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Governance and Growth:

Measurement and Evidence

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Forum 2

The Institutional Economics Approach to Aid Effectiveness

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Forum 2 Session on Empirical Indicators linking Governance to Growth

**GOVERNANCE AND GROWTH:
MEASUREMENT AND EVIDENCE**

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Abstract

Development and growth economists agree on the theoretical connections between good governance and sustained increases in living standards. Where the incentives within a society lead wealth-maximizing individuals to *produce* new wealth rather than *divert* it away from others, development is sure to follow, the theory predicts. However, the empirical evidence for these claims have been delayed by the lack of available data on political and social institutions, and the quality of governance.

This paper describes the gradual accumulation of indicators and evidence of the links between governance and growth, focusing on broad cross-country analyses. While each governance indicator developed thus far is in some way imperfect, the faults of some measures are entirely independent from those of others. Therefore, in aggregate, the totality of indicators point in the same direction: good governance is crucial for growth.

Unfortunately, while current indicators are getting better at determining the quality of governance, they still are unable to implicate particular institutional arrangements that donors should devote their attention and resources towards. Moreover, the subjectivity of some indicators invites suspicion from local governments and makes reform difficult.

Thus, the paper concludes by discussing the need for more institutionally-specific and transparently constructed governance indicators, and summarizes progress in identifying and collecting these “second generation” indicators.



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Growth and Governance: Measurement and Evidence

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1. Introduction

In most societies throughout history and in much of the underdeveloped world today, incentives have favored predation over production, or “taking” instead of “making” (Usher, 1987; North, 1990: 9, 78; Olson, 2000: 1).¹ Where social and legal mechanisms for enforcing contracts and property rights are weak or absent, the private returns to redistributive efforts will generally exceed the private returns to production. An emerging consensus among development and growth economists views good governance as a prerequisite to sustained increases in living standards. The difference between developmental success and failure in this view has little to do with natural resource availability, climate, foreign aid, or luck. It is, rather, largely a function of whether incentives within a given society steer wealth-maximizing individuals toward *producing* new wealth or toward *diverting* it from others.

* The findings, interpretations, and conclusions expressed in this paper are entirely those of the author. They do not necessarily represent the views of the World Bank, its Executive Directors, or the countries they represent.

¹ In *Les Systemes Socialistes* (1902), Vilfredo Pareto wrote: “Societies...offer men two essentially different ways of acquiring wealth. One is by producing it directly or indirectly through the work and services of the capital they possess. The other is by acquiring the wealth thus produced by others. These two methods have at all times been employed...the second method...is a general and enduring phenomenon.”

The relative payoffs of production and predation (or “making” versus “taking”) are determined not only by legal mechanisms for enforcing contracts and protecting property rights, but also by social norms that facilitate interpersonal trust. These social institutions, where they are effective, complement the effect of government institutions in reducing uncertainty and transactions costs, enhancing the efficiency of exchange, encouraging specialization, and encouraging investment in ideas, human capital, and physical capital. Where social and legal mechanisms for the efficient resolution of prisoners’ dilemma and principal-agent games are weak or absent—i.e., where most potential pairs of economic transactors cannot trust each other—the private returns to predation increase while the private returns to production fall.

This basic perspective on the importance of good governance for growth gradually gained adherents over the 1980s and 1990s, following several decades in which development failures were attributed successively to capital shortages, low education, and policy distortions, with little attention devoted to the political and institutional sources of these problems. In his study of long-term economic growth in 40 non-industrialized nations from 1850 to 1950, Lloyd Reynolds (1983: 976) conjectured that “the single most important explanatory variable” was “political organization and the administration of government.” This view was elaborated most famously later in the decade by North (1990: 9) who argued that in non-developing societies “opportunities for political and economic entrepreneurs overwhelmingly favor activities that promote redistributive rather than productive activity, that create monopolies rather than competitive conditions, and that restrict opportunities rather than expand them.” Systematic empirical tests of these ideas were delayed, however, by the lack of available data on political and social institutions and the quality of governance. North (1990: 107) even argued that “we cannot see, feel, touch, *or even measure* institutions” (emphasis added).

Despite difficulties in measurement, numerous studies have analyzed the impact of institutions and the quality of governance on economic performance. The next section of this paper describes the gradual accumulation of indicators and evidence, focusing on broad cross-country analyses. Each of the governance indicators used in this work has one or more major deficiencies. However, the faults of some measures are entirely independent of the flaws in others, so it is extremely unlikely that these measures all impart a bias in the same direction. Yet, all of the evidence points in the same direction, i.e. that good governance is crucial for growth.

While the indicators described in section 2 have been instrumental in putting governance at the top of donors' agendas, they are less useful in telling governments or donors what they can do to improve the quality of governance. The indicators are not specific enough to implicate particular institutional arrangements that donors can do anything about, so donors can only guess which reforms from an enormous "best practice" menu in civil service, budget management, or other areas might have the largest payoffs in improving the quality of governance. Moreover, the subjectivity of most of these indicators leads many developing country governments to view them with suspicion. The final section accordingly discusses the need for more institutionally-specific and transparently constructed governance indicators, and summarizes progress in identifying and collecting these "second generation" indicators.

2. Constructing and Testing Governance Indicators

Despite his assertion that "we cannot...measure institutions," North (1990: 134-5) encourages quantification of their effects on transactions costs, and actually suggests several proxies for institutional inefficiency, including interest rates (1990: 43, 69), or the length of time required to get a telephone or spare

parts (65, 135). Another possible indicator is the size of the public sector, as the greater the share of society's resources influenced by government decisions, the greater is the incentive to devote resources to rent seeking instead of producing (North 1990: 87). However, government expenditure is an extremely crude indicator of the share of social resources influenced by government, particularly in poorly-governed countries. For example, government expenditures are unaffected when corrupt government officials allocate business permits, monopoly rights, or scarce foreign exchange in exchange on the basis of bribes, personal ties, or political support.² The literature accordingly has moved in other directions.

