COUNTRY CHARACTERISTICS AND CHANGE IN GOVERNMENT QUALITY, 1996–2005

by

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Abstract

This study investigates the determinants of changes in government quality over time. Cross-country OLS and 2SLS regressions were used to analyze statistical relationships between economic, political, and social country characteristics and the change in four World Bank measures of governance between 1996 and 2005. Initial GDP per capita and GDP per capita growth over the period were the strongest predictors of the change in government quality. More democratic countries and those in less tropical latitudes also experienced larger than average improvements in governance, while oil exporting countries and those with civil code legal systems performed comparatively worse. No robust relationship was found between ethnic fractionalization, educational attainment, or the level of foreign aid receipt and changes in government quality. The results indicate that economic development is the primary determinant of governance change, and that the most effective policies for raising government quality will be those that improve national economic outcomes.

Executive Summary

The issue of governance has become prominent in current discussions about development and foreign policy. Poor quality of governance is increasingly seen as the root cause of extreme poverty, economic stagnation, poor aid outcomes, and global security threats originating in failed states. However, despite growing attention to the issues surrounding governance problems in developing countries, international attempts to address these challenges have to date met with only limited success. The traditional tools of aid are poorly suited to catalyzing institutional change, and aid conditionality has generally failed to stimulate the necessary reforms. Development practitioners are increasingly aware of the importance of governance quality in determining the success or failure of their efforts, but remain unsure as to how to cultivate better government performance when they have a limited ability to impact the structure and functioning of local political institutions.

This paper advances the current policy research on governance and economic development in two ways. First, while there has been a resurgence of research on institutions and economic growth, little of this work has explicitly focused on identifying what country characteristics are statistically associated with poor government performance. The present study addresses this gap directly by exploring the political, economic, and social determinants of government quality, rather than using existing governance measures to explain economic and aid outcomes. Second, this study analyzes changes in government performance over time, also an area of research that has received little attention. Tracking changes in government quality over time has several advantages unavailable to purely cross-sectional studies. It allows a partial evaluation of recent international efforts to catalyze improvements in governance. It differentiates between factors that have static vs. dynamic effects on government quality. And it provides new information on the direction of causality entailed in any statistical relationships uncovered, information difficult to elucidate from regressions in level in the absence of good instrumental variables. While this cross country methodology does not lead immediately to solutions for specific governance problems, it importantly informs policy formulation in this area by identifying the probable underlying causes of poor governance where it exists, and the most promising avenues for strategic intervention and reform.

OBJECTIVE AND METHODOLOGY

The objective of the study is to investigate the determinants of governance quality and changes in governance quality between 1996 and 2005, with the aim of identifying social, political, economic and other country characteristics that have a causal impact on the quality of government and changes in the quality of government over time.

A cross-sectional methodology is employed to compare governance quality and changes in governance quality across countries with a selection of independent variables. Data for the dependent variable, the quality of government, is taken from the World Bank Institute (WBI) governance indicators for four dimensions of governance (regulatory quality, government effectiveness, the rule of law, and control of corruption) for 212 countries and an aggregate governance index is constructed as the un-weighted sum of these four measures. Independent variables include initial per capita income, changes in per capita income, latitude, measures of educational attainment, measures of the extent of democratic institutions in the government, an index of ethnic fractionalization, the origin and type of the legal system, religious affiliation within the population, oil exportation, and levels of aid receipt. The majority of the empirical tests performed on these variables consist in simple ordinary least squares (OLS) regressions, however two stage least squares (2SLS) models using additional exogenous instruments for aid are employed in that section.

RESULTS

Income: Generally, economic variables were the best predictors of initial quality of governance and the change in the governance indicators over the period. In nearly all cases, the initial level of per capita income in the country and the percent change in per capita income were significantly associated with the changes in the governance measures. In addition, the effects predicted by these relationships were large, with the coefficients associated with them typically several orders of magnitude larger than those of other variables. Countries that were poor at the beginning of the study period not only had lower initial quality of governance, but were also much more likely to experience deteriorating governance than their more wealthy counterparts. And changes in government quality are strongly associated with changes in per capita income. Countries that experienced higher levels of economic growth over the period were also more likely to experience rising quality of governance.

In contrast, standard growth regressions performed here did not reveal significant relationships between initial governance quality and subsequent changes in per capita income. Countries with low governance ratings in 1996 were *not* more likely to have experienced lower than average economic growth in the following decade. This unexpected result suggests that the well documented correlation between existing cross country governance measures and per capita income levels may be more driven by a causal effect of income on the quality of governance than by the effect of governance quality on economic performance.

Table 1-1 Correlations between Country Characteristics, Governance Quality, and Governance Change

		Change, 1996 – 2005				
Dep. Variable	Gov. Index 1996	Regulation	Gov. Effectiveness	Rule of Law	Corruption	Gov. Index
Ind. Variables						
GDP p.c. 1995 (log)	+	+	+	+	+	+
GDP p.c. change (%)		+	+	+	+	+
Latitude		+	+	+	+	+
Educational Attainment	+					
Democracy	+	+	+			
Ethnic Fractionalization						
Legal System						
French (Civil)	-	-	-			
Scandinavian	+				+	+
Socialist	-					+
Religious Affiliation						
Catholic		-	-		-	-
Muslim		-	-		-	-
Aid						
Oil Export	-	-	-	-		-

Cell entries contain coefficient signs for OLS and 2SLS regressions on a cross section of countries. + indicates positive correlation, - indicates negative correlation, and cells left blank indicate no statistically significant relationship. Dependent variables are taken from the WBI governance indicators. See Appendix A for full regression results and Appendix B for variable information. Results presented based on models that control for initial per capita income but not income growth over the period.

Geography: Latitude was also a strong predictor of changes in government quality, despite the fact that it has no statistical association with the initial governance quality once the level of income is controlled for. For all measures of governance tested, tropical countries were more likely to have experienced negative or smaller changes in governance.

Educational Attainment: Educational attainment revealed the reverse pattern. High levels of educational attainment in society were strong predictors of the initial quality of governance, even after income was controlled for, but did not significantly predict changes in any of the governance indicators. One plausible interpretation of this finding is that the association

between good governance and better educational outcomes is driven primarily by better governments providing better educational services rather than more educated populations demanding better government.

Ethnic Fractionalization: In contrast to earlier work implicating ethnic fractionalization in poor economic outcomes and weak public institutions, no evidence was found here of any relationship between the extent of ethnic diversity and the quality of governance, either in level or in change.

Legal System and Religious Affiliation: Evidence from tests concerning the origin of the legal system and the religious affiliation of the population were mixed. Countries with legal systems founded on the French or civil code did perform worse on measures of regulatory quality and government effectiveness, while countries with legal systems based on the English common law tradition performed comparatively better across the board. And Scandinavian countries exhibited higher changes in some measures of governance as well over the period, as did countries with Socialist legal systems. Countries with predominately Catholic and Muslim populations exhibited significantly worse performance on regulatory quality, governance effectiveness, and corruption, however the effects predicted by these relationships are small.

Aid: No evidence was found of any relationship between the level of aid receipt over the period and changes in government quality. High levels of aid did not appear to increase the chance that the quality of government would decline in a country, but neither did it increase the chance that it would improve. This remained true when tests were limited to technical assistance. Even this type of governance-oriented aid is not statistically associated with improving governance, casting into question its effectiveness.

Oil Export: Oil exporting countries exhibited both lower quality of governance initially, and smaller improvements on most governance measures. This finding supports general theories about dependence on primary commodity exports having negative economic and institutional implications, including increased instability, rent-seeking, distortionary regulation, and lower government effectiveness.

POLICY IMPLICATIONS

Many of the study variables, such as latitude, ethnic fractionalization, and religious affiliation, are not amenable to change through policy. Accordingly, the results from tests on these variables are mostly useful for diagnostic purposes, helping to identify potential causes of

governance problems where they exist and countries that might be predisposed to poor governance because of these factors.

Four of the study variables, however, are directly susceptible to policy: aid levels, educational attainment, democratization, and income. In contrast to other studies, no evidence is found here that aid is conducive to either deteriorating or improving quality of government. The level of educational attainment in the public is statistically associated with better performing governments, but does not predict future changes in government quality, possibly indicating that better governance leads to better educational outcomes rather than the reverse. The level of democratic representation in the country is associated with both better performing governments and higher improvements in some dimensions of governance. However, by far the strongest predictor of government quality and changes in government quality are related to income. Both initial levels of income and the change in per capita income over the study period are strongly associated with the quality of governance measures. This suggests that, out of the four variables discussed above, the economic variables have the greatest impact on governance, and that improving national economic outcomes is more likely to result in substantial improvements in governance quality in the short run than raising educational attainment or increasing democratic representation.

Impact on government performance is not the only criteria, however, relevant to policymakers considering these three different high-level policy strategies for improving governance. A full policy analysis would require detailed, well structured policy options and criteria, but a schematic comparison of these high-level policy options provides further support for an income-oriented approach. Based on five potential criteria (effectiveness, cost, feasibility, political risk, and external benefits) policies that focus on economic growth remain the most competitive option. As shown in the table below, when rated based on these categories, the income oriented options are the most preferable strategy in terms of effectiveness, feasibility, and political risk. Democratization is the superior option only in terms of cost (based on current levels of aid expenditure on democracy assistance). All three options contain substantial external benefits, with education ranked highest here because it potentially entails some of the benefits of both the other options.

Table 1-2 Comparison of High-Level Policy Options for Governance Reform

	Income	**Education**	**Democracy**
Effectiveness	High	Low – None	Low
Cost	Variable	High	Low
Feasibility	Medium	Medium – High	Low
Political Risk	Low	Low	High
External Benefits	High	High	High

This cursory assessment should not be substituted for a full, focused policy analysis targeting particular governance problems. However it adds further strength to the policy implications of the studies' principal empirical results. Even considering other evaluative criteria besides the improvement in governance, growth oriented policies are likely the most effective set of options for international actors seeking to raise the standard of governance in developing countries. Policy-makers currently investing in other strategies should carefully weigh the costs and benefits of those approaches relative to what could be gained if the same resources were invested in economically oriented alternatives.

CONLUSION

The results of this study have both theoretical and practical implications. For theory, the study supports models of institutional change that focus on economic development. However the results also indicate that relationship between per capita income and governance quality is caused more by the effect of income on governance than the reverse. Practically, knowledge about these characteristics can inform debates about what strategies and objectives make sense for policymakers seeking to catalyze institutional reforms in poor countries. This knowledge alone, however, will not lead directly to more effective policies for improving the quality of governance in those countries most in need of reform. Unfortunately, understanding the deep cultural, historical, geographic, and economic determinants of government quality does not immediately suggest ways to improve the circumstances of people in countries with poorly performing governments. Recent research and experience with governance reform programming also suggests that there are significant barriers to institutional reform that have often been overlooked.

As a result, much time and energy in the development community have been committed to envisioning plans for institutional reform that have little hope of being enacted.

New research in this area points to focusing on policies that address the underlying causes of poor government performance, while at the same time being realistic about what is feasible for international actors and policy makers. Some of the most promising new policies for addressing poor governance in developing countries target domestic rather than foreign institutions. By focusing on reforming business and investment practices, strengthening anti-corruption legislation, and tailoring trade policies to favour the countries most in need, international policy makers can achieve real, positive impacts on government practices in poor countries. Policies of this type are uniquely promising in that they combine a sense of humility about the capacity of international actors to directly impact and improve institutions in other countries with ingenuity in addressing some of the fundamental, underlying determinants of poor governance such as geographic barriers, economic dependence on natural resource extraction, and a legacy of civil conflict. For the most part, it will be up to citizens of poor countries themselves to determine the quality of their government. But, with careful planning, modest goals, and a deep appreciation for the complexity of institutional transitions, wealthy, well-governed nations may still find ways to be of some assistance.

Dedication

To all those working towards a better government and a better future for Nepal.

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Table of Contents

List of Figures

List of Tables

1 Introduction

'Good governance is perhaps the single most important factor in eradicating poverty and promoting development.'

UN Secretary General, Kofi Annan, 1998

'Of all the ills that kill the poor, none is as lethal as bad government.'

