Growth and Governance: Models, Measures, and Mechanisms

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Abstract

The regnant scholarly consensus linking good governance – the quality of public administration – to economic development has undergone surprisingly little empirical scrutiny. In this paper we examine this relationship by asking two questions: how confident are we in our cross-national measures of good governance, and how solid are the empirical foundations of the growth-governance causal linkage? Our results suggest that the dominant measures of governance are problematic, suffering from perceptual biases, adverse selection in sampling, and conceptual conflation with economic policy choices. And within the limits of somewhat problematic measures, the evidence suggests that there is far more reason to believe that growth and development spur improvements in governance than the reverse. The policy implications are profound as international organizations and governments have come to condition developmental assistance on the basis of such governance measures.

Most analysts agree that political corruption and malgovernance are among the principal barriers to economic development and social betterment in the Third World. Conversely, the belief that good governance – the quality of public administration – promotes growth and development is all but entirely uncontroversial. It forms a framing assumption in a host of academic analyses, a core piece of advice provided by the international financial institutions, and the rationale for new conditions imposed upon recipients of United States foreign aid (Radelet 2003).[1] In this sense, scholars and practitioners agree that political institutions "matter" for economic development. In fact, the contemporary paeans to public sector probity are so pervasive as to imply that the link between growth and governance is an article of faith or a starting point for analysis.

Nevertheless, the relationship between the quality of administration and the level or rate of economic development has received shockingly little direct empirical scrutiny, and the growing consensus over the correlation between growth and governance threatens to obscure a much more fundamental disagreement over which public institutions are developmentally nutritious, why they are important, and what state-society interactions they entail. Neither a theoretically nor an empirically convincing case for the *beneficial* effects of corruption has been advanced, of course, but the developmental costs of corruption are not nearly so clear as the conventional wisdom implies.[2] In fact, we will argue below that we lack genuine consensus as to what corruption or malgovernance really *are*; we are further still from cross-nationally valid measures thereof; and we are therefore decidedly premature in assigning causal priority to governance and not vice versa.

What *is* well known is that exceptionally high levels of economic development are associated with what are commonly seen as competent public sectors. We plan to examine the causal status of this correlation. Does good governance actually cause growth? Does economic growth itself

promote better governance? Or, are the two phenomena simply the independent products of an underlying, but unmeasured, omitted variable? Do the available measures – i.e., the ones that are in widespread use – give us the tools to directly answer these (and other) questions in a cross-nationally valid way?

Answers to these questions have important implications. Indeed, depending on our answers, it may be that the contemporary emphasis on the curative powers of institutional reform for deficiencies in the operation of governmental institutions must be called into question (see Frankel et al. 2003; Radelet 2003). For if economic development or underlying sociopolitical variables which are logically prior to economic development are principally responsible for historical improvements in the quality of governance, and not vice versa, then we should expect institutional reforms that are not accompanied by substantial complementary transformations of society or the political economy to be at most of marginal impact in the quest for good government *and* economic development.

In this paper we advance the simple but novel claim that the relationship between governance and growth rests on far weaker empirical foundations than is customarily claimed. Indeed, we contend that the opposite hypothesis – that is, that economic development drives political modernization – may have more empirical support than the current conventional wisdom. Our potentially controversial claim is based on two types of evidence. First, we examine the best existing measures of the quality of political institutions – the governance indicators recently developed under the auspices of the World Bank (Kaufmann et al. 2003). We show that these – and indeed most – indicators that include perception-based measurements of the probity and efficacy of public institutions are quite colored by recent economic performance, riddled with problems of adverse selection, and feature deeply entrenched biases both for and against various

public *policy alternatives* that are logically distinct from the question of public sector probity per se. The consequences are profound, as apparent links between governance and growth are thus more to likely to be artifacts of measurement than reflections of underlying causal dynamics. The second part of this paper seeks to directly evaluate this possibility through a careful examination of the question of causal order and the predictive power of these substantially perception-based measures. The results ratify our concern: antecedent economic conditions are strong predictors of perceptions of the quality of public institutions, but the *ex ante* measure of governance shows little capacity to predict *subsequent* patterns of economic performance.

What are the ultimate implications? And what should be done? In the first place, we need to be more careful about how we conceptualize governance – to avoid embedding policy preferences within the concept. Second, we must build historically valid indicators that allow us to evaluate the growth-governance linkage over long spans of time. And, finally, we counsel the avoidance of research programs that put the cart in front of the proverbial horse by taking as their starting points the *assumption* that improvements in the institutional rules of government will drive broader socio-economic development.[3] Instead, we believe that intellectual energy would be better spent in an effort to discern whether in fact it is economic development that drives improvements in governance, or allows institutional changes to have practical effect, or, alternatively, if there are unobserved causal factors that select countries into high-growth/good governance or low-growth/malgovernance equilibria.[4] Extant research on corruption has focused quite narrowly on the question of *institutional* context, examining, for example, whether democratic politics, federalism, transformations of administrative structure, or the incentives embedded in electoral or legislative institutions can drive improvements in probity.[5] But if we are right, none of these may be as fruitful avenues of exploration as they seemed at first.[6]

Instead, the efficacy of such institutional reforms may be quite conditional on transformations of underlying economic and social structures that themselves determine the degree to which governments can be held to the goals embodied in such reforms or whether they are yet another in a long series of dead letters. What these structures are and how their effects are manifested is precisely where we think the greatest marginal return to future investigation lies.