Civil Liberties and Political Freedoms

Kormendi and Meguire (1985) were the first researchers to explore the relationship between governance and post-war economic performance using a cross-country statistical approach. For a sample of 47 countries for the 1950-77 period, they examine the impact on investment and growth rates of population growth, government size, trade openness, inflation, and "civil liberties." The latter is an index published by Freedom House (various years). Values range from 1 to 7, with lower scores indicating greater civil liberties. Kormendi and Meguire were interested in testing the impact of political and social freedoms, as well as "economic rights, such as freedom from expropriation or the enforceability of property rights and private contracts." They acknowledged that the civil liberties index was not intended to measure "economic rights", but argued that the two were likely correlated (p. 154). Kormendi and Meguire found that growth rates were about 1 percentage point higher on average in the high civil liberties countries,

²Barro (1991) and others have investigated the relation of different types of government spending to economic growth. Most studies find no relationship between total government spending and growth. Barro finds that a measure of government spending which nets out education, defense, and public investment is negatively associated with growth across countries.

controlling for the other independent variables mentioned above. Subsequent studies by Scully (1988) and Grier and Tullock (1989) found a positive relationship between civil liberties and growth for much larger samples of countries. Scully (1988) used the civil liberties indicator (and a similar political freedoms indicator also published by Freedom House), as measures of the "institutional framework." Emphasizing the "independence of the judiciary" among the various criteria Freedom House used in evaluating civil liberties, Scully viewed this variable as a proxy for the rule of law.

Because of the large number and variety of criteria factored into the Freedom House civil liberties index, it is a questionable proxy for more narrow governance concepts such as the rule of law, contract enforceability, or security of property rights. While certain criteria are highly relevant -- e.g. rights to property, independence of the judiciary, and freedom from government corruption -- others are not, such as the presence of free religious institutions, free trade unions, and freedom from "gross socioeconomic inequality" and "gross government indifference."

Studies conducted in the 1990s on the relation between type of regime and growth interpreted the Freedom House political freedoms and civil liberties indexes as measures of democracy. Barro (1996) and Helliwell (1994) find that these indexes are positively related to growth only if variables such as educational attainment and investment rates are omitted as explanatory variables. They conclude that any beneficial effect of democracy on growth may operate through these factor accumulation channels. Barro finds that a curvilinear relation between growth and the indexes fits the data better than a linear specification, with the fastest rates of growth exhibited by countries that are only partly free.³ Barro, Helliwell, and Burkhardt and

³Studies of the determinants of deaths from political violence found a similar curvilinear relation, with deaths highest among countries with intermediate values of the Freedom House indexes. See, for example, Muller and Weede (1990).

Lewis-Beck (1994) all conclude that the positive relation between income levels and democracy is largely attributable to the effect of income on democracy rather than vice versa. These results are consistent with Lipset's (1959) interpretation of the correlation between income and democracy. (See Przeworski and Limongi 1993 for a critical review of the extensive and inconclusive literature on the relation between regime type and economic performance.)

Isham, Kaufman and Pritchett (1997) analyze the impact of the quality of governance on the performance of hundreds of World Bank-financed projects in various developing countries over the 1974-93 period. They find that rates of return are higher in nations with greater civil liberties, as measured by the Freedom House index (and by several alternative indicators of civil liberties). Controlling for country-level policy variables, capital-labor ratios, project complexity, and regional dummies, each 1-point improvement in the 7-point Freedom House index of civil liberties is associated with improvements of more than 1 percentage point in the rate of return (which averaged about 16% over all projects). The political freedoms index, along with other democracy indicators, proved to be unrelated to project performance. Civil unrest—measured by frequencies of riots, strikes, and protest demonstrations -- was also positively associated with performance. The authors suggested that civil unrest is a symptom of environments in which mechanisms for expression of discontent with government performance are available and effective, and interpreted their findings on civil liberties and unrest as evidence for the view that “increasing public voice and accountability” improves government performance.

Frequency of Political Violence

Barro's (1991) classic empirical study on the determinants of growth tests indicators of political instability, which he interprets as adverse influences on property rights. These instability variables have

important advantages over the Gastil indexes as proxies for property rights and other dimensions of the quality of governance. First, they are objective measures, consisting of the number of incidents of various types of political violence. Second, they are available for the entire period covered by the Summers-Heston (1991) income data set, not just for recent years, allowing for a fuller empirical treatment of causality issues.

The two violence measures Barro tests are the average annual number of revolutions (or coups) and of political assassinations, using data from Banks (1993). He finds that each of these variables is significantly and negatively related to growth rates and to private investment's share of GDP between 1960 and 1985. Barro reports that once these variables are included, Gastil's indexes (which he tested in earlier unpublished drafts) are no longer significant.

Endogeneity is a potentially serious problem with violence indicators: Barro acknowledges that the relation between violence and growth might reflect the positive effect of growth on political stability rather than the other way around. Investigations of this issue using time-series data provide mixed results. Alesina et al. (1996) show that political instability and violence are jointly determined: coups lead to worse economic performance, but slow growth increases the likelihood of coups. Londregan and Poole (1990, 1992) also conclude that coups are caused by low growth, but they find that more frequent coups do not reduce growth rates. Alesina and Perotti (1996) find that instability lowers investment's share of GDP but that investment rates do not in turn significantly affect political violence.