The Economist, 1999[1]

The topic of governance has played an increasingly large role in recent discussions of foreign policy and economic development. More and more, poor quality of government in various countries around the world is seen as the definitive, overarching policy problem behind a selection of diverse challenges, ranging from extreme poverty to international terrorism. A large amount of new research on economic growth in the past several decades has demonstrated connections between the quality of government and economic performance, and many economists, led by Nobel laureate Douglas North, now hold that institutions (of which the formal structures of a government are a major, but not the only, part) are the fundamental determinant of long-term economic growth. According to this research, if there can be said to be any single ubiquitous, underlying cause of extreme poverty in the world today, it is the poor governance so characteristic of countries where destitution has proved most intractable. At the same time, an emerging literature on aid effectiveness has pointed to the quality of governance in recipient countries as a critical factor in determining the overall impact of aid. The new orthodoxy in development policy is that, where good governance exists, aid is often effective at easing the burdens of the poor and even stimulating the growth of the economy. Where it does not, however, aid is at best ineffective and waste of resources, and at worst destructive, adding fuel to the already substantial fires of corruption and rent seeking in public institutions that have mired the recipient country in poverty in the first place. Finally, the spectre of terrorism has now placed

[1] Quotations reprinted from ODI (2006).

weak and ineffective states at the centre of contemporary global security concerns. All these forces have combined to make poor governance in poor countries a definitive issue for current policymakers.

Despite the rapidly growing attention to the subject, it is hard to be sanguine about the international community's ability to address the multiple challenges posed by bad governance. The broad conclusions of the dominant research in the development field about governance have left its practitioners in an uncomfortable position. On the one hand, they recognize that those living in countries with the worst governance are those in the most desperate need of assistance. On the other, development workers also now recognize that the traditional tools of foreign aid, foremost among them budget support and large donor-sponsored programs that work through the receiving government, are least effective in these situations and potentially counter-productive. Furthermore, most research reviewing attempts to impose conditionality on aid flows comes to the disheartening conclusion that only rarely have such efforts instigated any real reform. Development strategies for poorly governed countries have proliferated in recent years under many guises—aid 'business models' for fragile states, post-conflict reconstruction blueprints, and guidelines for working with 'difficult partners'. In addition, there is a burgeoning field of development programming dedicated to supporting civil society organizations, strengthening mechanisms of accountability in government, and encouraging democratization. However, for the most part all these approaches recognize that development practitioners are severely constrained in their options if the political will to reform does not already exist in the target country. The international community too often remains captive to either the sovereignty of corrupt, autocratic regimes, or to ongoing cycles of instability and conflict that prevent improvements in the delivery of public goods and services in the countries that need them most.

Two areas of potentially fruitful research on governance, however, have received surprisingly little attention. First, while there has been a great resurgence of research on the determinants of economic growth, with much of it employing new cross-country measures of the quality of governance, there has been comparatively little research on the social and political factors that appear to impact governance quality itself (with a few notable exceptions). Poor governance has multiple causes as well as multiple solutions, and understanding what factors are widely associated with poor government performance can help to identify both which countries are likely to experience governance problems and the possible causes of those problems where they exist. Second, even less research has analyzed changes in the quality of governance over time, relative to underlying conditions. Focusing on trends in government quality can illuminate

underlying causes of poor governance while at the same time controlling for reverse causality by using initial values for independent variables compared with subsequent changes in government quality. This can provide new evidence on the direction of causality implied in relationships found between these measures, information difficult to elucidate in from regression studies in level. In addition, analyzing trends allows a partial evaluation of the international community's efforts to address this problem to date by revealing associations between international aid expenditures and changes in governance. Both these avenues of research, identifying underlying causes and tracking governance trends, may yield important implications for development policy and theoretical work on the nature of institutions and institutional change in society.

This study aims to redress these two gaps. A variety of economic, political and social country characteristics are investigated here with respect to changes in four broad measures of governance between 1996 and 2005 in order to reveal factors associated with improving or declining quality of government. Despite the substantial promise of this avenue of research, it is arguably premature. Quantitative indicators of governance quality, which are based on subjective assessments and perceptions, remain subject to large margins of error. As a result, the findings reported here must be regarded as somewhat rough estimates. Nevertheless, I argue that the changes in governance quality exhibited in the measures used here are plausible, and in most cases readily intelligible in the light of other contextual, country-specific information. As a result, the associations revealed can be regarded as reliable, if imprecise, indicators of factors associated with improving and declining quality of governance. Furthermore, the data used here is the best available and will be the best available for the foreseeable future. Any attempts to assess changes in governance over time, using such cross-country indicators, will consequently have to grapple with similar levels of uncertainty. To quote one development scholar, it is "better to measure imperfectly that which is important than to measure with great precision that which is not." (Richards 2006:14)

This research will not lead directly to any far-reaching solutions of the policy problems posed by poor governance in developing countries. That is more than can reasonably be expected. But I hope it sheds some light on why those countries with poor governance are so afflicted, and on what social, political, and economic factors are associated with countries that improve their public institutions. With any luck, a better understanding of recent trends in governance will contribute to the emergence of more effective policies for addressing this monumental challenge in the future.

1.1 Objective

The primary objective of the study is to investigate the determinants of governance quality and changes in governance quality between 1996 and 2006, with the aim of identifying social, political, economic and geographic country characteristics that have a causal impact on the quality of government and changes in the quality of government over time.

1.2 Methodology and Structure

A cross-sectional methodology is employed to compare governance quality and changes in governance quality across countries with a selection of independent variables. Specifically these independent variables consist of measures of initial per capita income, changes in per capita income, latitude, measures of educational attainment, measures of the extent of democratic institutions in the government, an index of ethnic fractionalization, the origin and type of the legal system, religious affiliation within the population, oil exportation, and levels of aid receipt. Data for the dependent variable, governance quality and change in governance quality, is taken from the World Bank Institute (WBI) governance indicators for four dimensions of governance (regulatory quality, government effectiveness, the rule of law, and control of corruption) for 212 countries and an aggregate index of governance is constructed as the linear sum of these component measures. Change in the governance indicators over the period is measured as the point difference between the 1996 indicator values and the 2005 indicator values. Data for the independent variables comes from a variety sources (see Appendix B for details). The majority of the empirical tests performed on these variables consist in simple ordinary least squares (OLS) regressions, however two stage least squares (2SLS) models using additional exogenous instruments for aid are employed in that section.

The structure of the remainder of the study is as follows. Chapter two reviews recent research on the determinants of governance quality, emphasising theories of institutional change and empirical research relevant to the variables tested within this study. Chapter three presents the methodology and results of empirical tests on the previously identified correlates of governance quality and changes in governance quality (complete results for all regressions performed on these variables are contained in Appendix A). Chapter four discusses the policy implications of the study findings, comparing several different high-level strategies for improving government quality, and a final chapter concludes with a short discussion of the current state of research on governance and development policy.

2 Literature Review

An extensive literature has developed in recent years on how institutions affect economic performance, and it is beyond the limits of this study to offer a comprehensive review of this research here. Many economists now believe that institutions are the primary determinant of long-term economic growth (e.g. North 1990, Acemoglu et al. 2001, Rodrik 2002, Easterly and Levine 2003). At the same time, new empirical research on economic growth has explored the relationships between political stability (Alesina and Perotti 1993, Alesina and Rodrik 1994, Svensson 1988), the rule of law (Barro 1996, Clague 1996), corruption (Mauro 1995), and government effectiveness (Knack and Keefer 1995) and economic growth, with much of this work finding evidence of substantial causal effects of governance characteristics on growth. And new interest in the economic implications of informal institutions and 'social capital' has also led to a growing body of research, with scholars investigating the economic effects of social trust, civic participation, religious affiliation and other social and cultural characteristics (see Knack and Keefer 1997 for an early review). All this work has led to an increasing awareness of the strong effects that institutional characteristics (the structure and performance of the government foremost among them) can have on national economic outcomes.[2]

At the same time, the implications of this work for policy makers are often opaque. To a large extent, this is due to the distinction between institutional outcomes, or performance, and underlying institutional structures.[3] While research demonstrates that political instability is potentially deleterious for the economy, this does not translate in to unequivocal policy implications because political instability can be a feature of many different kinds of political systems and governmental structures. This is equally true for other dimensions of governance such as corruption or bureaucratic effectiveness. Knowing that well-performing public institutions are crucial for the health of the economy does not automatically imply a particular set of institutions or institutional approaches because research to date has largely failed to link particular institutional structures with particular institutional outcomes. Even identical institutional arrangements often perform differently in diverse jurisdictions and some studies

[2] See Aron (2000) and IMF (2003) for overviews of this research.
[3] This distinction is discussed at length in Glaeser et al. 2004.

indicate that a degree of flexibility and policy heterogeneity may be crucial to achieving good institutional outcomes in the widely disparate situations facing individual countries (see, for example, Rodrik 2000 and 2004). The failure to concretely associate specific types of institutional structures to specific institutional outcomes across countries considerably complicates the capacity of the research on institutions and economic performance to inform policy.

As a consequence, many of the most salient questions for policy research stemming from this work are now related to understanding the political, economic, and social characteristics of countries that are causally related to their quality of governance. The formal political structure of the government is one such factor, but past and current research points to a variety of others that may be important determinants of governance quality, including economic characteristics, levels of education, ethnic composition, natural resource endowments, cultural structures and practices, and many others. While this area of research has substantial historical precedent, it has received less attention recently, and the empirical research on the determinants of governance quality is less extensive than that on institutional characteristics and economic growth. There are, however, a number of important exceptions, some emerging from economic research on institutional factors and others from studies explicitly exploring country characteristics that may affect the quality of government over time.

The purpose of this section is to review this latter body of research that identifies and explores social, political, economic, and geographic characteristics widely thought to impact a country's demonstrated quality of government. I pay particular attention here to a recent large study on the determinants of government quality completed by Raphael La Porta, Florenco Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny (La Porta et al. 1999). Following these authors, I divide the treatment of these determinants of government quality into several categories: economic, political, cultural, and geographic. I also, however, include discussion of several additional factors that don't fit readily into these categories, such as economic dependence on the export of primary commodities (most importantly oil) and aid dependence. The intention here is to provide a narrowly focused review of these factors and their theoretical impact on governance in order to generate a set of empirically testable hypotheses. The discussion of each is markedly incomplete as most of the research commented on is itself building on extensive bodies of theory and research, some of them centuries old. The emphasis here is limited to relatively recent work exploring specific, measurable social characteristics and their relationship

to government quality – particularly as captured by currently available cross-country measures of governance.[4]

The chapter proceeds as follows. The first section contains a brief discussion of theoretical issues involved in comparing and measuring the quality of government across countries. The next contains a short summary of the study on government quality by La Porta et al. (1999), which in many ways serves as the foundation for the present research. The following sections briefly discuss the different categories of factors that could impact governance: economic, political, cultural, geographic, etc. A final section summarizes implications of this research and presents empirically testable hypotheses suggested by the review.

2.1 Measuring Governance

Empirically investigating the determinants of government quality presupposes that government quality itself can be reliably measured. This is not obviously the case. Debates about the proper nature, role, and structure of government in human society are (almost certainly) as old as human civilization and show no sign of abating. However, a particular vision of government associated with liberal political theory, democratic politics, and free-market capitalism has become all but hegemonic in the modern era, especially following the collapse of the Soviet Union and increasing scepticism about the viability of centrally planned economies. At the same time, economists researching public goods and institutions have come to a high level of agreement over the characteristics that distinguish 'public' from 'private' goods and have established relatively clear guidelines about when and where it is justifiable on efficiency grounds for governments to intervene in, or replace, markets in the delivery of goods and services. This by no means implies that agreement about what is entailed in good governance is monolithic on all counts. But there is a large and growing consensus about the core, if not the peripheral, functions of government in modern societies, and a corollary confidence in our ability to comparatively assess the performance of governments across countries.