The Theoretical Terrain

The principal empirical research puzzle can be stated simply enough: Does growth underwrite good governance? Does bureaucratic probity promote growth? Or is their strong apparent linkage related to unexplored exogenous factors?[7] While the questions are easy to ask, answering them is quite difficult. To begin with, while growth can be measured in a fairly straightforward fashion, good governance is much more problematic. And to the extent that current explanations suggest that probity promotes *long-term* economic development, we are further constrained to examine historical indicators of good governance. Even where good historical data might be available, evaluating the direction of causality (from growth to governance or the reverse, and in what proportion) relies on our ability to find appropriate instruments that are correlated with, for example, governance, but unrelated to development. This search has proven to be difficult indeed, as nearly all the factors that are related to growth are also typically correlated to measures of governance.[8]

This is not simply an interesting, if perplexing, statistical conundrum. Instead, the practical political stakes are of the highest order. If we can resolve the relationship between governance and growth, we can better decide whether development agencies and international institutions should more forcefully support campaigns against corruption or efforts at economic policy

reform, and in what measure. Similarly, it is critical to discover whether reciprocal feedback permits the initiation of virtuous cycles of political and economic development, or whether these policies must be pursued independently and persistently. And finally, given recent moves to make developmental assistance conditional on improvements in governance, establishing the direction of the causal linkage becomes politically critical.[9] For if governance promotes growth, such conditionality can serve as a powerful spur for economic modernization. But if the opposite causal pathway predominates, aid conditionality will tend to target resources to precisely those countries that need them least.

What is our answer to the questions posed above? We will lay out a claim that—within the limits imposed by admittedly problematic measures—the weight of the evidence supports the contention that economic development enables improvements in governance, but that administrative reforms by themselves may not produce substantial improvements in growth. Moreover, we will suggest that there may be underlying political and social structures that can independently promote both effective state building and economic development, and until they are empirically investigated, and their effects estimated, we must remain cautious at best about any assertions of a *causal* linkage between governance and growth, however intuitively appealing it might be.

The Intuition. Our perspective builds on observations in the extensive qualitative literature linking public action and economic development. Many scholars have made the case that unusually high-quality public sector performance characterizes the polities of the newly industrialized countries (NICs) of East Asia. Indeed, scholars of all stripes, from developmentalists like Robert Wade (1990), Stephan Haggard (1990), and Peter Evans (1995) to neoclassical economists at the World Bank (1993, p. 6) acknowledge that "government

interventions resulted in higher and more equal growth than otherwise would have occurred" in the East Asian region. But these governments were not always particularly capable. The Kuomintang on mainland China until 1949 ruled through a combination of cronyism, clientelism, and naked force. It is hard to imagine that these same political leaders created a "developmental state" in Taiwan out of whole cloth a few short years thereafter. Similarly, the South Korean government of Syngman Rhee was known for its corrupt practices, economic malgovernance, and slow growth. The mere advent of a military coup in 1961 seems inadequate to explain the oft-asserted professionalization and modernization of the Korean state apparatus—and the wholesale modification of the developmental strategy and the achievement of world-beating economic growth rates over most of the subsequent thirty-five years. And indeed, recent evidence suggests that substantial problems of public probity and crony capitalism persisted throughout the long period of rapid economic development (Kang 2002; Krueger 2002). This forces one to ask whether development helped produce the developmental state almost as much as the developmental state impelled rapid economic development.

Similarly, quite a few of the countries currently among the most developed in the world were, during the period of their industrial takeoffs, clearly malgoverned and riddled with corruption. Glaeser and Shleifer (2001), for example, go to great pains to demonstrate the degree to which U.S. economic governance between the Civil War and the Roosevelt and Wilson administrations was shot through with cronyism and corruption, rendering corporate behavior almost immune to effective oversight. Indeed, the rise of regulatory agencies at the state and federal levels during the Progressive era was largely due to the overwhelming corruption of the judicial system, then the principal entity that governed economic practices. Nonetheless, during this period (from the 1860s to the 1900/1910s) the U.S. industrial economy underwent a dramatic

and sustained expansion. And indeed*, in the wake of this development*, substantial improvements in the quality of governance were completed, including direct and responsible federal oversight of the money supply, banking, and interstate commerce; the professionalization of the civil service; and the regulation of trusts and monopolies. Similarly, rapid economic modernization in postwar Italy was possible almost in spite of, rather than on account of, an often-corrupt, and typically unstable political system. Indeed, even as Italy remains a wealthy European nation, the headlines of its dailies continue to be dominated by charges of corruption—stunning for both their size and the upper reaches of government that they so frequently touch.

Our point is simple: Clean government is desirable, but what is not so clear is whether it is a necessary prerequisite for rapid economic growth—let alone whether it can be created through the administrative and judicial reforms most commonly recommended by donor governments and international financial institutions. Such reforms may in the end be essential, but they may also be ineffective in the absence of economic development or simply find their emergence blocked until underlying socio-economic structures or socio-political interests are transformed. We are also worried that contemporary measures of political malgovernance are only partially adequate. Before we can with certainty estimate the strength (and causal direction) of the growth-governance linkage, we will need measures of the latter uncontaminated by knowledge of antecedent economic performance or assumptions about economic policy choices.

We contend, in fact, that the record of political reform is far better in the places in which economic development has taken place—that is, political reform is more a consequence of economic reform than its cause. This does not imply that political development is an automatic consequence of economic expansion, but rather that political reforms are both more likely and more likely to succeed where such development takes place. This subtle point has profound

consequences. It suggests that political modernization cannot be had on the cheap "merely" through the implementation of administrative and judicial reforms – though these are certainly valuable in and of themselves. Instead, it may require ongoing efforts to undertake the hard and costly work of economic development—efforts that may well be impeded by corrupt activities, but without which corruption will not be contained.

Measurement: Are we sure we know how good a government is?

To know whether good governance induces growth requires us to be able to measure the quality of public administration in a cross-nationally valid way. This is difficult enough, but it is made all the more so because operationalization begs the prior question, characterized by ongoing differences of opinion, of what government should (and should not) be doing in the first place? As a conceptual matter most economists—with some notable exceptions—subscribe to some variation of the maxim 'he who governs best, governs least' (see Krueger 1974; Shleifer and Vishny 1993; or Becker 1994, 1995 for an extreme variant of this position). It is an approach that is dominant in the cross-national research.