As with the Freedom House measures, it is questionable how well the frequency of political violence captures variations in the underlying country characteristics of interest, such as the security of property rights and the rule of law. Coups, for example, often entail only changes in the identity of the kleptocratic chief executive, with few or no implications for the property rights of anyone outside the ruler's and ex-ruler's

circles of key supporters. Conversely, some stable (long-lasting) governments have been known to legislate economic policies erratically through numerous and unpredictable executive decrees.

Expert Assessments of Governance

These deficiencies in the violence counts and in the Freedom House indexes created a demand for more direct and comprehensive measures of the quality of governance. In independent but simultaneous efforts, Mauro (1995) and Knack and Keefer (1995) introduced the use of subjective ratings marketed to international investors by firms specializing in political risk evaluation. These ratings services include Business International (BI), the International Country Risk Guide (ICRG), and Business Environmental Risk Intelligence (BERI).

Mauro (1995) tested three variables constructed from BI indicators: (1) "Corruption," (2) a bureaucratic efficiency index constructed from three measures: "Corruption," "Bureaucracy and Red Tape," and the quality of the "Legal System and Judiciary," and (3) a "political stability" index constructed from six indicators representing the likelihood of changes in government, terrorist acts, labor unrest, other domestic conflict, or conflict with neighboring countries. He found these indexes to be positively and significantly related to growth and investment in Barro-type regressions. Reverse causality is a potential problem using these data. Causality is always an issue in growth studies, particularly where independent variables are measured at the end of the growth period (note Mauro's BI indicators are averages over the 1980-83 period, while investment and growth are measured over 1960-85). Bureaucratic efficiency and political stability are likely to be a function of per capita income; while initial-year per capita income is controlled for in the growth regressions, final-year per capita income is not. Moreover, biases in subjective ratings of institutions could be correlated with economic performance. For example, one cannot rule out the

possibility that BI's experts (or those of ICRG or BERI) surmise that corruption must not be too severe in a particular country, because it is observed to be attracting foreign investment or growing rapidly. Mauro dealt with the reverse causation issue by using an index of ethnic fractionalization and a set of colonial heritage dummies as exogenous instruments for the BI indicators. In general, his two-stage least-squares estimates of the association between the BI indicators and economic performance remain positive and significant.

Knack and Keefer (1995) used data from two other risk assessment firms. From the ICRG (published by the PRS Group), they constructed an index from the five indicators they viewed as being of greatest relevance to the security of private property and the enforceability of contracts: "Corruption in Government," the "Rule of Law," "Expropriation Risk," "Repudiation of Contracts by Government," and "Quality of the Bureaucracy." From Business BERI, they constructed a similar index from the variables "Contract Enforceability," "Nationalization Risk," "Bureaucratic Delays," and "Infrastructure Quality." Adding the ICRG index to a Barro-type growth regression, Knack and Keefer find that a standard-deviation increase in the index (about 12 points on a 50-point scale) increases the annual rate of growth in per capita income by 1.2 percentage points on average. Substituting the BERI index for the ICRG index produces a similar association with growth. These indexes (particularly BERI) prove to have strong explanatory power for private investment also. Moreover, in growth or investment regressions that include the violence counts or Freedom House indexes as well as the Knack and Keefer property rights indexes, only the latter prove statistically significant.

Knack and Keefer attempt to minimize reverse causation problems by measuring institutions as far back in time as possible, and measuring their dependent variables farther forward in time. They focus

primarily on growth and investment rates over the 1974-89 period, and use the first available observation for each country for their institutional indicators, 1982 for ICRG and 1972 for BERI for most countries.

Equation 1 of Table 1 presents growth regressions that are updated to include many more recent years of income data than were available to Mauro (1995) or Knack and Keefer (1995), further reducing the salience of the causality problem.⁴ The dependent variable is the average annual increase in per capita income over the 1980-99. Regressors include (1) the ICRG quality of governance index, averaged over 1982-97; (2) initial GDP per capita; (3) average educational attainment of the over-25 population, averaged over 1980, 1985, 1990, and 1995; (4) the log of inflation, averaged over 1980-98; (5) the year-to-year variability of inflation (coefficient of variation) over 1980-98; (6) M_2/GDP , a standard measure of financial development, averaged over 1980-98; and (7) exports/GDP, averaged over 1980-98.

All of these variables have been shown to be statistically significant in one or more published growth regressions. The only two that are strongly significant here when all of them are included together are initial GDP (representing the well-known conditional convergence effect) and the quality of governance index. The regression coefficient of .15 for the governance index indicates that each increase of about 7 points in the 50-point index is associated with an increase on the average annual growth of per capita income of more than 1 percentage point. This effect is slightly larger than that estimated by Knack and Keefer (1995).

Figure 1 depicts the partial relationship between growth and the ICRG index represented in the regression results. This “partial plot” shows the relationship between growth and the

⁴Chong and Calderon (2000) employed a more rigorous approach to causality using the BERI and ICRG data, exploiting the annual data on per capita income and the quality of governance. They find evidence of significant

ICRG index, holding constant the effects of all other explanatory variables in equation 1.

The possibility that ratings are affected by expert's knowledge of recent economic performance is not the only potential drawback of the BI, ICRG and BERI governance indicators. A second objection is that these measures likely better represent conditions facing foreign investors -- the paying clients of the risk assessment firms -- than conditions confronting domestic investors. Given the crucial importance of foreign technology and capital for successful catch-up growth in poor countries, conditions facing would-be foreign investors are by no means irrelevant, but unless those conditions are perfectly correlated across countries with conditions facing domestic investors, subjective political risk evaluations remain only partial indicators of the institutional environment that can affect economic performance.