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[4] The emphasis in this chapter is on 'governance' rather than 'institutions'. There is some ambiguity about the meaning of the term 'governance' due to its widely disparate usage in recent literature. Throughout this study I use the term as roughly synonymous with 'quality of government'; a broad evaluative assessment of government performance is implicit in the term. While institutions consist of both formal and informal constraints on individual behavior, government is typically associated only with formal constraints. 'Governance', however, consists in a measure of institutional *outcomes* (the relative performance of one government versus another in providing public goods and services), and therefore incorporates the effects of both formal and informal institutions. That is, governance quality may be influenced by the nature of informal social institutions such as levels of social trust and patterns of civic engagement as well as the formal structures of government, and consequently is a general measure of how well social institutions of various kinds work together in order to provide public goods.

This study does not dwell on the theoretical or methodological challenges involved in measuring government quality to any great extent. This is not to deny that such challenges exist and have important implications. But the focus here on assessing general relations between social characteristics and government quality does not necessitate a detailed definition of good governance. Following the economic literature on institutions, as well as La Porta et al. (1999), good governance is taken here to imply 'good-for-capitalist-development' governance (La Porta et al. 1999:3). Measuring governance quality then generally consists of measuring the relative performance of governments in delivering recognized public goods and services, including security, the rule of law, macroeconomic management, the provision of public goods and services such health, education, basic economic infrastructure, etc. This performance can be assessed both in terms of effectiveness (whether and how well public goods are provided) and efficiency (at what cost is a given level of service provision achieved). Better governance consists in higher levels of service provision at lower cost. And different dimensions or areas of service provision, such as regulatory quality, the rule of law, or bureaucratic efficiency, can be assessed separately. Note that this conception of governance as service provision does not include any priors about the value of one type or form of government over another. There may be compelling reasons to believe that democracies are intrinsically preferable to autocracies, but it is not assumed here a priori that governments with higher levels of political freedom and citizen representation automatically have better governance or provide better services at comparable or lower cost. Good governance does not necessarily include well-developed mechanisms of government accountability, although there are good reasons to suspect that such mechanisms are typically associated with better performing governments.

Governance, understood in this light, can be measured in a variety of ways. There are now several widely available compilations of subjective measures of governance performance, including but not limited to: the International Country Risk Guide (ICRG) rankings, which feature widely in academic research on government quality; the World Bank Country Policy and Institutional Assessments (CPIA) and the WBI governance indicators used in this study. These measures can be based on both public surveys as well as polls of experts and are designed to gauge subjective perceptions about how well a government is performing in providing basic public goods and services relative to others. In addition, measures of policy effectiveness are also sometimes used as objective indicators of government quality. For instance, primary school enrolment rates are used to assess the government's provision of education, and life expectancy and infant mortality rates used to evaluate public health care, and measures of inflation and black-market premiums to assess macroeconomic management. Both of these types of governance

measures, objective and subjective, have strengths and weaknesses. Objective measures have specific, well-defined relationships to particular areas of public service provision, however they are generally confined to effectiveness rather than efficiency measures and may be limited by their narrow focus. Subjective indicators provide a broader picture of the performance of governments across various dimensions of service provision, but may affected by measurement bias due to their subjective nature.

Measuring the performance of governments across countries is an imperfect science and remains susceptible to substantial levels of error. Researchers involved in constructing the WBI governance measures have extensively documented the methodologies used to create these indicators and the methodological issues and challenges they faced in the process, and these technicalities are too numerous to survey here.[5] However, there is enough agreement on the basic functions all governments should fulfil as well as sufficient data (both objective and subjective) on the ability of governments to meet these obligations, that broad patterns in the relationships between various national characteristics and governance quality can be meaningfully investigated empirically. The research reviewed below assumes as much, and its empirical findings are largely generated from these accepted measures of government quality.

2.2 La Porta et al. (1999)

Much of the current study builds on an empirical investigation of the determinants of government quality carried out by Raphael La Porta and several other researchers at Harvard University. In this study, La Porta et al. attempt to differentiate between three broad categories of factors which potentially determine the overall quality of government institutions: economic, political, and cultural. According to the theoretical framework defined by these authors, economic theories broadly imply that the quality of government is dependent upon the level of economic development. Political ones imply that the quality of government is largely determined by the nature of the constraints on political elites (both formal and informal), which shape their ability to redistribute social resources. And cultural theories suggest that government quality is dependent upon cultural factors or practices which shape the way that individuals interact with each other in society and thereby determine their overall ability to enact cooperative solutions to social problems. The authors recognize that this is a rough schema, and caricatures well-developed theories by ignoring their more subtle implications. Nevertheless, it is a useful way to distinguish between different types of factors related to government quality. In addition, these

[5] For a thorough description of these issues, see Kaufmann et al. (2006) and Kaufmann et al. (2003).

theories are not mutually exclusive; all may operate simultaneously to different degrees. The intention of the authors is to empirically test these theories to reveal their relative strengths.

More details on each of these sets of theories and the variables constructed by La Porta et al. to test them are provided below on respective sections on economic, political, and cultural determinants of government quality. In particular, the authors identify several variables they associate with each type of theory and then test for statistical relations between these variables and a selection of measures of government quality in a cross-section of countries. The variables they identify include the level of economic development, ethnic fractionalization, the origin and type of the legal system, the religious affiliation of the population, and latitude (again, these measures are discussed in more detail below), and the authors first test each set of variables separately and then in combination in a series of OLS regressions. They find in these regressions consistent evidence that countries which are poor, tropical, have higher degrees of ethnic fractionalization, have legal systems based on French or Socialist legal traditions, and have high percentages of Catholic and Muslim populations have typically poorer quality of government across a variety of measures. The authors accordingly conclude that the evidence supports all three types of theories, and emphasise that, in addition to the level of economic development, historical, social, and political characteristics are also important determinants of governance quality.[6]

2.3 Economic Determinants of Governance

A great deal of recent research has explored the causal impact of governance on economic growth. The reverse effect of economic growth and the level of economic development on the quality of governance, while widely predicted, has received less attention. Nevertheless, there are compelling theoretical reasons to suspect that the quality of governance in a country may be dependent on its level of income. Additional fiscal capacity stemming from larger public revenues might make possible better and more extensive public services. Likewise, a government with a more secure financial situation may be better able to withstand a variety of political and economic shocks, shocks that might otherwise damage the capacity of the government to fulfil

[6] Much of the data taken for the current study, as well as the general theoretical framework, is adapted from this work by La Porta et al. (1999): specifically the measures of legal origin, religious affiliation in the population, and latitude. While the present study includes consideration of other independent variables not reviewed by these authors, such as aid levels, educational attainment, oil export, degree of democracy, etc., it builds on the work by La Porta et al. by using their data in comparison with additional measures of government quality as well as by considering the effects of these variables on changes in government quality over a relatively short (and recent) time period.

essential functions. Progressively higher incomes may enable more complicated and specialized institutional arrangements better able to meet public needs. In addition, under a strict 'efficient institutions' interpretation (which few scholars, if any, would defend), the political and economic institutions that exist at the current point in time are the most economically efficient possible. This theory posits that new institutions evolve when the aggregate social benefits of developing and implementing those institutions outweigh the aggregate social costs.[7] La Porta et al. conclude that the critical implication of these arguments is that, "economic development itself creates a demand for good government" (La Porta et al. 1999:16), and higher per capita incomes will lead to better quality of government.

The empirical implication of this postulated relationship, however, is indistinguishable from its reverse - that better governance results in higher incomes. According to both, per capita income and good governance should be highly correlated, as in fact they are based on most measures of governance. La Porta et al. (1999) do not significantly attempt to differentiate the relative strengths of the two effects, however economists researching institutions and growth have investigated the issue. Numerous economic studies have now demonstrated that the causal effect of governance quality on growth (and therefore income levels) is robust to the use of instrumental variables designed to eliminate the possibility of reverse causality (for example, Rodrik et al. 2003, Easterly and Levine 2002, AJR 2001). In addition, in a statistically sophisticated analysis, Kaufmann and Kraay (2003) attempt to estimate the strength of the two directions of the effect based on non-sample information and variation in the error terms in a system of equations relating governance and growth. In this analysis, they find no evidence for any positive causal effect of growth on governance (and possibly a weak, negative effect: more growth leads to worse governance!) but strong evidence for an effect of governance on growth. The authors conclude that there is little support for the hypothesis that increasing income levels raise governance quality. Consequently, the majority of recent empirical research finds that governance is an important determinant of income over the long run but that income levels do not appear to be as important a determinant of governance. Many researchers, however, still accept the possibility that government quality is at least partially affected by the level of economic development, and

[7] The classic example of this phenomenon, coming from Demsetz (1967), is the evolution of property rights regimes in parallel with the characteristics of the property they are designed to regulate. Demsetz argued that the specificity of property rights regimes tends to evolve in parallel with the value of the property they regulate; as land becomes increasingly scarce (and therefore valuable) it becomes increasingly worthwhile to rigorously define (and defend) the property rights associated with that land.

that the relationships between the two are frequently reciprocal, with improvements in one often matched by improvements in the other.[8]

2.4 Political Determinants of Governance

The structure of the political system governing a country is an obvious candidate for defining constraint of government quality. Clearly, some types of political systems may provide better public services than others, with it being widely assumed that democratic institutions generally lead to superior public services because they enable feedback between a country's citizens and the holders of political power. In democracies, if politicians fail to deliver the services the public wants, or fail to satisfy them in other ways, they stand the risk of being voted out of office. Autocrats face no such pressure and can potentially continue providing sub par public services indefinitely as long as they can maintain their hold on political power in other ways, usually through military or coercive means. For La Porta et al. (1999) political theories of government quality are fundamentally redistributive in nature. They centre on the concept that the political elite or those holding political power in a country will shape government policies in ways that favour themselves and their constituency whenever possible. As a result, in political systems where power is concentrated in a few who are unaccountable to others, government quality for the average citizen declines as power holders increasingly redistribute social resources towards themselves and their supporters. In societies, however, where political power is widely distributed and mechanisms exist to protect minority interests, the quality of government for the average citizen improves. These authors emphasize that these predictions are relevant both to the effects of the actual structures of the political system on governance as well as the effects of underlying political dynamics on governance. Thus where one group (however defined) in society is capable of seizing and holding political power through whatever means (coercive, democratic, or otherwise), the quality of government suffers.

Significant research, however, has also implicated democratic institutions in declining quality of governance in certain situations. Democratic institutions in poor countries may be

[8] One cautionary note about the majority of the empirical research on the question should be inserted here. By far most examinations of this question have explore the relationship between the two characteristics in levels, using current measures of governance quality (or various exogenous instruments for them) relative to current income levels, or very long-term growth. Much less attention has been paid to studying changes in these measures over time (particular governance quality and subsequent economic growth), mainly due to the fact that quantitative measures for governance are only available for relatively recent years, making it difficult to track changes in governance. This study partially redresses this omission by exploring not only the correlation of income and governance in level, but also the relationships between income levels and subsequent changes in governance quality (and vice versa).

more unstable and prone to certain types of political instability than autocratic ones, which could lead to declines in the quality of public services (Goldstone et al. 2005). Likewise, democratic transitions can be destabilizing, implying that increases in democratic representativeness could be associated with declining governance quality (Goldstone et al. 2005, Pritchett 2003). Some research also suggests that political elites may be more likely to engage in predatory behavior on the state when they perceive their tenure as less secure (Bates 2006). In this case, democratic institutions can exacerbate governance problems as politicians shift from political strategies with long time horizons to short-term maximization of rents associated with limited time in positions of power. And finally, research on corruption indicates that democratization may in some cases broaden the scope of the problem in the short term by expanding the size the political elite capable of utilizing public offices for private gains (an effect sometimes referred to as the 'democratization' of corruption). Generally, these negative effects are predicted to be limited to, or most acute in, low-income countries, either because their income levels make those countries particular vulnerable to political instability and other political and economic shocks, or because they are associated primarily with democratic transitions and nascent democracies rather than older democracies with well-established systems of rules and constraints. Because of these possibilities, greater levels of democratic representation may not always be associated with higher or increasing quality of governance, particularly in low-income countries with new or transitional democratic institutions.