But measuring state capacity in the manner most common among economists—in terms of what the state refrains from doing (regulating, taxing, stealing)—is neither easily nor necessarily profitably accomplished (for a discussion, see Hopkin 2002). Measurement efforts come in two principal varieties. The first emphasizes externally-based information (firm surveys or expert panel) assessments of the national legal system, the level of red tape and the speed of the permitting process, and the extent of corruption (see Mauro 1995; Business Environment Risk Intelligence 2004; World Economic Forum 2004). The results are, according to Mauro (1995, p. 684) "taken to represent [international] investor's assessments of conditions in the country in

question." That is, they represent either international investors or external expert views of aspects of the national investment climate.[10] The second strategy involves surveys of citizens and (generally) local businesspersons about a variety of aspects of governance as they experience it. Prominent examples of this sort of measure include Transparency International's (2004) Corruption Perceptions Index, and they are important components of the meta-survey based aggregate governance indicators developed by Kaufmann and colleagues at the World Bank (Kaufmann et al. 2003, 1999).

Both approaches, in whole or in part, require the assumption that the interests of investors (foreign and domestic) and the interests of the nation are coterminous. But this is an exceedingly selective notion of state capacity, and efforts at measurement that hinge on surveys of businesspersons are thus likely to contain substantial biases. Why? To the extent that public bureaucracies *are* effective in imposing their regulatory demands (e.g., securities and prudential banking regulations, labor laws, industrial performance standards, environmental controls, or antitrust actions), they are likely to be judged "burdensome" and "growth-inhibiting" by many businesspersons. By contrast, where such controls don't exist or are easily evaded, states will be judged less harshly by business elites. This introduces policy preferences into measures of governmental quality or effectiveness, and thereby injects bias into the measures of governmental quality to the extent that public policy mirrors or diverges from the interests of surveyed business elites. This is unfortunate, since good governance is in principle conceptually independent of policy choices—it is a situation in which public institutions are able to autonomously formulate and effectively implement such choices, whatever they might be.

But the problems do not end here. Surveys of businesspeople are riddled with potential sample selection problems. They systematically censor the opinions of former investors who did

not succeed in the marketplace, or potential investors who were deterred from entering local markets by pervasive corruption itself, and thereby sample a very unrepresentative group of firms.[11] This is not easily remedied – it is generally impossible to identify, and impractical to interview, "potential" investors deterred by malgovernance and/or malfeasance from entering local markets. By contrast, investors who *are* competing successfully in the marketplace, and therefore show up in the surveys, may be doing so precisely because they are the beneficiaries of corruption and cronyism—and are therefore unlikely to report it accurately. And where corruption *is* effectively reported, this may well be because it is *not* pervasive enough to create sufficiently strong distortions in firm-level survival or investor behavior to induce selection bias. And thus in such contexts those who do not win from corruption can survive to report it! But how can we determine which situation obtains in a particular case?

An additional problem that may bedevil not simply business surveys but all opinion data is the possibility that respondents' estimates of bureaucratic probity are colored by recent economic performance. A government that presides over a period of strong growth may be perceived by many respondents, *ceteris paribus*, as comparatively efficient and effective regardless of actual bureaucratic practice—especially in light of the aforementioned conventional wisdom regarding the nature of the growth-governance linkage. This is particularly true for citizen surveys that perforce include principally respondents who have little direct basis on which to form judgments of the quality of public administration other than easily-visible knowledge of economic or other basic performance measures. While growth rates and bureaucratic quality may be correlated in the very long term, since most scholars think institutional organization changes only slowly and/or episodically (Evans and Rauch 1999), a valid survey-based measure of governance should not move in tight relationship to short-term changes in economic growth.[12]

These difficulties notwithstanding, the two best cross-national measures of governance quality with broad coverage are the survey-based corruption perceptions index compiled annually by Transparency International (2004) and the governance indicators developed by Kaufmann, Kraay, and Mastruzzi [KKM] (2003) at the World Bank.[13] Transparency International has the advantage of directly measuring, albeit negatively, one aspect of governance—public probity—in a way that is not obviously influenced by policy preferences. By contrast, the six principal governance indicators produced by Kaufmann and colleagues (2003), only the measure of "government effectiveness" clearly attempts to capture the ability of the state to formulate and implement its goals. Two of the other indicators are measure regime characteristics ("voice and accountability" and "political stability") that are not conterminous with governance, while the measure of regulatory quality is premised on the notion that minimal regulation and minimal barriers to trade and investment flows are optimal, and is thus too conflated with (controversial) policy prescriptions. Measures of the "rule of law" have useful data on the enforceability of private and government contracts and the costs and independence of the judicial system, but are similarly conflated with policy preferences over the structure of private property rights, and business-elite oriented questions about whether judicial action "interferes" with business.[14] Similarly, the measure of corruption used unfortunately combines survey results as to the presence of nepotism, cronyism, and bribe-taking in government with questions about the "intrusiveness of the bureaucracy" or the "amount of red tape." But just as in the rule of law case, intrusiveness and red tape can be a sign of *either* effective or ineffective governance, depending on the content of the policies being enforced.

Finally, when it comes to evaluating the growth-governance linkage, the policy biases embedded in these measures become even more problematic. For example, one prominent

school of thought has highlighted the importance of developmentalist policies and competent but interventionist bureaucracies for rapid economic development (e.g., Evans 1995, Haggard 1990, Woo-Cumings, ed. 1999). Those working in this context have pointed out, according to Alice Amsden (2001), that such states are necessarily "disciplinary" of capitalists—something that survey measures of businesspeoples' opinions are likely biased against. A simple example will illustrate the problem. In his classic study of the developmental state in Taiwan, Robert Wade notes that Kuomintang officials compelled export-oriented North American electronics firms to source their inputs locally by, first, delaying their applications for import permits and, second, introducing them to capable local suppliers (Wade 1990). In the qualitative case study literature, these actions are considered the essence of good government, for they generated additional value added and thereby deepened the country's industrial structure. But in constructing their own indicator of "government effectiveness," Daniel Kaufmann and his colleagues at the World Bank have explicitly equated the "quality of bureaucracy" with the absence of "red tape" and have quoted one of their source surveys to the extent that "the better the bureaucracy the quicker decisions are made and the more easily foreign investors can go about their business" (Kaufmann, Kraay, and Mastruzzi 2003, p. 93). Taiwan, by this measure, was poorly governed. Of course the problem is that bureaucratic delay can indicate *either* malgovernance *or* an effective state that seeks to compel business interest to behave in ways consistent with the long run national interest rather than short-run private profit. The insensitivity of the existing quantitative measures to this particular problem might explain why South Korea and Taiwan are ranked 65th and 52nd, respectively, in terms of government effectiveness while being almost universally hailed in the qualitative literature for possessing unusually high-quality public administrations.[15] The problem is potentially more severe in studies that use these measures to

assess the relationship between neoliberal policies and the control of corruption.[16]