These subjective governance indicators have attained wide usage in the growth and development literature, however, and are even used by the World Bank and other donors and aid agencies to assess the state of governance in developing economies.⁵ Because of its much better cross-country coverage relative to BI and BERI, the ICRG indicators have been the most widely used governance indicators in the cross-country empirical literature on economic performance.

Contract-Intensive Money

In response to the imperfections of subjective ratings, Clague et al. (1999) introduced an objective measure called "contract-intensive money," or CIM, equal to the proportion of M_2 not comprised of currency outside banks. The data coverage over time and across countries for CIM,

causation in both directions: growth increases the value of the institutional indicators, but higher values of ICRG and BERI increase growth rates.

⁵ Similarly, the subjective nature of the Freedom House indicators does not prevent USAID from citing them as indicators of its effectiveness in promoting democratization. See "USAID Accomplishments" at <http://www.usaid.gov/about/accompl.html>.

calculated from standard monetary indicators, is far superior to that for the subjective measures. Because CIM is objectively measured, it is not subject to contamination by knowledge of recent economic performance by country experts or by surveyed entrepreneurs, removing an important potential source of endogeneity.

The logic behind CIM is that for numerous reasons, individuals will hold a larger proportion of their financial assets in the form of currency in environments where third-party enforcement of contracts is unreliable. Money lent to financial institutions (i.e. bank deposits) is less safe where contracts cannot be relied upon. Not only are banks more likely to default on their obligations, but governments unable or unwilling to enforce contracts between private parties are unlikely to respect private property themselves, e.g. by refraining from expropriating bank depositors. The CIM ratio is the outcome of choices by wealth-maximizing firms and individuals: the ratio will increase where governments better enforce and respect contracts and private property rights. Where property and contract rights are less clearly defined and secure, borrowers will find it more difficult to offer collateral as security against default, inhibiting the development of financial institutions and sophisticated financial instruments, limiting the availability of money other than currency. Clague et al. (1999) show that CIM is significantly and positively correlated with growth rates and (even more strongly) with investment's share of GDP over the 1970-92 period.

Despite its virtues as an easily-measured, objective indicator with broad coverage over time and across countries, CIM clearly only partially captures variations in the institutional environment. It measures the tradeoff between holding assets in only one of two forms: currency and bank deposits. Ideally, a broader measure could be constructed which captured holdings of foreign currencies, gold, and other assets (which should constitute a higher proportion of assets in nations with poor contract enforcement).

Unfortunately, available data do not permit construction of such indicators for a reasonable-sized sample of countries.

Although CIM and subjective measures, such as those from the ICRG, each undoubtedly measure the quality of governance across countries only with substantial error, these errors have different and independent sources. Thus, it is reassuring that tests using CIM yield very similar findings as tests using the subjective measures. Equation 2 of Table 1 tests the relationship of CIM to growth over the 1980-99 period. Equation 2 differs from equation 1 only in substituting CIM (averaged over 1980-98) for the ICRG quality of governance index. The (strongly significant) coefficient of .069 for CIM indicates that each increase of about 14 percentage points in CIM is associated with a 1 percentage point increase in annual growth in per capita income.

Figure 2 depicts the partial relationship between growth and CIM represented in equation 2. This partial plot shows the relationship between growth and CIM, holding constant the effects of all of the other explanatory variables included in equation 2.

The ICRG index and CIM are strongly but not perfectly correlated ($r=.65$) over this period, nor are they conceptually identical. One difference is that foreign investors may be more sensitive than domestic investors to aspects of governance measured by ICRG; in contrast, CIM may better reflect conditions faced by domestic than by foreign investors. Accordingly, both variables are included together in equation 3. Although coefficients for each are slightly lower than their coefficients in equations 1 and 2, both CIM and the ICRG index remain strongly significant in equation 3.

Recent Developments in Measuring Governance and Institutions

There are several recent noteworthy developments in improving the quantity and quality of

governance and institutional indicators available at the country level. These can be grouped into four broad categories: (1) surveys of businesses, households, and public officials, (2) aggregated indexes of the quality of governance constructed from indicators collected from various sources, (3) data sets characterizing political systems, including electoral rules and timing of elections, and (4) objective, specific measures of government processes and performance.

Expanding on surveys designed and implemented by Borner, Brunetti and Weder (1995), the World Bank, as part of the 1997 World Development Report, sponsored surveys of business enterprises (both foreign and domestic) in more than 75 countries, inquiring about corruption, the quality of government-provided services, and the predictability of laws and policies (Brunetti, Kisunko and Weder, 1997).⁶ This survey work is continuing with the Bank's ongoing World Business Environment Survey (WBES) and the more detailed Firm Analysis and Competitiveness (FACS) surveys. The latter have been conducted recently in eight developing nations, and will permit detailed firm-level analyses of the impact of the legal and regulatory environment, and provision of infrastructure and other public services, on market structure and investment decisions. Such micro-level analyses can provide a useful complement to cross-country studies. Other surveys undertaken by the World Bank and other agencies are designed to provide information about perceptions of corruption, quality of public services, and other aspects of governance from households and public officials. In addition to covering these issues, the Afrobarometer, Latinobarometer, World Values Surveys and other series of household surveys also measure public perceptions of the meaning of democracy, and support for democratization.