The extent of democratic representation in the political system is the most widely explored political characteristic relative to government quality, but there are other structural features of the political system that could be equally important. La Porta et al. (1999) also discuss and test the origin and type of the legal system as a determinant of governance. They propose that legal systems founded on Socialist political systems as well as those founded on the major traditions of civil law – particularly the French civil code – facilitate higher levels of State intervention in markets and consequently less efficient regulatory systems. According to them, "Socialist law is a clear manifestation of the State's intent to create institutions to maintain its power and extract resources, without much regard for protecting the economic interests or the liberties of the population." (La Porta et al. 1999:17). Accordingly, they predict that countries with socialist legal systems will have less efficient bureaucracies and more interventionist governments on average, though the quality of certain public goods, such as education, may remain high. These researchers come to similar conclusions about countries with civil legal traditions. Civil law, they write, "is largely legislature-created, and is focused on discovering a just solution to a dispute (often from the point of view of the State) rather than following a just

procedure that protects individuals against the State."(La Porta et al. 1999:18). As a result, governments with civil law will also be more interventionist and less efficient, however not to the extent that Socialist countries are. The exception to this pattern is the English common law tradition, which they argue developed specifically in accordance with the needs of a large and growing middle class to protect its property against State intervention and expropriation. These predictions are borne out in the empirical investigations reported by La Porta et al. (1999); countries with French and Socialist legal systems do exhibit worse governance performance on a variety of measures – most notably with respect to interference with the private sector and government efficiency.[9]

2.5 Social Determinants of Governance

There has been a proliferation of research in recent years on the concept of 'social capital', generally defined as the capacity for a society to engage in cooperative behaviour to address social problems. This includes research such as Francis Fukuyama's investigation of the economic implications of trust and family structures in society (Fukuyama 1995), Robert Putnam's research on civic participation and engagement, both in Italy and elsewhere (Putnam 1993, 2000), and a large amount of other related material (for a recent survey, see Helliwell 2005). These characteristics are widely predicted to have important effects on economic activity as well as on the quality and calibre of political institutions. It is beyond the scope of this section to offer a comprehensive review of this wide-ranging body of research. Instead, I single out three possible measurable dimensions of social or cultural characteristics that have been implicated in this work, educational attainment, ethnic fractionalization, and religious affiliation, and discuss the predictions that follow from research on these subjects.

2.5.1 Educational Attainment

Levels of educational attainment are now widely used in economic literature as general measures of the extent of 'human capital'. Underlying this usage is the assumption that more educated populations have superior skills and capabilities at their disposal, skills gained through investment in the accumulation of knowledge. The consequences of these higher levels of human capital are now thought to be far reaching. In addition to the calculated personal returns on additional years of education (demonstrated in numerous studies) new evidence from endogenous

[9] These findings were significant in the majority of the tests reported by La Porta et al. (1999), however the association was reduced substantially in those that controlled for income effects.

growth theory suggests that the level of education in society has an important general effect on the rate of economic growth in society (see Temple 1999 for a review). Countries with more educated populations can expect greater levels of productivity and higher growth rates than their less educated counterparts (Barro 1996, Barro and Lee 2000). Possible avenues of impact of education on quality of government can be roughly separated into 'supply' and 'demand' side effects. On the supply side, higher levels of education in society may improve government quality directly by providing a more capable government workforce. Since the pool of talent and skills the government can draw from is of higher quality, the overall calibre of the public services can be expected to be higher, leading to better performance. On the demand side, more educated populations may be more aware of inadequacies in public service and more astute in identifying the political obstacles to improving public services, and more capable of organizing and exerting effective political pressure. A third possible avenue of impact runs in the other direction, from governance to education, with better performing governments providing better educational services for the public and thereby increasing levels of educational attainment. Both directions of this relationship are plausible and they are not mutually exclusive. This suggests the possibility of positive feedback, with higher education leading to better government leading to better education[10].

2.5.2 Ethnic Fractionalization

Governance quality may be also affected by the ethnic makeup of countries. More ethnically diverse countries may be more likely to experience political strife or instability, which could have negative impacts on governance. In addition, if ethnicity plays a more dominant role in political competition, this may lead to increased political factionalism, with political parties focused primarily on advocating for the interests of defined ethnic groups rather than the entire public, and ethnic-based corruption or political patronage. Alternatively, it is also possible that societies with higher levels of ethnic diversity may be more likely to evolve effective political dispute resolution mechanisms and may be more on guard against corruption or rent-seeking, whereas countries with one dominant ethnic group may exhibit more favouritism in redistributive policies and spending and less sensitivity to the political rights of minority ethnic groups, thereby decreasing the overall effectiveness and reach of the government.

[10] There has long been speculation that some autocrats, aware of these possible channels of effect, have sought to maintain their power by minimizing the demand for change through deliberately under-educating their citizens.

A large literature has now investigated the effects of ethnic fractionalization (the extent of ethnic heterogeneity) on the economic and political processes in countries. The seminal study on the economic impact of ethic fractionalization was Easterly and Levine (1997) where the authors argue that much of Africa's poor economic growth performance over the preceding half century is the result of ethnic conflict, often the consequence of borders imposed by colonial powers that did not respect the traditional sovereign territories of indigenous ethnic groups. Other literature has focused more specifically on the effects of ethnic fractionalization on governments and institutions, and also found that more ethnically diverse societies typically exhibit lower quality of public service. La Porta et al. (1999) find evidence that countries with higher degrees of ethnic fractionalization have worse governments and other studies on local municipalities in the United States have found that there are lower levels of trust and slower growth in more ethnically fragmented cities (see Alesina et al. 2003 for review). Finally, there is also a large literature on the relationship between ethnic fractionalization and political instability. Here, the empirical results have been mixed. Some research has suggested that countries with higher degrees of ethnic fractionalization are more likely to experience civil wars while other studies suggest that only the size of the largest ethnic group relative to that of minority groups matters, with the clear ethnic domination of one group over others being a more accurate predictor of potential conflict (Fearon 2003, Collier 2003).

2.5.3 Religious Affiliation

Religion is one of the dominant organizing forces behind informal social institutions in many societies and consequently could have a large impact on both the quality of governance and on economic activity. Scholars since Weber have emphasized the importance of different forms of religious practices on economic organization, with many following him in theorizing that Protestantism is more conducive to the emergence of capitalism and free markets due to its less hierarchical structure, particularly compared to Catholicism or Islam. In addition, religious practices and affiliation have been tied to other social characteristics such as the level of trust in society, and have consequently been used as indirect measures of civic connectedness or engagement. Recent examples of literature in this vein include Putnam (1993), Landes (1998) and La Porta et al. (1999). La Porta et al. (1999) find significant evidence of an important relationship between religious practices and government performance, with societies that are predominantly Catholic or Muslim exhibiting on average lower scores on a variety of measures of government quality. These authors speculate that this results from these societies being, on average, more conducive to large, interventionist, and hierarchical bureaucracies, which can

dampen economic activity and entrepreneurship, and that these countries are also less likely to have enacted strong political protection of individual rights. It is not clear from these studies what impacts to expect from religious practices not explicitly researched, such as Buddhism, Hinduism, Taoism, Confucianism, Shinto, Animism and many others. Broadly it might be expected that the more hierarchical the social institutions associated with the religion are, the less conducive such practices will be to high-quality governance, but existing empirical research is insufficient to confirm that prediction.[11]

2.6 Additional Factors Related to Governance

A number of other factors are also implicated by different strands of research as being potentially important determinants of governance quality. One is the geographic characteristics of a country. Substantial research has demonstrated connections between geographic characteristics and economic performance over time, some of which also implies that geography has strongly impacted institutional quality as well. The two most prominent of these characteristics are whether or not a country is land-locked, and its latitude. The former is associated with sharply diminished opportunities for international trade and the later is associated with the burdens of tropical diseases and, to a lesser extent, climate related effects such as heat, drought, desertification, hurricanes or cyclones, flooding, etc. These geographic characteristics may exert a direct impact on economic performance through reduced productivity as well an indirect one by impacting the quality of institutions. While there are a variety of possible channels through which the latter effect could manifest, the most extensively reviewed of these is the long-term historical impact of patterns of settler colonization. For example, AJR (2001, 2003, etc.) speculate that, where settler mortality rates in colonies were high (and the indigenous population density high), colonial governments tended to establish primarily extractive political and economic institutions that did not encourage investment or protect private property, whereas in colonies with low settler mortality rates (and low native population density) there were higher rates of settler immigration and colonial governments tended to establish more equitable institutions that inculcated the rule of law and protected local investment in economic activity. In their study, La Porta et al. (1999) find a significant and negative relationship between latitude and

[11] It should be noted that the theoretical conclusions of La Porta et al. in this respect are somewhat in tension with each other. They predict a negative effect from highly organized, hierarchical religions, and yet at the same time hypothesize that the pre-enlightenment absolutist political traditions of Europe were more conducive to better government then their counterparts in Asia (mainly Tsarist Russia and Mandarin China) because in Europe monarchs were forced to negotiate with highly powerful and well-organized religious organizations, which served as a check on the State's redistributive tendencies (La Porta et al. 1999: 11-12)

government quality, with more tropical countries exhibiting poorer government performance across a variety of measures.[12] Latitude may continue to exert an active effect on recent governance quality changes in so far as it is correlated with the incidence of particularly burdensome tropical diseases (which may strain public resources and decrease 'human capital'), economic effects through reduced agricultural productive from climate-related impacts, and a (possibly spurious) correlation with aids incidence.

Another related determinant of governance quality is a country's endowment of natural resources. A body of research on economic growth has examined the effect of the 'primary resource curse', where an abundance of certain kinds of primary resources available to the economy has an overall negative impact on the growth of per capita incomes over time by stimulating rent-seeking, corruption, and political conflict over control of these valuable resources. In a frequently cited study, Sachs and Warner (1995) document that countries with a high ratio of natural resource exports to GDP experience lower economic growth on average in recent decades that countries less economically dependent on those resources. Following this research, Collier (2003) has found that economic dependence on primary resource exports is a strong risk factor for civil war. Foremost among these potentially detrimental resources is oil, although others include alluvial diamonds, metal ores and minerals, high-value timber, and other primary commodities with strong export potential. According to this theory, oil exportation is associated with lower quality of governance as political competition revolves around control over the rents associated with oil revenues to the detriment of efficient provision of public services required for economic growth. It should also be noted that dependence on oil exports has been hypothesized as particularly detrimental to the development of democratic institutions.[13] Again, oil revenues may be associated with higher degrees of political conflict and corruption and may also induce the state to intervene heavily in a variety of markets, resulting in a less efficient regulatory regime overall. Alternatively, it is also possible that profits from the export of valuable resources, like oil, could catalyze income growth, bolster public revenue and thereby enhance the capacity of the government to provide comprehensive, high-quality services.

[12] Note that the interpretation of the correlation between settler mortality rates and measures of institutional quality is not uniform. Acemoglu et al. (2004) and, to a lesser extent, Easterly and Levine (2002), view this as indicative of a causal effect. Rodrik et al. (2002), however, are unconvinced of this and argue that settler mortality is merely a useful instrument for institutional quality due to the variable's statistical properties.
[13] Journalist Thomas Friedman has called this the "first law of petro-politics", positing that the pace of democratization in oil exporting countries is inversely related to the current price of oil (Friedman 2006).

However there is little empirical evidence to demonstrate this effect outside of isolated case studies where countries have effectively managed resource revenues.[14]

Governance quality in one country can also be impacted by the governments of other countries. Many such effects are possible, but one particularly relevant to current policy debates is the impact of aid on the governance of recipient countries. Evaluating governance quality is now a common practice within the aid establishment due to recent research demonstrating that aid is conducive to improving overall economic outcomes in well-governed developing countries while largely ineffective to the same end in poorly governed ones. An often-cited 1998 World Bank study, "Assessing Aid: What Works, What doesn't, and Why", found evidence that aid flows were associated with higher rates of economic growth in countries with both good policies and good institutions (World Bank 1998; see also Burnside and Dollar 2000). The authors of the study demonstrated that when a country's level of aid was interacted with a measure of country governance (here an index incorporating both measures of economic and fiscal policy as well as institutional quality), this variable was a significant predictor of changes in per capita incomes. Aid alone did not predict better economic outcomes, but once governance was taken into account, aid stimulated growth in countries with good governance. These findings were influential in determining the course of aid policy in recent years and have done much to shift governance issues to the centre of current debates about aid. They are not, however, universally accepted, and some research has shown that these results are extremely sensitive to changes in the sample parameters and the definitions of the variables employed (Easterly 2003).