Because of these serious potential biases as well as the incongruous results across the quantitative and qualitative evaluations of state capacity, it is very important that the validity of the former be carefully examined before they are used to support or refute hypotheses linking governance and growth. This is, of course, more easily said than done. Here we take three approaches to the validation of the governance measure: (1) do repeated observations taken at different points in time correlate with each other, (2) do alternative indicators of governmental performance correlate with each other, and (3) can construct validity be established?

Reliability. We begin by examining the stability of Kaufmann et al.'s measure of government effectiveness across time. It has long been conceptually established that quality of governance is a feature of public administration that tends to change only very gradually over time. Indeed, Acemoglu et al. (2001) go so far as to suggest that differences in the quality of governance at the dawn of colonization between the 16th and 19th centuries are quite well associated with the character of contemporary political institutions. Evans and Rauch (1999) are comfortable with the far less heroic assumption that the quality of bureaucratic structures is effectively constant over periods of at least twenty years in length. By this standard, we propose a very conservative test: do the measures of government effectiveness correlate with each other across the four observations available in the 1996-2002 period.

If the assumption that the underlying quality of public administration is constant over short periods of time is reasonable, then the Kaufmann data are effectively repeated observations of the same concept. That being the case, if the measure is reliable we would expect these repeated observations to be very highly correlated with each other. Table 1 reports the Pearson correlation coefficients between the various observations of government effectiveness for the

four time periods available. The results suggest cross-temporal correlation—as would be expected of measures of a concept usually thought to be constant over short periods. The correlations vary in strength from 0.912 to 0.951. This gives us a sense that the Kaufmann et al. measures are picking up a consistent underlying concept. But is it governance?

Validity. This does not yet, however, address the validity of the concept—is "government effectiveness" really capturing (just) the quality of the public administration? To begin to assess whether in fact this is the case, we examine whether this measure correlates with the next most widely employed indicator of bureaucratic quality, Transparency International's (TI) Corruption Perceptions Index. Data from 2000 are employed as earlier TI datasets are confined to a relatively smaller and disproportionately wealthy subset of countries, naturally over-representing cases at one end of the governance spectrum. That said, the TI data still cover fewer than half the number of countries available in the KKM dataset. Despite this, the measures are quite strongly correlated (r= 0.887). Similarly, the "country risk" measures from the International Country Risk Guide, another widely employed proxy for the quality of governance, is also quite strongly correlated with KKM's government effectiveness measure (r = 0.861). While these results are certainly comforting with respect to the validity of the KKM measure, they are far from definitive. All these measures are quite liable to suffer shared biases as a consequence of their underlying methodological similarities – a reliance on firm, investor, and/or citizen surveys and a conflation of indicators of policy choice and governance quality. And since the KKM measure is a meta-indicator—taking as inputs, among many other sources, both of these measures—some degree of correlation exists by construction.

We proceed, however, using KKM's government effectiveness measure instead of either alternative. It has two principal strengths that commend its use: it displays reasonable reliability

and it has much broader coverage, avoiding sample selection problems at the country-level. Such problems would loom large were TI data used, for they very clearly over-represent countries at lower levels of corruption and higher levels of development.

Our next task is to examine the convergent and discriminant validity of the KKM measure. Fortunately we have strong theoretical expectations we can use to structure this assessment. First, almost all analysts would expect government effectiveness and the level of development to be strongly correlated (though of course the direction of causality would be a matter of dispute). Second, it is widely expected that levels of education prevailing in the adult population and the quality of the bureaucracy would be positively related (Rodrik 1994). Finally, we examine whether the size of the population is related to the quality of governance, controlling for wealth and education. This follows from the argument that, all else equal, larger societies are non-linearly more complex and in principle more difficult to administer (Xin and Rudel 2004). These hypotheses, then, provide standards against which convergent validity can be assessed. By contrast, since most analysts consider governance quality to be substantially constant over relatively short periods of time (e.g., twenty years or less), we would have a strong prior for discriminant validity: government effectiveness should *not* vary with the rate of recent (antecedent) economic growth. Indeed, to the extent that it does, it is possible that perception-bias tied to economic performance is corrupting the measure of governance, or growth itself is improving governance even in the very short term.

Table 2 presents the results of a series of tests of both convergent and discriminant validity. In Models I through IV each bi-annual observation in the KKM dataset is examined separately. Because the data are normalized to mean zero, standard deviation one on an annual basis, the year to year changes in governance score are not directly interpretable, though they are

appropriate for cross-sectional analysis. Here we find, as expected, a strong positive relationship between wealth and governance. Regardless of the model estimated, GDP/capita maintains a substantively and statistically important relationship to government effectiveness. But this is not the case with the educational attainment in the population. Here, while all the parameter estimates are appropriately signed, none achieve statistical significance.[17] While this limited relationship is a cause for concern, it is certainly not a definitive test of the validity of the government effectiveness measure. Population educational attainment is measured approximately a decade before the KKM governance data. Such a time gap is important as human capital levels naturally lag population education. All else equal, a larger population also seems related to a lower governance score, though again these parameter estimates do not achieve statistical significance except in one case (Model II).[18]