⁶ By not including would-be entrepreneurs deterred from operating by poor policies and institutions, these surveys are administered to a censored sample, and likely understate the true cross-country variation in the quality of

A second advance is represented in Transparency International's (TI) Corruption Perceptions Index,⁷ and in similar indexes subsequently constructed by Kaufmann, Kraay, and Zoido-Lobaton (1999). These indexes aggregate various governance indicators from numerous sources, including expert assessments such as the ICRG, and surveys of enterprises and households. The plausible assumption behind these aggregation efforts is that the more information an index contains, the greater its expected accuracy. If the various indicators that make up an index are constructed independently of each other, any errors in each will be independent, and these errors will mostly be "cancelled out" in the overall index.⁸

These aggregated indexes, and the surveys of business enterprises, public officials and households, are valuable for improving the accuracy of cross-country comparisons. Because they rely entirely on very recent assessments, however, they are less useful as independent variables in studying the determinants of past economic performance, or in monitoring the progress of countries implementing governance reforms over periods of time longer than a few years.

A third area of recent progress in measurement is the construction of much richer data sets on political institutions. The largest of these is the Database of Political Institutions (DPI) compiled by Beck et al. (2001). Using various editions of the *Europa Yearbook* and the *Political Handbook of the World*, they code more than 100 variables for 177 countries, from 1975 to the present. Variables provide detailed information about election outcomes, the timing of elections, electoral rules, type of political system, party composition of the opposition and government coalitions, and other topics. Indexes of checks and balances, and political stability, are constructed from several of these variables, using an objective coding

governance.

⁷See www.transparency.de.

system.

The DPI is designed to permit more thorough empirical investigations of issues such as the determinants of democratic consolidation, the political conditions for successful economic reform, and the political and institutional roots of corruption. Using variables on the timing of elections, Shi and Svensson (2001) study the issue of electoral budget cycles for a much larger sample of developing nations than were available to previous researchers. They find that deficits are larger in election years (legislative elections in parliamentary systems, and executive elections in presidential systems), and that this effect is much stronger in less-developed than in more-developed nations.

3. “Second Generation” Governance Indicators

Progress is slower in the fourth category of indicators—objective and specific measures of government processes and performance. Development of such indicators is necessary, however, for permitting more detailed research inquiry, and in guiding practical efforts at reform. Broad indicators of the quality of governance, such as the ICRG or TI ratings, have been invaluable in drawing attention to the crucial role of good governance for successful development, and to the need for public sector reform generally. In part because of research findings based on these indicators, the fundamental importance of good governance for successful development has recently attained the status of conventional wisdom. For example, “good and clean government” and “an effective legal and judicial system” are two of the pillars in the World Bank’s Comprehensive Development Framework. However, empirical findings linking ICRG-

⁸ To the extent that experts consult the ratings of competing risk assessment firms in arriving at their own assessments, the errors will not be independent.

type ratings to economic performance provide only limited guidance toward particular reforms in the way government is structured or in the way it operates. For example, a low score on a “rule of law” index implicates multiple policy and institutional culprits. It suggests a problem, but does not suggest what the solution might be or even who should implement it. There are therefore few examples of governance indicators having a substantial impact on the policy actions of governments, or on the specifics of reforms proposed by donors. To date, public sector reform programs tend to be based on a set of plausible but largely untested assumptions regarding the institutional mechanisms conducive to good governance and a strong rule of law. More specific measures of government performance, coupled with more specific measures of governmental processes or institutional arrangements, would permit analyses that provide more indication of which reforms are likely to be effective.

There is thus an obvious need for a set of “second generation” indicators for use in determining what institutions are associated with what particular dimensions of public sector performance. Most “first generation” indicators such as the ICRG or TI indexes have two key properties that limit their relevance for public sector reform efforts: they measure only government *performance* but not *processes*, and they typically measure performance very *broadly*, rather than attempting to characterize specific dimensions of performance. For example, corruption indicators typically do not differentiate among bureaucratic, legislative, or judicial corruption, nor between “grand” and “petty” corruption, nor among various government agencies. This property limits their usefulness in attempting to identify reforms that might reduce corruption. For example, suppose that there is a link between civil service pay levels and bureaucratic corruption, but empirical testing fails to establish this link because the available corruption indicators are insufficiently refined, reflecting corruption by judges, legislators, and government ministers for whom civil

service pay scales do not apply.

The breadth of first-generation governance indicators thus creates a technical problem: it is difficult or impossible to infer specific policy implications from broad-brush indicators. It also creates problems with respect to country “ownership,” particularly for governments that are ranked very low. Governments that might be receptive to being informed of a specific deficiency in a given aspect of public sector performance – for example that public employment levels are above international norms, or that judges receive inadequate training -- might nevertheless resist being told that they are highly corrupt or unstable, or that “rule of law” is weak. Because most of these broad indicators are produced by for-profit firms or NGOs based in developed nations, through nontransparent processes, and unaccompanied by any particulars about the nature or source of the perceived deficiencies in governance, they can easily be dismissed as unhelpful or even biased by governments embarrassed by their low rankings.⁹ Moreover, the lack of transparency in construction limits their utility in monitoring progress—TI or ICRG values might respond only with a long lag, if at all, to even the most successful reform programs.

Accordingly, attempts to identify more operationally-relevant second generation governance indicators should move in three directions, relative to first generation indicators: (1) greater *specificity* in measuring performance, (2) increased *transparency and replicability* in their construction, and (3) greater attention to measuring governmental *processes* or institutions, and not only performance. Measures of specific governmental processes or institutions are essential for testing assumptions regarding the efficacy of particular public sector reform programs (such as increasing civil service wages). More specific measures

⁹ The objective indicator of contract-intensive money--like the TI and ICRG indicators--fails the test of specificity, but unlike its subjective counterparts is transparently constructed.

of performance are needed to facilitate valid empirical tests of the effects of various governmental processes and institutions.