While this work established the importance of governance to aid outcomes, it was largely agnostic when it came to aid's impact on governance. The World Bank study tentatively asserted that aid can and does improve governance in receiving countries, but suggested that the emphasis in this area should be on the sharing of ideas and expertise rather than on financial transfers (World Bank 1998). Other research, however, has implicated high levels of aid receipt in the decline of governance quality rather than its improvement. A priori, high-levels of foreign aid could have both positive and negative impacts on the quality of governance and there are substantive theoretical arguments supporting both cases.

On the positive side, aid is often argued to facilitate the transfer of technology and expertise from wealthy countries to poor ones. By transferring direct financial resources in terms of budget support, aid may allow poor country's governments to provide higher-quality

[14] One example of this frequently discussed in the literature is Botswana's effective management of revenue from the country's diamond industry.

government services than they might otherwise be able to afford. And by transferring knowledge and expertise related to public service delivery and public-sector management, aid may enhance the capacity and effectiveness of recipient governments to provide public goods. Aid may also have an 'anchoring' effect by making recipient governments more likely to initiate institutional reforms or adopt and follow international governance norms. For example, the IMF (2003) argues that the possibility of accession to the European Union has played such a role for many East European countries since 1990 and joining the WTO has had a similar catalytic effect in others. Aid flows may produce similar benefits directly, in so far as their receipt is conditional upon governance standards or the initiation of institutional reforms, or indirectly, in so far as the transfer of resources broadens international engagement in recipient countries and makes them more likely to participate in international organizations.

Alternatively, aid dependence has been hypothesized to be detrimental to the quality of government for a variety of reasons, including weakened government accountability to citizens, increased rent-seeking and corruption made possible by fungible aid flows, increased political instability from competition over rents associated with control of aid funds, the loss of human resources from the public sector to aid management and delivery positions, and lower pressure to reform inefficient public institutions. In one cross-country empirical study, Stephen Knack investigated the effect of aid on the quality of governance by regressing the change in the ICRG quality of governance index between 1982 and 1995 for a cross-section of countries on the average level of aid as a percent of GDP or government spending for that period, along with a selection of control variables (Knack 2001). Knack consistently found that the coefficients for the aid variables in these regressions were negative and significant, indicating a robust correlation between high levels of aid and declining quality of governance. This was the case in both standard OLS regressions and 2SLS regressions, where the possibility of reverse causality (aid levels being contingent on the quality of governance) was controlled for using additional exogenous instruments to estimate the level of aid. In addition, the sign and significance of the coefficients remained largely unchanged for a variety of samples of countries based on different levels of income, different levels of aid dependence, different types of aid, and geographic location. Knack concluded that aid dependence was substantially related to declining quality of government.

Another similar study, however, came to a partially contradictory conclusion. In a study on aid in fragile states, Paul Collier and Lisa Chauvet found that higher levels of aid did increase the chance that a fragile or failed state when experience substantial improvement in their quality

of government, in this case as measured by World Bank Country Policy and Institutional Assessments (CPIA) (Collier and Chauvet 2004). Here Collier and Chauvet first defined a set of failed states, roughly corresponding to those with the lowest CPIA ratings for the beginning of the study period, and then identified instances where those states exhibited substantial and sustained recoveries (improvements in their CPIA scores). Using hazard functions to estimate the probability of a sustained turnaround in these countries, they find that higher levels of aid (as well as higher levels of secondary education) increase the probability of a successful turnaround. Note, however, that aid in this case is not predicted to have a linear effect on government quality, but rather improve the odds that governments in failed or failing states will improve. As Collier and Chauvet, note, this does not correspond to a direct implication of aid effectiveness at improving governance in failed states. Rather it implies that, while most aid in these cases will likely have little to no positive effect, there is greater possibility of success with higher levels of aid 'investment' (these authors compare aid investments in these cases to those made by venture capitalists, with each endeavour being individually associated with low probability of success).

Because of these contradictory possible effects and empirical findings, it is difficult to predict at the outset any overall effect of aid on governance quality. However, it should also be noted that a substantial component of aid, technical assistance, has as its explicit objective the improvement of various dimensions of country governance, and if there is no demonstrated positive impact of this kind of aid on governance quality, this strongly casts into doubt the effectiveness of these expenditures.[15]

2.7 Hypotheses

The preceding sections have identified a selection of variables that are potentially important determinants of governance. Here I summarize the hypotheses that follow from the theoretical and empirical evidence reviewed above as the sign of the predicted effect of each variable on governance quality and the change in governance quality over time.

1) Income: Positive – Higher levels of per capita income associated with better and improving governance.

[15] One other study focuses on the relationship between aid and governance quality using the WBI governance indicators (Ear 2007), however the methodology used in this here yields ambiguous results as it regresses the change in governance on changes in aid levels, and does not control for other determinants of governance quality.

2) *Economic Growth:* Positive – Economic growth associated with improving governance.

3) *Democracy:* Positive (conditional) – Democratic institutions associated with better and improving governance, possibly conditional on level of income.

4) *Legal System:* Positive for Common Law; Negative for French and Socialist – Countries with legal systems founded on the French civil code and Socialist legal systems will exhibit worse governance.

5) *Religious Affiliation:* Positive for Protestant; Negative for Catholic and Muslim – Countries with higher percentages of the population Catholic or Muslim will exhibit worse governance.

6) *Educational Attainment:* Positive – Countries with higher levels of education exhibit better and improving governance.

7) *Geography (Latitude):* Positive – Countries located farther from the equator exhibit better and improving governance.

8) *Oil Export:* Negative – Oil exporting countries will exhibit worse governance and governance changes.

9) *Aid:* Uncertain – Possibly positive, negative, or no effect.

3 Governance and Governance Change 1996 – 2005

This chapter discusses the results of a series of empirical investigations on the correlates of governance quality and changes in governance quality between 1996 and 2005. Specifically, tests were done to estimate the associations between an index measuring governance quality in 1996, the changes in governance quality between 1996 and 2005, and the variables identified and discussed in the preceding chapter. The majority of these tests consisted of basic ordinary least squares (OLS) regressions with measures on governance quality as the dependent variables, although, following Knack (2001), two stage least squares (2SLS) regressions were used in estimations concerning aid impact in order to control for the possibility of reverse causality. And using the methodology employed by La Porta et al. (1999) in their investigation on the determinants of government quality, independent variables are first examined individually for their relationship to the governance indicators and thereafter combined in aggregate models. Complete specification details and results for all regressions are reported in Appendix A, and variable definitions, data sources, and descriptive statistics are presented in Appendix B. The results are summarized below separately for each independent variable, with a final section discussing the results from aggregate models.

3.1 Data

Data on the quality of governance for this study is taken from the World Bank Institute (WBI) governance indicators (also known as the Kaufmann-Kraay-Mastruzzi (KKM) indicators and the Kaufmann-Kraay-Zoido-Lobaton (KKZ) indicators). These indictors are designed to measure the quality of governance, defined as "the traditions and institutions by which authority in the country is exercised," (www.govindicators.org) along six separate dimensions: Voice and Accountability, Political Stability and the Absence of Violence, Government Effectiveness, Regulatory Quality, The Rule of Law, and Control of Corruption. These indicators are based on several hundred component variables on various aspects of governance drawn 33 different data sources and 30 different institutions. They include both data from polls of experts as well as from public surveys (see Appendix B for more discussion of the individual data sources of these

indicators), and are available for 212 countries, although not every country is ranked on every indicator in each year.

As the focus of this study is explicitly on the quality of the output of government services rather than the political and or institutional mechanisms through which those outcomes are produced, the WBI Voice and Accountability measure is excluded as a dependent variable (although a highly correlated measure of democratic representation is included for consideration as an *independent* variable). Likewise, although political stability is a significant determinant of the quality of government services, I exclude it from consideration here as a direct measure of government performance primarily due to the more exhaustive treatments this dimension of governance has received elsewhere (see for example Collier 2003, Fearon 2003, Bates 2005, Goldstone et al. 2005,). Drawing from this work, however, I do consider that social or national characteristics associated with higher political instability risk are also likely to be associated with lower quality of government services as political instability often interferes with public service provision. In particular, low incomes, economic dependence on primary commodity export, and partial or nascent democratic institutions (especially when combined with political factionalism) have been found to be significant risk factors for political instability and conflict (Collier 2003, Goldstone et al. 2005). Income effects and regime characteristics are directly included in the study as independent variables, and economic dependence on primary commodities is partially investigated through the impact of oil export dependence on governance quality.

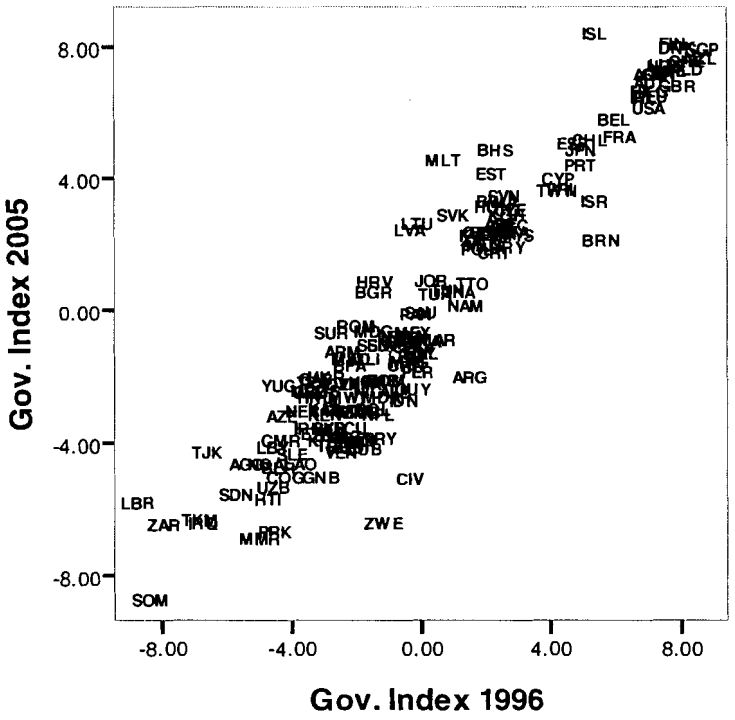
This leaves the four WBI indicators for government effectiveness, regulatory quality, rule of law, and control of corruption as the study's dependent variables. In addition, I create a fifth variable which is an un-weighted aggregate index of governance quality by summing the scores on these four components. In so far as it is expected that these indicators are measures of closely related or overlapping underlying characteristics, an aggregate indicator may be interpreted as a more accurate measure of general governance quality to the degree that it averages out differences in the various component dimensions (which could be the result of measurement error). For most independent variables, I test for relationships between the target variable and the initial 1996 level of the aggregate governance index, and then for relationships between the target variable and the changes in the levels of the component governance indicators and the aggregate governance index between 1996 and 2005.

The scores associated with each component governance indicator are continuous, cardinal variables assumed to have standard normal distributions. Consequently, the mean of each indicator for each year is zero and 99% or more of the values lie between -2.5 and 2.5. Note also

that this implies that for countries with scores already near the top (or bottom) of this range, there is limited potential to improve (or worsen) their score. Accordingly, in tracking changes in these indicators over time, some 'regression-to-the-mean' effect is expected, with higher initial ratings being associated with smaller improvements and vice versa. All regressions on changes in the governance indicator values therefore include the initial governance level as an independent variable in order to control for this effect.