The test of discriminant validity is more troubling. If perception bias is a real problem in survey-based measures of bureaucratic quality, then we should see a strong relationship between *antecedent* economic performance and the governance quality measure. If on the other hand the KKM measure does effectively capture the fairly stable underlying quality of the public administration, this should be largely unaffected by short-term fluctuations in growth – the quality of governance should, after all, not simply follow the business cycle. Here the results are quite troubling. Across all of the models (I-III), antecedent economic growth (the average of the two years prior to the governance measure) is a strong predictor of government effectiveness. It seems that either economic performance induces biases in perceived governance quality, or we must believe that growth almost instantaneously induces improvements in governance. Whether this is really the case depends in part on whether one believes that economic improvements can be translated into institutional improvements in the very short run. A final analysis of the data

was done using a pooled estimate (Model V), including dummy variables for the years of the KKM observations to allow for them to have been normalized to different means.[19] This alternative approach, while statistically somewhat problematic, bears out the separate analyses. As a whole these results raise the unfortunate possibility that while the KKM governance measure captures the underlying concept, at the same time it may also be substantially contaminated by respondents' perceptions of immediate economic conditions or biases that are products of sample selection.

Does Good Government Cause Growth?

Recent scholarship has emphasized the importance of good governance for economic performance. Mauro (2004, p. 1) has gone so far as to declare that "a consensus seems to have emerged that corruption and other aspects of poor governance and weak institutions have substantial, adverse effects on economic growth." More typical are efforts like those of Kaufmann (2003-04) and Kaufmann and Kraay (2002) to explore the causal linkage between good governance and growth. These approaches have, however, been almost entirely cross-sectional in nature, utilizing either simple OLS or instrumental variables approaches. Kaufmann and Kraay (2002, p. 22) depart from this somewhat, by introducing a simultaneous equations model to assess the direction of the causal relationship, relying on a series of assumptions about non-sample information to achieve identification. Neither the instrumental variables nor simultaneous equations approaches are entirely satisfying as there is much disagreement as to whether appropriate instruments exist (see Glaeser et al. 2004; Frankel et al. 2003), and the assumptions about measurement error necessary for the identification of the simultaneous equations model are implausible in the face of the biases discussed here.

We suggest a simple alternative. While Kaufmann's measure has been shown to have statistical power in cross-sectional research (Kaufmann et al., 1999), the true test of his theory must be longitudinal (see Lieberson 1985). Only then can we be confident that the survey responses used in the construction of the measures were uninfluenced by the recent growth history of the country in question. And if a measure of state capacity is to be useful, it must be because it can help tell us whether we can expect, ceteris paribus, *future* growth in that country. But can the Kaufmann measures predict *future* growth?

The Kaufmann data set is of very recent vintage, and it therefore circumscribes our ability to carry out all but the most rudimentary of analyses. Four separate iterations of this indicator have been produced, for the years 1996, 1998, 2000, and 2002. Since we are interested in predictive power, the last set of measures is not helpful, for data on cross-national growth rates are not available after 2002. We saw above that antecedent growth was quite predictive of scores on the quality of government measure. But if it is useful for policy purposes, the KKM measure must itself predict future growth (the two years after the taking of the KKM measure). In Table 3 we examine the relationship between government effectiveness and future growth in a very simplified model. Data for each of the waves of the KKM measure are analyzed separately since the governance data are not scored in the same units across years and thus cannot be pooled. Each model also controls for the level of economic development, as it is usually hypothesized that wealthier countries are not capable of as rapid rates of growth as the less developed — and thus omission of this variable might lead to a spurious (negative) association between government effectiveness and growth since the former is so tightly correlated with wealth. None of the panels provides support for the hypothesis that governance is a useful predictor of *future* economic growth, at least with the limited two-year time horizon that we employ. Indeed, no

relationship at all appears in the data.

Still, this is only a very preliminary examination. It is well known that economic growth responds to a series of other factors, whose omission could be affecting the results we present. Investment levels and the human capital stock are, after all, quite likely to be correlated with the quality of public administration. Our measure of the former is the level of investment relative to GDP in the antecedent year, while human capital is measured as the average years of schooling in the adult (over age 15) population in 1990.[20] In addition controls for the logarithm of the inflation rate in the year prior to the analysis are included to capture the effects of short-term crises on growth rates.[21] In addition, geographic dummy variables are included to capture the effects of localized international crises or unmeasured regional heterogeneity.

Table 4 presents the results of this analysis, which at first blush suggest that government effectiveness does have some capacity to predict subsequent levels of economic growth. For models I and II, the coefficient is substantively fairly large and attains conventional levels of statistical significance. In model III, the estimate falls just short of conventional statistical significance ($p<0.06$). Since the government effectiveness measure is normalized to a standard deviation of one, the effect estimate can be understood as the increase in the two-year average growth rate for a standard deviation increase in this indicator. The level of wealth has the conventional negative relationship with growth rates—it is widely assumed that poorer economies are able to grow at higher rates than wealthier ones. Neither investment levels nor human capital (education) have a discernible relationship to short term growth in most of these models. Finally, crisis, at least as signaled by inflation, also does not have a statistically significant relationship to growth, though the parameter estimates are all appropriately signed.

This is not, however, sufficient to sustain the oft-asserted notion that growth and governance

are linked in a reciprocal and self-reinforcing relationship. The problem is that, as we saw in Table 2, governance is very tightly correlated to antecedent economic growth rates, which raises real questions as to whether perception biases are contaminating the measure. It is also well known that growth rates are serially correlated — the unmeasured factors making growth rates especially high (or low) in a particular year are likely to persist into subsequent periods. As a consequence a more valid test of the linkage between governance and growth would try to control out that portion of the governance measure that is really due to a correlation with preceding rates of growth, and leave us with a much purer measure of institutional capacity.

In Table 5 we present the results of an analysis that attempts to do precisely this. Here we replicate the analysis of Table 4, but include as an additional control for antecedent rates of economic growth.[22] Once inertial effects are controlled for, however, government effectiveness seems much less clearly related to subsequent rates of economic growth. The coefficient is substantively important in model I, but less so or not at all in models II and II, and in none of the analyses does it attain statistical significance. The controls for wealth, human capital, and investment behave much as in Table 4, with the exception of a reduction in the statistical and substantive significance of the level of wealth for growth. While the estimated coefficients have the conventional negative sign, they are smaller and less consistently significant.