The World Bank is currently working with the OECD Development Assistance Committee (DAC) and the British Department for International Development (DFID) to identify a set of promising “second generation” candidate indicators that are sufficiently specific and transparent to be both useful to donors and acceptable to developing country governments. Results of this ongoing project are reported on the DAC web site, which permits public comment on the proposed indicators and downloading of selected data sets.¹⁰ (Several of these candidate indicators are described in the appendix.)

¹⁰ See <http://www.bellanet.org/indicators/info.cfm>.

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Appendix: Examples of Second Generation Governance Indicators

- 1) Civil service pay and employment data base, compiled by World Bank staff and found at <http://www1.worldbank.org/publicsector/civilservice/>.

Increasing civil service pay and reducing over-staffing are standard parts of the usual package of reforms pushed by donor agencies. Improvements in the quality and cross-country coverage of data on civil service pay and employment can allow informative tests of the proposition that low pay encourages bureaucratic corruption and worsens the quality of public services.

- 2) Tracking of Poverty-Reducing Public Spending in HIPC's

For 24 Heavily-Indebted Poor Countries (HIPC's), the World Bank and IMF have assessed 15 dimensions of public expenditure management, including comprehensiveness of the budget, deviation of actual from budgeted expenditures, level of payment arrears, and timeliness of audits. These data are not publicly available, but the exercise (involving joint Bank-fund country teams and discussions with country authorities) demonstrated the feasibility of measuring the quality of budget systems and management.

- 3) Budgetary Volatility

An important aspect of the quality of government policy is its coherence and predictability for business enterprise. Poorer persons attempting to establish small businesses may be particularly harmed by unpredictable policy, because with few assets other than their labor it is more difficult for them than for wealthy investors to diversify across sectors of the economy. To the extent that policy decisions are captured in the budget, then stable policy should be reflected in stable budget allocations. Budgetary volatility is calculated as the median of the year to year changes in each of the 14 GFS functional classifications over the preceding 4 years, where budget changes are defined as the (absolute values of the) difference in expenditure shares (for each functional classification) from year n to year $n+1$, calculated as a proportion of the year n figure.

- 4) Business Start-up Procedures

Procedures and costs of starting new businesses vary dramatically across countries. Some level of regulation may be socially efficient, to prevent the establishment of firms that violate reasonable environmental, safety, health, and labor standards. However, the number of procedures required to start a new business, and the cost in time and fees, tends to be very low in many countries (such as Canada) in which social and environmental regulations are most stringent. Clearly the obstacles that an entrepreneur must surmount to open a new business in many countries far exceed anything that can be justified on efficiency grounds. Djankov et al. (2001a) collected data for 85 countries on the number of procedures that are officially required to obtain all necessary permits and completing all of the required

notifications for the company to operate legally. Data are also collected on costs (in fees, photocopies, notary charges, etc.) and on the minimum number of business days required to complete the process (assuming no delays by government officials). Data are collected from government publications and web sites, reports of development agencies, and local law firms. Required procedures can vary across jurisdictions, economic sectors, etc. within a country. For simplicity, therefore, the data collected apply to a "standardized firm" which operates in the largest city, performs general industrial or commercial activities, does not trade across national borders or in goods subject to excise taxes, is domestically owned, does not own land, etc.

5) Difficulty in Pursuing Valid Legal Claims

Resolving even the simplest legal disputes can be extremely lengthy and costly in some countries. Some procedures required for plaintiffs to pursue claims through the courts can be justified, for example as providing reasonable protection for the rights of defendants. However, where procedures are inordinately complex and lengthy even for enforcing breaches of contract where no facts are in dispute, commercial activity suffers. By surveying members of the largest international association of law firms, Djankov et al. (2001b) collected data for 109 countries on the number of "independent procedural actions" required to file a complaint and to obtain and enforce a judgment in each of two common areas of dispute: collection of overdue debt, and eviction of non-paying tenants. Law firms completing the questionnaires also estimated the duration in days from initiation to completion of the process, for debt collection and for rent eviction. For simplicity and comparability, hypothetical cases were described in detail to the responding law firms: it was assumed the plaintiff had fully complied with the agreement, the defendant presented a poorly justified opposition, the case was heard in the local courts in the country's largest city, the amount of the claim was specified, etc.

Table 1
Per capita income growth and the quality of governance, 1980-98

Equation	1	2	3
Independent variable	Coefficient (standard error)		
ICRG Index	0.150** (0.044)	--	0.130** (0.043)
Contract-intensive money	--	0.069** (0.016)	0.051* (0.021)
Initial GDP per capita (000s)	-0.280** (0.086)	-0.211** (0.066)	-0.296** (0.083)
Educational attainment	0.214 (0.116)	0.24* (0.10)	0.172 (0.118)
Log of inflation	-0.274* (0.134)	-0.40** (0.12)	-0.275* (0.128)
Variability of inflation	-0.124 (0.222)	-0.30 (0.16)	-0.067 (0.213)
M ₂ /GDP	0.018 (0.009)	0.025 (.009)	0.021* (.010)
Exports/GDP	-0.002 (0.009)	0.001 (0.009)	-0.001 (0.010)
Constant	-3.136 (1.114)	-4.553 (1.253)	-6.419 (1.741)
R ²	.47	.52	.51
N	79	97	78

Standard errors are adjusted for heteroskedasticity.