As documented elsewhere, measures of governance tend to be well correlated with income levels, with richer countries exhibiting better governance. For the 1996 aggregate governance index, the five countries with the highest governance rating are Singapore, New Zealand, Switzerland, the Netherlands, and Denmark, with Singapore being the highest with an index score of 8.74. The five countries with the lowest are Iraq, Turkmenistan, the Congo (Dem. Rep.), Somalia, and Liberia, with Liberia being the worst with a rating of -8.79 (Note that all four governance indictors, and consequently the aggregate governance index constructed for this study, are available for 1996 for only 151 of the 212 countries covered by WBI governance indicators). The governance measures are also relatively stable over the time period covered by the study, with the majority of countries only exhibiting small changes. Figure 3.1 plots the governance index value in each country in 1996 against the governance index value for 2005, providing a broad overview of governance changes during the period. Somalia, for instance, exhibits relatively little change over the period, with its index value near the bottom of the range in both years. Liberia, in contrast, exhibits substantial improvement, as does the Congo, while Zimbabwe and the Ivory Coast exhibit large decreases in their ratings. Other countries registering significant positive changes include Iceland, Malta, the Bahamas, and several Baltic countries. Appendix D lists the countries that register large positive and negative changes in governance quality over the period for each of the component indicators.

Figure 3-1 Governance Change Across Countries, 1996-2005



Data Constraints

The WBI governance indicators are one of the more exhaustive sources of comparative, cross-country data on governance quality; however like all other attempts to quantitatively assess governance performance, they have substantial limitations. Most significantly, the computed standard errors associated with the indicators are generally large, with the mean standard error being approximately 0.25. This implies that (for an indicator with a standard error close to the average), at the 90% confidence level, the actual quality of governance for a country is within plus or minus 0.41 of the exhibited rating, resulting in a wide range. For example, Russia has a 1996 rating for government effectiveness of -0.79, ranking it 143rd out of the 181 countries ranked for this dimension of governance in this year. However, within the 90% confidence range, the actual (as opposed to estimated) government effectiveness of the country could be anywhere between -1.20 and -0.38, with a corresponding country ranking of anywhere between 170th and 104th. This is a large level of uncertainty, and it makes it difficult to evaluate the governance

quality of countries relative to each other, particularly of countries with scores close to the mean as country rankings are tightly grouped in this area.

This problem is exacerbated when attempting to compare changes in the quality of governance over time as the indicator value for each year has a large potential for measurement error. As a result the level of uncertainty regarding the estimate of the change in level is effectively doubled. A rule of thumb for evaluating the statistical significance of changes in these indicators over time, suggested by Kaufmann et al. (2003), is to determine whether their estimated ranges for each year at the 90% confidence level overlap. If they do, it cannot be assumed with 90% confidence that any actual change in governance quality at all has taken place. And even if they do not, the margin of error associated with the estimated magnitude of the change is large. For example, if a county's governance rating in year 1 is 1.5, within the 90% confidence level the country's actual governance quality is between 1.09 and 1.91 (1.5 ± 0.41). If in year 2, the country's rating improves to 2.0, this appears to be a large positive change, but because the actual governance quality for this year could be anywhere between 1.59 and 2.41 (2.0 ± 0.41) and there is significant overlap between the ranges in the two years (between 1.59 and 1.91), it can't be assumed with 90% confidence that there has been any actual positive change in governance quality at all. Essentially, the actual change between the two years will be the observed change plus or minus 0.82 (at the 90% confidence level). Since the average change in country governance ratings in the period covered by this study is typically small (on the order of 0.10), few countries register statistically significant changes at all at this level of confidence. At a lower confidence level such as 70% the problem is less acute and substantially more countries register significant changes, however there remain large margins of error attached to these estimates.

This is a significant drawback to using this data for trend analysis, however it is to a certain extent unavoidable. As Kaufmann et al. (2003) point out, all existing measures of governance have substantial potential for measurement error. According to these authors, no other existing cross-country rankings of government performance have superior margins of error; the only difference is that other indicators (notably the International Country Risk Guides governance ratings) are less explicit about their limitations. This problem is also not limited to subjective indicators. Even objective measures of institutional constraints, like legal or constitutional features of a country's political system, have the potential for significant measurement error due to the often large differences between *de jure* and *de facto* government practices (Kaufmann et al.

2003). Any attempt to assess and compare changes in country governance over time will therefore have to accommodate similarly high margins of error.

While the level of uncertainty associated with these standard errors is unavoidable, it can be partially limited within the scope of this study. First, note that the emphasis here is not on rigorously assessing changes in particular countries over the period but rather in comparing the exhibited changes across countries. To the extent that regression analysis is more sensitive to outlying values for the dependent variable (the measures of governance change) than those clustered close to the mean, these estimates already allot more weight to the larger changes in governance ratings that are more likely to be statistically significant. It is also less important in the cross-sectional context whether the predicted level of governance change is statistically significant as a measure of within-country governance change. Models can still be used to differentiate between the variables associated with large changes in governance and those that are not, even if the actual predicted changes in dependent variable are statistically insignificant or indistinguishable for no change at all in a majority of cases. Finally, it can plausibly be assumed that changes in governance ratings caused only by measurement error would be normally distributed around zero. This implies that negative changes should roughly offset positive changes and small fluctuations in the governance ratings will cancel each other out when averaged. As real changes in the quality of governance in one indicator are likely to be positively correlated with real changes in another dimension of governance (whereas changes due to measurement error would exhibit no such correlation) the aggregate governance index is a more reliable indicator of actual changes in governance quality because it averages the changes across indicators.

Many of the large changes in governance quality registered in these indicators are also readily intelligible in light of other historical and contextual information. For example, based on the recent histories of these countries, it is hardly surprising that the Ivory Coast, Zimbabwe, Bangladesh, and Nepal all register substantially declining quality of governance over the period while Liberia, Mozambique, Sierra Leone and many former Soviet block countries register improvements. Large historical trends, often in relation to significant episodes of political unrest or civil conflict, are often clearly related to the governance changes exhibited in these indicators. This confirms these changes as intuitively plausible and provides some additional grounds, even if statistically irrelevant, to trust that these indicators capture real trends in government quality, at least in cases where the changes are large and consistent across a several component indicators.

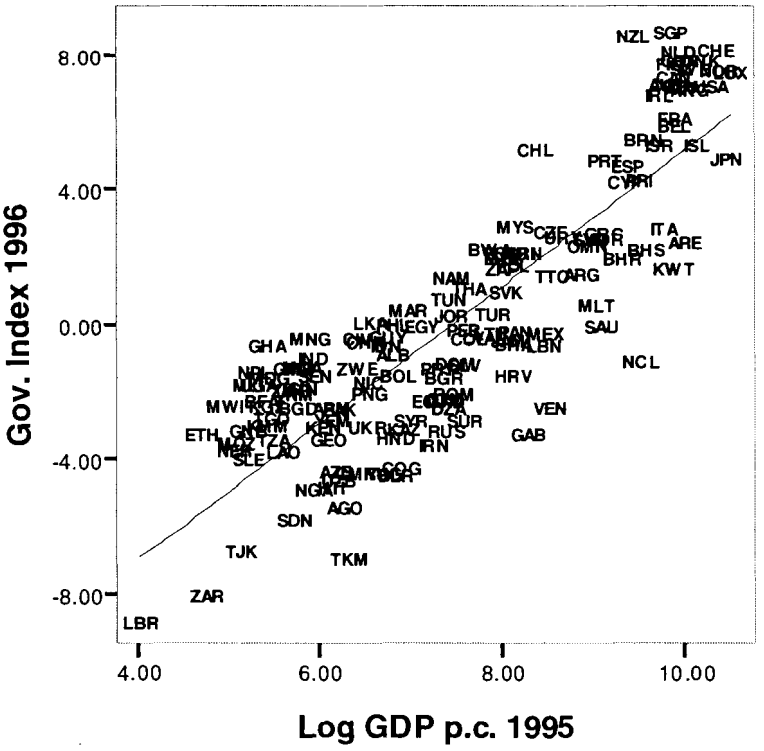
Independent variables

Data for the independent variables used in this study is taken from a variety of sources. Data on economic variables, population, infant mortality, and some aid variables comes from the World Bank Development Indicators. Other aid data, particularly that on technical assistance flows, comes form the OECD Development Assistance Committee Statistical Database. Data on the origin of the legal system and religious affiliation is taken directly from La Porta et al. (1999), while the ethnic fractionalization index is from Alesina et al. (2003) Data on educational attainment is taken from both the World Bank Development indicators and Barro and Lee (2000). See Appendix A for a full description of these independent variables, their data sources, and descriptive statistics.

3.2 Income

As expected, there is a strong correlation between income levels and the quality of governance measures. Figure 3.2 clearly shows the positive trend between the two, with the values for initial quality of governance index raising roughly in tandem with per capita incomes. In basic OLS regressions on quality of governance measures, the coefficients on the level of income measure are positive, strongly significant, and have a great deal of explanatory power. Most produce R^2 values in excess of 0.7. As expected income levels are a powerful predictor of the cotemporaneous quality of governance. However, what is perhaps less expected is that the initial income level has significant explanatory power on the models on change in governance quality as well. In nearly all cases where the change in a measure of government quality is regressed on the initial income level, the coefficient on this variable is positive and strongly significant, suggesting that countries with lower initial incomes are significantly more likely to experience declining (or smaller improvements in) quality of governance than those with higher incomes. The fact that income levels are a strong predictor of future changes in the quality of governance suggests that there are causal effects running in the direction from income to governance quality as well from governance to income levels.

Figure 3-2 Governance and GDP per capita



The change in per capita income over the study period is also strongly associated with changes in the quality of governance. Again, in all models tested, the coefficients on the change in per capita incomes are positive, strongly significant, and relatively large compared to the other variables tested in this study. Countries with increasing per capita incomes tend to experience improving governance (and/or vice versa). As with the correlation between income level and governance, interpreting this relationship is problematic. This evidence could indicate that improving quality of governance is catalyzing economic growth and raising incomes or it could indicate that rising incomes are making possible better governance through more extensive, effective, and efficient public services, or it could indicate both. Finally, it could also be an artefact of perceived, rather than actual, improvements in governance associated with rising per

capita incomes. A later section on governance and economic growth examines the relationship between income growth and governance in more detail.[16]

3.3 Geography

In addition to the income effects, regressions also exhibit a strong association between latitude and changes in the quality of governance. There is a statistically significant relationship between an index for latitude and the government quality index for 1996; however once the initial level of income is controlled for, the coefficient on the latitude variable becomes insignificant. Once the income level of a country is known, latitude has no additional predictive power in estimating the cotemporaneous level of governance quality. The results, however, are different in the models exploring the change in the governance indicators. With respect to the five variables tested here, the association between latitude and the change in these indicators over the ten year period is statistically significant in all cases, except those that control for the change in GDP per capita over the period. And even in those models, the coefficient on latitude is statistically significant for three out of the five governance measures. Only in the equations estimating the change in government effectiveness and control of corruption does latitude appear insignificant. In addition, the magnitude of the predicted effect of latitude on the change in governance is substantial. For example, in equations focusing on the change in regulatory quality and the change in the aggregate governance index, the coefficients for latitude are only marginally smaller than the coefficients for the change in GDP per capita. And in the rule of law estimate, the latitude coefficient is actually larger. The fact that higher latitudes are significantly correlated with improvements in governance quality (even after controlling for economic factors) is strongly suggestive that geographic factors associated with tropical countries continue to play an active and important role in the evolution of their political and economic institutions, in addition to their historical effects.

3.4 Growth

Regression results show that, in addition to initial levels of GDP per capita, the percent change in GDP per capita over the study period is a strong predictor of the change in governance quality over the same period. Due to the potential for reverse causality, interpreting this

[16] Due to the possibility of a spurious correlation and the fact that income changes may be jointly determined with changes in governance quality (endogenous), all basic models on governance change in this study are estimated both with and without the measure for GDP per capita change over the study period.

correlation is problematic. One way to investigate the relative strengths of the direction of causation (growth's impact on governance and vice versa) is to use values for independent variables from the beginning of the study period to estimate the subsequent changes in the dependent variable. As demonstrated in the previous section, the fact that initial levels of income are significant predictors of future changes in governance is strongly indicative of a causal effect running from income to governance.