Where does this leave us? We are still far from a definitive statement as to the relationship between good governance and growth. That said, several principal findings are apparent from this analysis. First, it is likely that the KKM governance measure, while capturing important aspects of the institutional quality of the public bureaucracy, is also contaminated by perception and/or selection biases. The strong linkage between reported government effectiveness and antecedent rates of economic growth suggests that respondents may, at least in part, be basing

their assessments on this performance criterion rather than on the much more stable underlying features of the institutional organization of the state. This is critical to the measure insofar as these surveys form a component of Kaufmann et al.'s index.

Second, there is only tepid support for the notion that improvements in governance lead directly to improvements in the short-run rate of growth. This is not to say that malgovernance is a good thing — nowhere do we find evidence that lower government effectiveness predicts higher rates of growth. But it does undermine the notion that improvements in public administration alone will improve *subsequent* economic performance. It is quite possible that other analyses that have found a strong such link do so because they are cross-sectional in design. In that context, the perception bias partly embedded in the measure of government effectiveness is likely to create a spurious correlation with growth rates. Our longitudinal analysis, while hardly sufficient to establish the appropriate causal direction with certainty, does cast doubt on the "virtuous cycle" assumption that is prevalent in the literature.[23] It also raises the possibility that economic performance can be improved even in malgoverned polities if "growth oriented" economic policies are implemented – even if they are "leaky" in terms of resource diversion. This may be because the economic losses entailed by malgovernance are not catastrophic relative to the gains to be had from policy improvement or because growth itself subsequently leads to the improvement of the public administration, providing in essence an inter-temporal positive externality. Either way, it suggests that rather than conditioning international aid on the quality of government, we should focus on the difficult task of promoting development directly. Only then will efforts to combat inefficiency and graft likely stick.

Where do we go from here?

This paper departed from two simple questions: Does good governance cause growth? Does growth improve governance? We also raised but did not explore the possibility that the widely heralded cross-sectional correlation between growth and governance is a largely spurious result brought about by underlying factors that promote, independently, both state building and economic development. Our results suggest that we have only begun to make progress in disentangling this complex and important relationship.

As a first step, what is needed are better measures of governance, particularly ones with a much wider historical sweep and that do not rely on surveys that embed perceptual and policy biases. Since many consider the effects of governance to be perceptible only over the relatively long term, it behooves us to find direct measures of governance that can be found for long historical periods. This would allow us to avoid either the assumption that institutional quality (or the global hierarchy of the same) is relatively constant over centuries (Acemoglu et al. 2001) or to project backwards over decades the results of contemporary analyses (Evans and Rauch 1999).

The second step is to take seriously the underlying social and political dynamics that could potentially explain away the assumed causal connection between growth and governance. This is fertile but comparatively unplowed terrain. But the disjuncture between longstanding approaches to the understanding of state building — that have emphasized structural features of the economy or the international system such as resource wealth or strategic conflict — and studies of governance that have assumed that the improvement of public administration is largely a function of easily changed legal structures begs questions we must answer. Similarly, in the qualitative literature on East Asian development, which almost always emphasizes state capacity and "market governance" as a key predictor of world-beating growth, underlying structural

factors are often mentioned but not systematically explored. It is usually noted that these societies have unusually high levels of educational attainment, unusual social equality, or have radically transformed agrarian social structure and property rights. But all of these factors could quite plausibly be directly related both to economic development and the building of strong states.[24] Equally suggestive are the variations in the quality of governance and level of development even within a single polity. Consider the United States—effective governance and higher levels of development map quite directly onto long-run structural features of our society and economy. Why, for example, is the former plantation South persistently underdeveloped and malgoverned relative to the North and Midwest where more egalitarian distributions of property and an absence of chattel slavery prevailed?[25]

The balance of the evidence available to date leaves us with two imperfect conclusions. Either we cannot reasonably conclude that improvements in governance produce meaningful increases in the rate of economic growth, or the absence of such an observed connection implies that our conceptualization and measurement of governance is as of yet quite imperfect. We remain agnostic as to which (or perhaps both?) is true, but have sought to make the case that the oft-asserted connection between growth and governance lies on exceedingly shaky empirical pilings. At the same time, potentially flawed indicators of governance quality are being utilized by policy-makers to condition development aid and shape development efforts. But until we know more about what is (and is not) malgovernance, and the process by which it can be cured, such conditionality may do more harm than good.

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Table 1. Inter-Temporal Correlations of Government Effectiveness Measures
(Pearson correlation coefficients)

	Government Effectiveness 2002	Government Effectiveness 2000	Government Effectiveness 1998	Government Effectiveness 1996
Government Effectiveness 2002	1.000			
Government Effectiveness 2000	0.951	1.000		
Government Effectiveness 1998	0.912	0.935	1.000	
Government Effectiveness 1996	0.934	0.927	0.934	1.000

Source: Kaufmann et al. (2003).

Table 2. Convergent and Discriminant Validity:
How Well Does "Government Effectiveness" Measure the Effectiveness of Government?

	I	II	III	IV	V
Dependent Variable:	Government Effectiveness, 1996	Government Effectiveness, 1998	Government Effectiveness, 2000	Government Effectiveness, 2002	Pooled Analysis, 1996-2002
GDP per capita	0.094*** (0.008)	0.101*** (0.010)	0.087*** (0.009)	0.091*** (0.009)	0.091*** (0.010)
Education	0.013 (0.021)	0.021 (0.025)	0.030 (0.026)	0.044 (0.027)	0.037 (0.025)
GDP growth rate$_{(t-1, t-2)}$	0.056*** (0.013)	0.082*** (0.021)	0.074*** (0.013)	0.046** (0.022)	0.027*** (0.007)
log(population)	-0.037 (0.025)	-0.069** (0.031)	-0.024 (0.031)	-0.017 (0.031)	-0.030 (0.027)
Constant	-0.713*** (0.107)	-0.715*** (0.137)	-0.742*** (0.146)	-0.959*** (0.139)	-0.856*** (0.117)
Year 1996					0.068** (0.034)
Year 1998					0.154*** (0.038)
Year 2000					0.104*** (0.026)
N	98	98	99	98	393
R^2	0.87	0.80	0.81	0.84	n/a

Notes: GDP/capita expressed thousands of U.S. dollars at purchasing power parity for the year in question. Education is measured as the average number of years of schooling in the over-15 population in 1990 (last year available). GDP growth rate is the two year average rate of GDP per capita growth. Only countries or territorial entities with populations in excess of one million were included in the analysis.