Figure 1

Growth & ICRG index (partial plot)

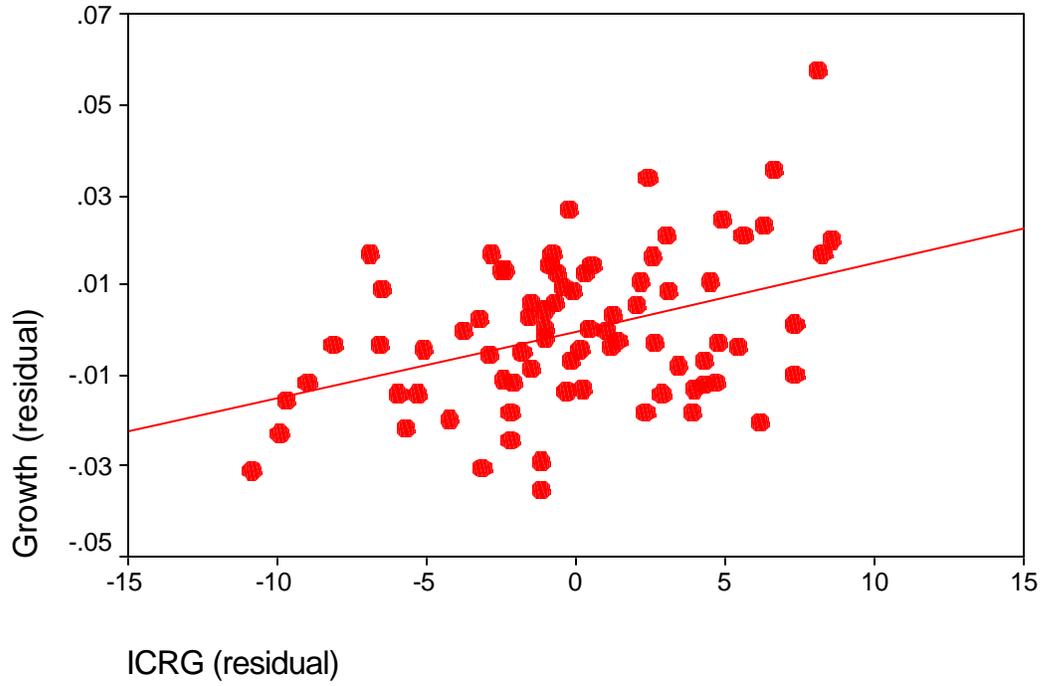
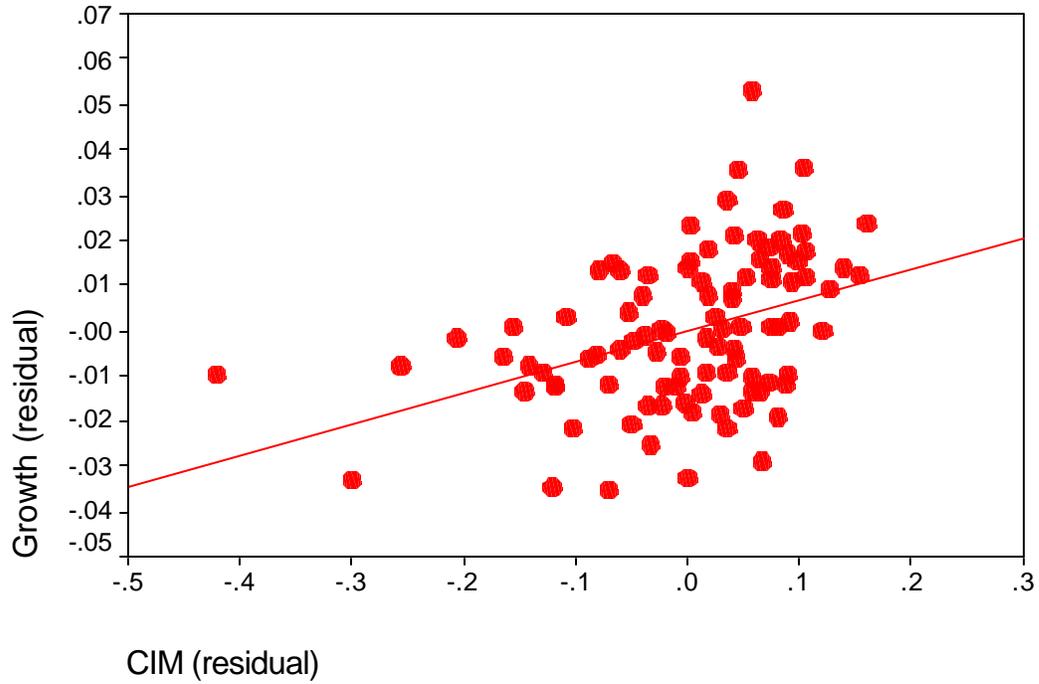


Figure 2

Growth & CIM (partial plot)



Mary Shirley on Stephen Knack's "Governance and Growth: Measurement and Evidence"

Steve Knack's examination of governance indicators shows how little we really understand governance details. His paper points out that broad, non-transparent and subjective indicators such as "rule of law" or corruption may be misleading and even counterproductive. Governments may rightly resist such judgments as biased.

I suggest that the paper could be even more critical of perception indicators than it is. These survey based indicators ask business men to rank their problems on a scale of one to ten. One clear problem with these rankings is that you don't know the metric the person is using. They could be comparing their country to the US and judging it to be corrupt or inefficient, or they could be comparing it to a worse off neighboring country and judging it to be honest and efficient. Using subjective rankings in cross country regressions is thus highly suspect. Furthermore, perceptions are strongly influenced by current events. A business survey in Bolivia a few years ago showed that the number one problem was the judiciary. A year later the survey was repeated with the same sample and the number one problem was policy uncertainty; the judiciary had dropped to fourth or fifth place. Sad to say there had been no improvements in the judiciary during the period, but the survey was done at a time of accelerating inflation and recession.