The relationship between economic growth and changes in governance can be tested in an analogous way with a set of standard growth regressions for the period 1995 – 2005 that include various measures of *initial* governance quality as independent variables. The focus in these growth regressions is on the relationship between governance measures and growth. Consequently the specifications used are parsimonious, employing only variables that have been found to be robustly significant in a wide variety of growth regressions (again see Appendix A for complete specification details and results). These include the initial GDP per capita, to capture convergence effects, latitude, life expectancy in 1995 and the average total years of schooling in the population as measures of the initial stock of human capital, the 'financial depth' of the country in 1995 (proxied by the ratio of broad money to GDP), three different measures of fiscal/economic policy – the average budget surplus/deficit, the average inflation rate in consumer goods, and the average level of trade as % of GDP – and the WBI measures of governance quality. The dependent variable in all of these models is the percent change in GDP per capita between 1995 and 2005, although tests substituting the average annual GDP per capita growth rate yielded similar results.

The growth regressions run here revealed a surprising lack of evidence for any causal impact of governance quality on subsequent changes in per capita incomes. In a series of basic regressions that included only the initial GDP per capita, latitude, and the initial quality of governance as explanatory variables, there was no significant association between the majority of the governance indicators and the change in GDP per capita over the following decade. Both initial income and latitude were strongly associated with changes in income, with higher initial incomes and more tropical latitudes being linked to lower growth over the period. But only one of the five measures of governance (regulatory quality) was a significant predictor of subsequent changes in income levels, and the coefficient signs on all five of these variables were *negative*, predicting that countries with better governance exhibited generally smaller gains in per capita incomes over the decade. Initial governance quality, by these measures, is a poor predictor of future economic growth.

Revealingly, a different picture emerges when the same models are run with end of period measures of government quality. In these cases, the coefficient signs on the governance indicators become positive, and now three out of the five reveal associations with income change that are significant above the 90% confidence interval, with the government effectiveness indicator having the strongest statistical association with growth. This finding goes some way towards explaining the lack of evidence connecting initial governance with GDP per capita growth over time. Among studies that have found that governance quality impacts rates of economic growth, most have used middle or end of period measures of governance. This was done both because of a lack of governance measures for earlier years (of the widely used cross-country measures of governance, the earliest available are the ICRG rankings for 1982) as well as on the assumption that changes in governance quality occur only slowly, and that these indicators would be generally stable over time. The results reported here cast significant doubt on such assumptions, and suggest instead that earlier studies were likely picking up the effect of rising incomes on governance rather than the reverse.

Arguably, these basic growth models are underspecified and do not account for other important determinants of changes in income levels over time. The difficulty with including additional variables in this case is that many of those relevant to explaining growth might be considered proxies for the quality of government. This includes common measures of human capital, such as educational attainment and life expectancy, as well as measures of fiscal and economic policy relevant to growth such as inflation, budget deficits or surpluses, and the extent of trade, the extent of access to financial services, etc. Adding a selection of these variables to the basic regressions described above does not change the primary results, although it improves the predictive power of the models. The level of inflation, the budget balance, and the level of trade all revealed positive, statistically significant relationships with growth in these models; clearly, government outcomes such as these are important in determining rates of economic growth. In comparison, however, the initial governance quality index used in this study remained a poor predictor of the change in income over the following decade in all models tested.

Finally, it might be surmised that strong association between initial GDP per capita and the initial quality of governance could be occluding the impact of governance in these estimations. One strategy for assessing this possibility is to limit the sample to low and middle income countries, on the assumption that the convergence effect associated with the initial income level will be only minimally present without the upper income countries. If this is true, and initial income levels remain strongly correlated with governance, then initial per capita

income should be able to serve as a proxy for governance in this sample. If better governance predicts higher growth, then *higher* initial incomes should now predict *higher* growth. Again, however, no evidence of this was found in regressions here. Even with upper income countries excluded, the coefficient on initial GDP per capita remains negative and significant, indicating some degree of income convergence over time. Furthermore, the correlation between the initial income and the initial governance index in this sample of countries is not excessively high at 0.65, making it unlikely that multicollinearity in these variables is responsible for the insignificant predictive power of the governance indicator in the first place.

The implications of this set of regressions are clear. Co-temporaneous changes in per capita incomes and changes in the quality of governance are positively correlated. And initial income levels are often significant predictors of subsequent changes in governance quality. However initial levels of governance, as measured by the WBI governance indicators, are poor predictors of changes in per capita income in the following decade. If these findings are accurate and robust to changes in the sample of countries and time period, then the causal effect of incomes on governance appears to be more substantial than the causal effect of governance on economic growth over this time scale. Either theoretical speculation about the effect of governance on growth has systematically overestimated its magnitude (at least relative to short-term growth), or the subjective measures of governance quality being used here are not adequately capturing the institutional features relevant to determining economic outcomes

3.5 Educational Attainment

As shown in Figure 3.3, there is a strong positive correlation between the level of educational attainment in 1995 (as measured by the average total years of education of a country's citizens) and the quality of governance in that country. This is unsurprising given the well-known association of higher levels of educational attainment with higher per capita income levels and the parallel association of higher levels of income with better quality of governance. Again, interpreting the directions of any causal effects revealed by these relationships is not straightforward. Regressions on these two variables, however, suggest that this association is likely more the result of governance impacting education than the reverse.

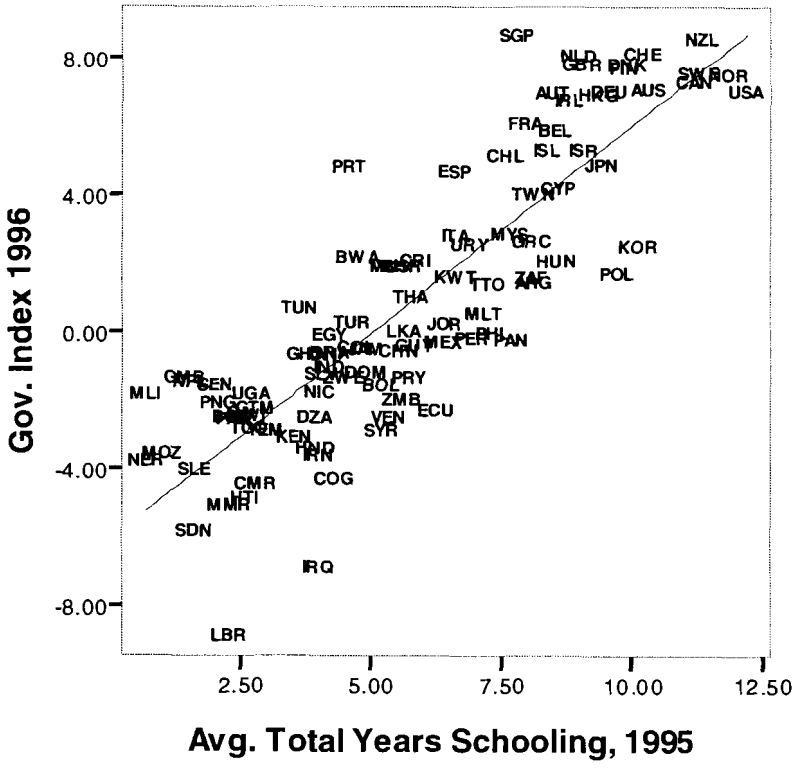
The measure of educational attainment used in these equations is the average total years of schooling of a country's citizens. Regressions on the initial level of governance in 1996 find a strong positive correlation between higher levels of educational attainment and better governance, even when the income level is controlled for. In such regressions, the coefficient on the measure

of educational attainment is positive and significant and the overall explanatory power of the model high, with an adjusted R^2 value of 0.81. The coefficient is also large, at just over one standard deviation of the dependent variable. In two countries with the same GDP per capita, a country with an average of one additional year of schooling in the general population can expect to have substantially higher quality of governance. Educational attainment appears to have a direct relationship to the quality of government independent of income levels.

Educational attainment, however, does not appear to be significant in explaining changes in the quality of governance over the study period. Models that regress changes in the WBI governance indicators and the aggregate governance index on the initial levels of educational attainment finds little evidence of any statistical relationship. The coefficients on educational attainment are positive and significant in all four regressions on the component indexes in the base specification, but once the level of income and growth are added to the equations, all these coefficients become insignificant and several become negative with the addition of growth. This evidence provides little support for the view that higher levels of educational attainment have demand-side positive effects on governance quality. Improvements in governance typically precede, rather than follow, improvements in educational attainment.[17]

[17] One possible explanation of the absence of this effect in the data is that this effect occurs only over longer periods of time, and therefore in a ten-year period, it is downed out by other more immediate impacts on governance quality or measurement error associated with short term fluctuations in these ratings. Given that the potential for measurement error is magnified in estimating the changes in the governance ratings over time and the significance and magnitude of the effect predicted in the initial models, it seems more plausible to conclude that the regressions on change are failing to capture an existing effect than that the relationship exhibited in the initial models is spurious

Figure 3-3 Governance and Educational Attainment



3.6 Democracy

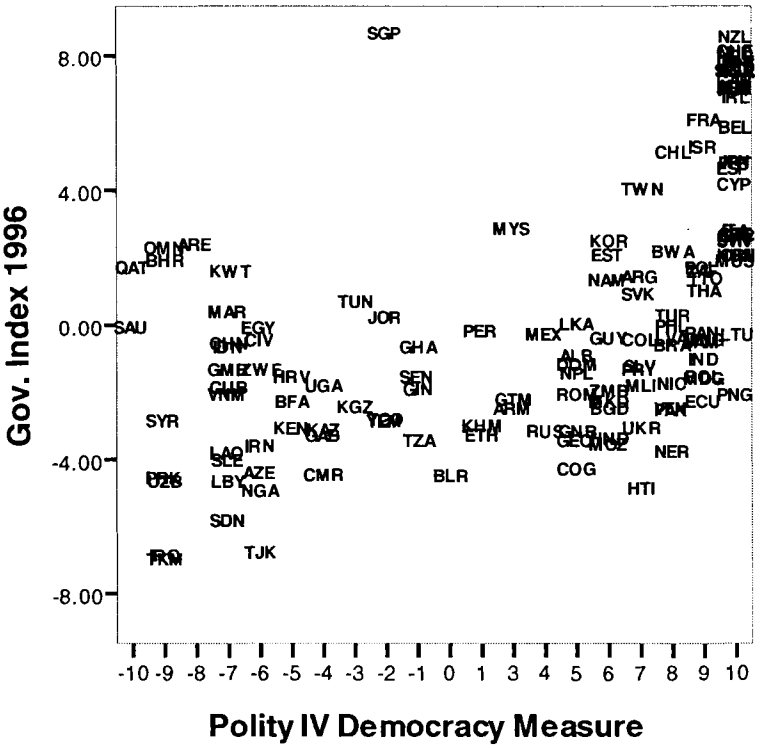
Regressions exploring the relationship of democratic institutions to governance quality and governance quality change generally conform to the predictions of theory; more democratic governments are more likely to have better and improving government quality. Here, the level of democracy is measured as the 1995 polity variable from the Polity IV project, a database on political regime characteristics frequently relied upon in political science research. The variable is a 20 point scale measure assessing the level of autocracy/democracy of the government, with -10 being a pure autocracy, +10 being a pure democracy, and intermediate variables indicating mixed political systems. This measure is itself aggregated from component measures on the

nature of recruitment for political executives, the degree of constraints on political executives, and the freedom and regularity of political competition.[18]

Note first that it is a widely documented empirical regularity that current high-income countries tend to be democratic while autocratic countries tend have low-incomes. As a consequence, the simple correlation between level of democracy and government quality for all countries would be expected to be positive, merely by virtue of democracy's positive association with income levels and income's association with higher quality of governance. Figure 3.4 broadly confirms this prediction. When the WBI government quality index for 1996 is plotted against the Polity measure of democracy for 1995, the relationship between the two appears somewhat ambiguous for the mid-ranges of the two variables, however the extremes of both exhibit a strong positive correlation. Nearly all those countries with initial government quality scores over 4.0 are strongly democratic. The only exception is Singapore, which exhibits a high mark for governance while registering a -2 on the Polity autocracy/democracy scale. There are no strongly democratic countries (countries with Polity scores above 8) with governance index scores below -4.00, and the majority of countries with initial governance levels this low have Polity ratings below -5. This pattern is not without some exceptions, however. Even among countries with Polity ratings below -5, several score above the mean for the quality of governance – primarily oil exporting countries in the Middle East such as Kuwait, Qatar, Oman, Bahrain, the United Arab Emirates, closely followed by Saudi Arabia and Morocco. But by and large, more democratic countries exhibit higher quality of governance.