Sources: GDP/capita from World Bank (2004); Education from Barro and Lee (1996); GDP/capita growth rates from World Bank (2004); Population from World Bank (2004).

*** $p< 0.01$ ** $p<0.05$

Table 3. Does Government Effectiveness Predict Subsequent Growth?

Dependent Variable: GDP/capita growth	I 1996	II 1998	III 2000
GDP/capita	-0.080 (0.084)	0.047 (0.076)	-0.065 (0.066)
Government Effectiveness	1.302 (0.812)	0.293 (0.701)	0.111 (0.703)
Constant	2.411*** (0.715)	1.696*** (0.538)	2.302*** (0.476)
N	140	140	140
R^2	0.03	0.03	0.01

Source: GDP/capita and growth rates from World Bank (2004). Government Effectiveness from Kaufmann et al. (2003).

*** $p< 0.01$ ** $p<0.05$

Table 4. Government Effectiveness in a Basic Growth Model

(Dependent Variable: average rate of growth of GDP/capita
over the two years subsequent to measurement of government effectiveness)

	I 1996	II 1998	III 2000
GDP/capita	-0.183* (0.103)	-0.232*** (0.081)	-0.251*** (0.081)
Government Effectiveness	3.016*** (1.057)	1.631** (0.660)	1.301* (0.683)
Investment	-0.143** (0.062)	-0.055 (0.056)	-0.055 (0.059)
Education	-0.289 (0.220)	0.103 (0.194)	0.212 (0.189)
Log (inflation)	-0.478 (0.365)	-0.073 (0.310)	-0.394 (0.390)
Africa	-1.819 (1.450)	-2.526* (1.330)	-2.064 (1.502)
Latin America	0.829 (1.296)	-3.312*** (1.218)	-3.664** (1.542)
Asia & Oceania	-2.210* (1.160)	-0.837 (1.1475)	-1.232 (1.034)
Europe	-0.261 (0.731)	-0.524** (0.703)	0.091 (0.666)
Middle East	0.101 (1.480)	-2.745** (1.296)	-1.609 (1.727)
Constant	6.884*** (1.980)	4.022** (1.712)	4.785** (2.044)
N	94	92	89
R^2	0.24	0.32	0.23

Sources: GDP/capita, education, and inflation and growth rates from World Bank (2004). Investment from Penn World Tables, Mark VI. Government Effectiveness from Kaufmann et al. (2003).

*** p< 0.01 ** p<0.05 * p<0.10

Table 5. Government Effectiveness and Growth, Controlling for Inertial Effects

(Dependent Variable: average rate of growth of GDP/capita
over the two years subsequent to measurement of government effectiveness)

	I 1996	II 1998	III 2000
GDP/capita	-0.095 (0.0127)	-0.185** (0.082)	-0.149* (0.080)
Government Effectiveness	2.248 (1.369)	1.129 (0.755)	0.007 (0.669)
Investment	-0.160** (0.061)	0.017 (0.058)	-0.061 (0.058)
Education	-0.023 (0.0229)	0.179 (0.200)	0.269 (0.167)
Lagged GDP/capita growth (average of t-1, t-2)	0.255 (0.186)	0.287* (0.166)	0.409*** (0.102)
Log (inflation)	-0.368 (0.375)	-0.053 (0.334)	-0.289 (0.371)
Africa	-1.212 (1.473)	-2.528* (1.336)	-1.068 (1.518)
Latin America	1.141 (1.333)	-3.256** (1.275)	-2.613* (1.364)
Asia & Oceania	-2.145* (1.174)	-0.763 (1.170)	0.018 (0.938)
Europe	-0.042 (0.742)	-0.376 (0.623)	0.569 (0.555)
Middle East	-0.077 (1.480)	-2.545* (1.290)	-0.369* (1.635)
Constant	5.432** (2.394)	3.162* (1.783)	2.399 (2.039)
N	94	92	89
R^2	0.28	0.36	0.37

Sources: see Table 4.

*** p< 0.01 ** p<0.05 * p<0.10

[1] We want to be very clear at the outset that "good governance" to is a statement about the autonomy and effectiveness of the public administration. It implies no particular public policy regime or level of public goods provision. This last distinction is critical, as a high level of public goods can be provided by corrupt and clean governments alike; they would differ only in the quantity of private goods provided alongside them and thus the costs of public goods provision.

[2] There is a small literature that suggests that political corruption can facilitate economic development. Perhaps most associated with this contention are Leff (1964), and at least conditionally, Huntington (1968). But other, more recent work, has suggested that, for example, where corruption helps to bypass government controls, it can lead to improvements in resource allocation and growth or the efficient rationing of scare services (Lui 1985; Rashid 1981). We point this out *not* because we concur, but because we wish to make clear that no consensus yet exists on the topic.

[3] This does not mean that efforts to combat corruption are not useful in and of themselves. We merely claim that they are likely to be more effective in the context of changes to underlying socio-economic characteristics that themselves likely induce and reproduce malgovernance.

[4] For a discussion of how such equilibria can emerge, and indeed develop in a path-dependent fashion, see Casselli and Morelli (2003) and Mauro (2004).