A problem with all broad governance indicators is that they offer us little guidance. They do not tell us how to design policies to correct institutional flaws, nor enable us to judge if reforms have succeeded. Even some of the second generation measures Knack cites seem very broad to me, and not really conducive to reform design and evaluation.

I can explain best what I think is need with an example from the regulation of telecommunications. We wanted to measure regulatory governance using Williamson's lens of contract. Figure One below shows the broad measures of regulatory governance that we developed for a forthcoming publication (Haggarty, Luke and Mary M. Shirley 2002), which are narrow compared to some of the measures in Knack's paper. Figure Two shows the sort of detailed indicators we developed to create the broad measures in Figure One. As you can see, the amount of deep knowledge required to use Williamson's lens of contract is considerable. It requires rigorous case studies, or what have been termed "analytical narratives" (Bates, Robert H., Avner Greif, Margaret Levi, Jean-Laurent Rosenthal, Barry R. Weingast 1998). Yet our task is not finished. We also need to measure the influence of the larger institutional setting (including the legal system, the bureaucratic norms and civil service rules, the electoral rules and political system, and the constitutional balance of powers). Only then can we judge the goodness of fit of these governance measures to their environment, and relate governance to performance.



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Such deep, micro-analytics can allow us to design feasible institutional changes and measure their impact. Broader, macro measures such as those attempting to measure governance of an entire country, are much more troublesome and unlikely to provide guidance for reform.

It is my opinion, therefore, that the field experiments that follow this forum should focus on similar micro-analytical cases. This would entail selecting an appropriate project, studying the relevant broad institutions and micro institutions, then designing the micro institutions to fit within the institutional setting, and analyzing the outcome. For example, in the regulatory cases cited above, an intervention might be to try to design a regulatory framework that can function despite a weak judiciary and corrupt bureaucracy. In such a case one would want to maximize competition to create stakeholders who can counterbalance the market power of the former monopoly provider. One way to do this might be to delay the sale of the state owned incumbent provider until a second network holder and one or two cellular operators can become established, and the new regulatory agency is fully staffed and operational. During the continued period of state ownership the government would prevent the incumbent from expanding. The drawback is that this would reduce the sales price of the incumbent, but as (Wallsten, 2001) suggests, there is a trade off between sales price and consumer welfare. As it happens, a natural experiment very much along the lines I describe occurred in Uganda's telecommunications sector and the final price paid for the Uganda Telecoms was in fact considerably more than anyone would have predicted (Shirley and Tsubira 2002).

Figure 1
Regulatory Governance in Six African Telecommunications Sectors

	Cote d'Ivoire	Ghana	Malawi	Senegal	Tanzania	Uganda
Independent of political pressure	●					●
Autonomous w/ good information, limits on discretion	●	○			○	●
Accountable, w/ independent appeals process	○	○	○		○	●
Transparent, w/ monitoring						●
Capable, motivated staff	●					●

Source: adapted from Shirley 2001.

Figure Two: Regulatory Governance Measures

	<i>Cote d'Ivoire</i>	<i>Ghana</i>	<i>Malawi</i>	<i>Senegal</i>	<i>Tanzania</i>	<i>Uganda</i>
<i>Relations w/ ministry</i>	Separate, nine regulators rep. diff. ministries	Separate but minister may give directives	Separate but minister may make regs.	Not a separate body	Separate; min. may give directives	Separate, minister gives guidelines only.
<i>Nomination, appointment of regulator</i>	Nominated & appointed by nine ministries	Nominated by minister & appointed by pres. Not appointed yet	Nominated by Public Appointments Committee & appointed by president	Nominated & appointed by minister	Nominated & appointed by minister. Chair appointed by president.	Nominated by private professional groups & appt. by minister w/ cabinet approval
<i>Removal of regulator</i>	For cause specified in law.	For cause, but not specified in law.	For specified cause; first regulator removed after elections.	Ministerial decision.	For cause, but not specified in law.	For cause, specified in law.
<i>Independent sources of funds</i>	Fees	Fees	Fees & fines	None	Fees	Fees
<i>Limits on discretion</i>	Law & concession contract detail powers but these do not always agree.	Law & contracts detail powers. Regulator in practice very weak.	Unilaterally imposed new interconnec. Policy. Overturned by courts.	Since regulator is part of ministry, no limits specified.	Law & contracts detail powers.	Law & contracts detail powers.
<i>Power to compel information</i>	Can compel information & investigate operators.	Can compel information, but has poor information.	Can compel information, but has poor information.	Minister can compel & has good information.	Can compel information, but has poor information.	Can compel information, & has good information.
<i>Power to enforce Reports & monitoring Open to public scrutiny.</i>	Concession agreement never published. No consumer represen.	Not open.	Not open.	Not open	Not open.	Membs. public on commission. Public workshops. Public comment on proposals.
<i>Appeal to neutral, nonpolitical body</i>	Separate council arbitrates disputes; strong defender of operators' rights.	Courts. In one sided dispute with operators against government	Courts. Not tested.	None.	Courts. Courts have sided w/ operators against government.	Tribunal & courts. Courts are indepen. Several disputes settled.
<i>Appropriate staff skills Adequate pay Revolving door banned</i>						

Source: (Haggarty, Luke and Mary M. Shirley 2002)

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