tool for improving governance. For decentralization to be a catalyst for improved governance and accountability in government, appropriate economic and political institutions are needed to insulate the decentralization process from excessive capture of the benefits of government provision by local, rather than national, elites, and to ensure that subnational governments operate under hard budget constraints. The possibility of local capture supports greater reliance on nontaxes and grants and transfer from higher levels of government to finance subnational spending, rather than local tax revenue mobilization. Moreover, limited capacity at the subnational level may impose constraints on the ability of the government to extract information on local preferences and needs and, therefore, to provide local goods and services efficiently and adequately. Furthermore, allocative inefficiencies may result from the suboptimal allocation of tax bases to subnational governments to finance decentralized provision.

Cognizant of the need for caution in implementing decentralization programs, several PRSPs have highlighted pre-conditions for successful decentralization in term of (1) strengthening managerial, administrative, and supervisory capacity at the local level; (2) establishing sustained partnership within the government and with decentralized administrations; (3) encouraging pragmatism and gradualism to allow the communities to organize themselves and to respond to local expectations; and (4) fostering citizen participation through civil society organizations in local development, not only in the formulation of objectives and choice of means but also in execution and supervision of actions undertaken.

The empirical results reported above also warrant, albeit indirectly, a word of caution on the appropriate sequencing of reform in countries where fiscal decentralization is to be used as a policy instrument for improving governance. Because improvements in governance take time to mature, fiscal decentralization should not be used as a catalyst for improving governance in the short term. Moreover, fiscal decentralization affects governance through different revenue mobilization instruments. In this case, institutional capacity should be built in subnational jurisdictions to allow them to fully exploit the tax bases and nontax instruments that they are best equipped to manage and administer. Capacity should also be built in the areas of tax administration, as well as budget preparation, execution, and supervision, so that local government officials can handle the increased volume of resources assigned and/or devolved to them through decentralization and are faced with hard budget constraints. In the course of political, rather than fiscal, decentralization, citizen participation should be encouraged through civil society organizations, not only in the formulation of objectives and choice of means but also in execution and supervision of government actions.

### GOVERNANCE INDICES: MORE INFORMATION

The ICRG corruption index measures corruption within the political system. It is argued that this type of corruption distorts the economic and financial environment, reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability, and introduces inherent instability in the political system. The most common form of corruption met directly by business is financial corruption in the form of demands for bribes connected with import and export licenses, exchange controls, tax assessments, and police protection. This measure is also concerned with actual or potential corruption in the form of patronage, nepotism, job reservation, “favor-for-favor,” secret party funding, and suspiciously close ties between politics and business.

With regard to the other governance indicators used in the empirical section, the following definitions are taken from Kaufmann, Kraay, and Zoido-Lobaton (1999b, pp. 7–8):

- “Graft” measures the perception of corruption, generally defined as the exercise of public power for private gain. The particular aspect of corruption measured by the various data sources included in the construction of the index ranges from the frequency of additional payments to “get things done” to the effects of corruption on the business environment.
- “Rule of Law” includes several indicators measuring the extent to which agents have confidence in, and abide by, the rules of society. The index is constructed using information on the perceived incidence of both violent and nonviolent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts.
- “Government Effectiveness” combines perception of the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government’s commitment to policies.
- “Regulatory Burden” includes measures of the incidence of market-unfriendly policies, such as price controls or inadequate bank supervision, as well as perception of the burdens imposed by excessive regulation in several areas, such as foreign trade and business development, among others.
- “Voice and Accountability” is composed of several measures relating to the political process, civil liberties, and political rights. The index is constructed using information on the extent to which citizens of a country are able to participate in the selection of governments, and various measures of the independence of the media.
- “Political Instability and Violence” combines several indicators measuring perception of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means.

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