[5] See, for example, Geddes (1994) on legislative politics, Cai and Treisman (2003); Oates (1999); Weingast (1995) and Brennan and Buchanan (1980) on federalism and competition; Xin and Rudel (2004); Gerring and Thacker (2004); MacIntyre (2003); Rose-Ackerman (1999, 1978); and Scott (1972) on the structure of political institutions.

[6] Worse yet, there are potentially pernicious practical consequences. As calls to tie international

developmental assistance to improvements in governance build, the possibility exists that underdevelopment and global inequality will be worsened. International assistance might be directed away from precisely those states that most need it, and whose political institutions will likely resist effective reform without the growth and development it can help bring about.

[7] As obvious as these questions are, they have not attracted widespread scholarly attention. Kaufmann (2003-04); and Kaufmann and Kraay (2002) are among the few analysts to pose these questions directly, finding that governance is a direct cause of development. Glaeser et al. (2004), however, suggest that good institutions are not nearly as important to growth as commonly thought, while Ritzen et al. (2000) have suggested that the degree to which public institutions can be improved – however important they might be – is highly constrained by societal factors. While empirical investigations of these questions are only just beginning, the incipient strong disagreement suggests that these are in fact crucial questions that must be addressed. These answers certainly cannot be assumed.

[8]One of the best recent attempts to employ this approach is that of Acemoglu et al. (2001), who use the mortality rates of colonial settlers as an instrument for the quality of early political institutions. The intuition is that where mortality was low, higher levels of colonial immigration were possible, which promoted the development of bigger, more effective states. These early institutional advantages are then assumed to persist into the present era. Another approach, Kaufmann and Kraay (2002), relies on external information about measurement error in indicators of good governance to identify a system of equations linking governance to growth, and the reverse. This approach, which comes to quite different conclusions as Acemoglu et al., relies however on somewhat heroic assumptions about the nature of the errors in measurement, the degree to which contemporary measurements of governance are proxies for historical data on the quality of governance, and the unknown correlation between the errors in the system of

equations.

[9]For a discussion of how the U.S. government is moving to insist on strong country performance on governance criteria (and economic liberalization) in exchange for access to new sources of developmental assistance, see Radelet (2002, 2003). Hopkin (2002) has pointed out similar dynamics at work in the international financial institutions.

[10]As such, these measures also beg the important question as to whether "good governance" and business elites' perceptions of a "good investment climate" are precisely the same concepts.

[11]Hopkin (2002) has also pointed out that studies of corruption have also tended to select on the dependent variable, often not examining comparable cases in which corruption was less severe.

[12] It might be thought that recent work by Acemoglu et al. (2001) overcomes some of these objections since it uses historical data on settler mortality as an instrument for the quality of governance in contemporary institutions. Nothing could be further from the truth. After all, the variable for which Acemoglu et al. instrument is a contemporary measure of "expropriation risk" as perceived by foreign investors (p. 1377), a variable that suffers from all the same selection and perception problems identified above. Nor should it escape notice that Acemoglu et al.'s instrument for low expropriation risk – which, importantly, is *not* the same thing as state capacity – are the mortality rates of the biggest expropriators in history: the European colonists.

[13] Kaufmann et al. construct a meta-indicator that aggregates a host of different measures, from firm, investor, and population surveys to expert and international organization assessments to come to their overall measurements the quality of governance.

[14]The problem is that in important cases, just such interference is a sign of good governance, as when public action prevents the creation of negative externalities, monopolies, or even investment in some economic sectors (under developmentalist policy regimes). At the same time it can signal inefficiency, the prevalence of graft, or judicial capture by private agents.

[15]Indeed, given the notably illiberal approaches to economic management employed in both countries, one might have expected the KKM measure to produce an even lower ranking. It is possible that the measure, despite its liberal orientation, produced this high a ranking in part due to the countervailing perception biases induced by the persistently high rates of economic growth that have characterized both economies for quite some time.

[16] Given that market oriented policy preferences are embedded in the very conceptualization of governance, a positive relationship to neoliberal policy is all but assured (see Gerring and Thacker 2005).

[17]It might be hypothesized that this is because GDP/capita and years of schooling in the adult (over age 15) population are strongly related. The correlation between these two variables is r= 0.75.

[18]Xin and Rudel (2004), for example, find that population size predicts the incidence of corruption because of problems of "scale entropy" in the management of larger societies.

[19]Strictly speaking this is still not appropriate, since the data were not only mean centered but also set to a standard deviation of one for each year. To be valid one would have to assume that the original data in question were distributed similarly across each of the years.

[20]It would be ideal if this measure were more temporally proximate to the time frame of the dependent variable, but this is the last year for which data are available. Alternative measures, usually literacy rates or enrollment rates are perhaps more problematic. The former are quite constrained at the high end, while the latter measure *potential* human capital, but not the actual educational capacity of the existing labor force.

[21]Using the logarithm of inflation rates are that occasionally negative, or positive but close to zero, is problematic as the former are undefined and the latter will produce very large negative numbers. To avoid the introduction of serious distortions through the logarithmic

transformation, inflation rates less than one percent were recoded as one percent, so that there logarithm would be zero. Use of untransformed inflation rates is problematic since they are so maldistributed on the right hand side—using them would render a few hyper-inflationary cases far too important in the estimation.

[22]Antecedent growth is the average of the two years prior to the time of the government effectiveness measure. The dependent variable refers is the average of the two years *after* the taking of the government effectiveness measure. This inclusion of a gap of a year helps reduce the potential for bias that can be introduced by including a lagged dependent variable—the temporal separation helps to reduce the likelihood that this included variable is correlated with the error term.

[23]This is an enormously complicated task. Unless suitable instrumental variables can be found — and the task has so far proved difficult indeed — we must rely on alternative approaches that can only be suggestive as to causal order. Our approach here has been to use a longitudinal analysis to try to gain some leverage on the direction of the causal processes. It is necessarily only a first step.

[24]An emphasis on the importance of underlying social, ecological, or institutional factors has been suggested by Frankel et al. (2004) and Evans and Stephens (1987).

[25]Schrank (2003) has begun to examine precisely such questions. We suggest that this is potentially a very fertile line of future research.