[18] The Polity IV measure was employed in this study due to its more direct relationship to actual political constraints and fixed features of political systems, however the correlation between the Polity measure of democracy for the regime in place in 1995 and the WBI Voice and Accountability indicator for 1996 is 0.80, and substituting the later for the former had little effect on the results of most tests.

Figure 3-4 Governance and Democracy

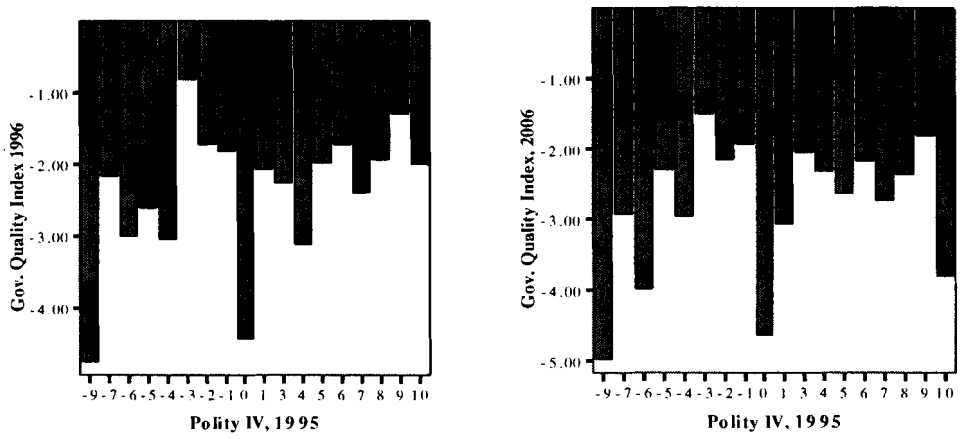


Regressions on the initial governance quality index also indicate a strong relationship between the level of democracy and the cotemporaneous level of the quality of governance. Even when controlling for income levels, the coefficient on the level of democracy is positive and significant. Models on the change in the quality of governance over the period also find a significant, though weaker, relationship between the extent of democratic representation and governance quality. While the coefficients on the Polity variable are not significant in the models on the change in the governance index, or on those on the change in the control of corruption and change in the rule of law, they are significant and positive in the estimations for regulatory quality and government effectiveness. This remains true in models including controls for both in initial income levels and income growth. The coefficients on these variables are small, relative to those on the economic variables, however they are significant in all models tested at above the 99% confidence interval. This is substantial evidence that more democratic countries in 1995 were more likely to experience positive changes in at least these two dimensions of governance in the following decade. The overall effect, however, appears to be too weak to register significantly in the governance index.

This minor positive relationship is also partially robust to changes in the sample based on the initial level of income. When the sample of countries is limited only to those with GDP per capita in 1995 less than $4,000 (constant 2000 US dollars), in the same specifications (controlling for initial income and income growth) coefficients on the democracy measure remain positive and significant for both governance measures. When the sample is restricted to countries with initial GDP per capita of less than $2000, the Polity coefficient in the government effectiveness estimates remains significant at the 90% confidence level, but the Polity coefficient for regulatory quality does not. Furthermore, in the sample restricted to the countries with initial incomes less than $4000, the coefficient on the Polity variable becomes significant in regressions on the change in the aggregate governance indicator. None of the regressions provide any evidence of higher levels of democracy having negative impacts on the quality of governance, even in samples restricted to low-income countries. Figures 3.5 and 3.6 show the average levels of the government quality index for low-income countries (defined here as those with GDP per capita in 1995 less than US $2000) in each of the twenty categories defined by their Polity IV ratings, for the beginning and the end of the period. Neither case reveals a strong trend, although in the figure for 1996, the most autocratic countries also had the lowest average quality of governance, and more democratic countries appear to exhibit slightly higher governance ratings. In the 2006, again the most autocratic countries exhibit the lowest average governance ratings, but there is no obvious trend thereafter. And in both cases, the highest average governance rating is exhibited by those countries with a Polity rating of -3, with more democratic countries after that having, on average, lower quality of governance after that rather than higher. However, even in this sample of lower income countries, when the governance quality index of either 1996 or 2006 is regressed on the polity variable as well as the log of GDP per capita, the coefficient on the polity variable remains positive and significant, suggesting that any negative trends revealed in these figures would disappear when the level of income was controlled for.

On the whole, the empirical evidence supports the contention that, even in poor countries, more representative governments with more open political systems and established constraints on political executives are more likely to have high quality governments. More democratic governments also appear more likely to experience positive changes in their government effectiveness and their regulatory quality. However, relative to the effects of economic variables, the positive impact of democracy on governance estimated here is small. Both the level of income in a country and the growth of its economy appear to be far more substantial determinants of its quality of governance, as measured by these indexes, than the extent of democratic institutions.

Figure 3-5 Average Governance Quality and Democracy in Low Income Countries, 1996 and 2005



3.7 Ethnic Fractionalization

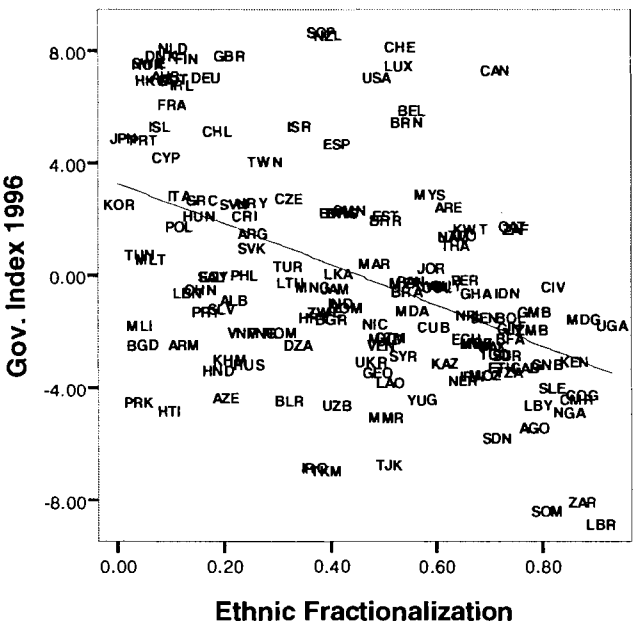
Statistical evidence does not support the hypothesis that more ethnically heterogeneous countries have worse quality of governance. Regressions exploring the relationship between ethnic fractionalization and governance find little indication of any significant effects. Figure 3.6 plots an ethnic fractionalization index for each country against the initial government quality index for 1996.[19] A minor trend is apparent in the comparison. Countries with particularly low quality of governance, such as Somalia, Liberia, and the Dem. Rep. of the Congo also have high degrees of ethnic fractionalization, while many countries with high quality of governance, such as France, Germany, and the U.K also have comparatively low degrees of ethnic fractionalization. Canada is rather unique in having relatively high level of ethnic fractionalization and high quality of governance, while few countries (with Haiti and North Korea being the major exceptions) have low degrees of ethnic fractionalization and low quality of government.

Once income effects are controlled for, however, this relationship disappears. When the quality of government in 1996 and changes in the quality of government between 1996 are regressed on ethnic fractionalization with controls for the level of income and income growth added sequentially, the variable is consistently insignificant. There is a partial correlation between ethnic fractionalization and income levels in 1996, which explains the weak negative trend

[19] The ethnic fractionalization index corresponds to the likelihood that two randomly selected members of the country's population will belong to different ethnic groups, with higher scores indicating a greater degree of ethnic fractionalization.

apparent in the figure. However information about ethnic fractionalization has no predictive power on governance quality over and above what is provided by initial the level of income. In regressions on the changes in the measures of the rule of law, control of corruption, and the aggregate gov. index, the coefficient on ethnic fractionalization is almost always insignificant. The only exception is in the control of corruption, where once income effects are included, the coefficient on ethnic fractionalization actually becomes positive and significant, suggesting that higher levels of ethnic fractionalization are associated in reductions in the extent of corruption over study period. The effect is only weakly significant, but the magnitude of the coefficient is large and suggests that, if this regression is capturing an existing relationship, the salutary effects of ethnic diversity on controlling corruption are quite substantial.[20]

Figure 3-6 Governance and Ethnic Fractionalization



[20] It should be pointed out that these findings do not preclude ethnic fractionalization having an indirect effect on the quality of governance that operates through economic channels. If higher levels of ethnic fractionalization dampen economic growth, and that lower growth results in diminished incomes, this could negatively affect the quality of governance. This remains a possibility and there is some evidence suggesting that ethnic fractionalization is associated with lower long-term economic growth (e.g. Easterly and Levine 1997), however the most plausible avenue of impact of ethnic fractionalization on growth is through institutions, particular the quality of governance. Since there is no evidence of such an effect in the statistical tests discussed here, it seems unlikely that such an effect exists or is widespread. Consequently, it is incumbent on theories that hypothesize an impact of ethnic heterogeneity on economic growth to outline other plausible channels through which this effect might operate.

3.8 Origin of the Legal System

The hypotheses developed by La Porta et al. (1999) on the effects of different types of legal systems on government quality were retested in this study, using the WBI governance indicators as measures of government quality and La Porta et al. (1999)'s data on the origin of the legal systems around the world. Models that regress the 1996 governance index on dummy variables for the origin of the legal system find evidence consistent with that reported by these authors. Controlling for the initial GDP per capita, the coefficients on the German and Scandinavian legal origin are positive and weakly significant, while those on French and Socialist legal systems are negative and strongly significant. In 1996, countries with French and Socialist legal systems tended to have worse quality of governance even controlling for their level of income (likewise, when the English common law variable is substituted for either French or Socialist in this specification, its coefficient is positive and significant).

In the regressions on governance change, however, the relationship between legal system origin and governance quality is less clear. In most cases, the coefficients on the legal system variables are statistically insignificant. In one exception, in the models for the change in regulatory quality as well as the change in government effectiveness, the coefficients on the French legal origin are negative and significant. In addition, the magnitude of the predicted effect is quite large, only slightly smaller than the effects associated with the initial levels of GDP per capita. Countries with legal systems of French origin (corresponding to Civil legal codes) remain more likely to experiencing smaller improvements (or decreases) in their governance quality. Table 3.1 shows the average ratings for regulatory quality and the change in regulatory quality over the study period for countries with legal systems of French origin and those of Non-French origin. In both cases, the averages for the group of countries with French legal origin are significantly lower. The average score on the indicator for regulatory quality for the French group was approximately sixteen points lower than that for the non-French group, and the French group experience an average decline over the period compared to the small average increase exhibited by Non-French group. This again points to a substantial association of legal systems of French origin with lower regulatory quality and changes in regulatory quality. However, once the effect of the change in the GDP per capita is included in these regressions, the coefficients on the

variable become statistically insignificant.[21] This relationship between legal systems of French origin and governance quality however is not evident the regressions on the other governance components or in that on the aggregate governance index.

Table 3-1 Regulatory Quality and Civil Code Legal Systems

Origin of Legal System	Mean Regulation Quality, 1996	Mean Regulation Quality, Change 1996-2005
French Civil Code	-0.1472	-0.1896
Non-French	0.0287	0.1273

The coefficients on Socialist legal origin are also in most cases insignificant in regressions on the recent change in governance quality, indicating little support for the supposition that countries with these systems remain more likely to experience diminished changes in the quality of governance compared to non-socialist ones. Given that the majority of these, many of which were former Soviet block countries, have undergone significant political, legal, and economic reforms since 1996, this is not surprising. In fact, the coefficient on this variable is positive and weakly significant on the change in the aggregate governance indicator, suggesting that these countries as a group experienced larger than average positive changes in their governance ratings.

The only other relationship of note in these regressions is a positive association between Scandinavian legal systems and the change in the indicators for the rule of law, corruption, and the aggregate government index. Even controlling for initial levels of income (all of these countries being high-income countries) and growth, this relationship remains strongly significant. This, however, is a very select group of countries. It includes only Iceland, Finland, Sweden, Denmark, and Norway, and the effect could easily be due to the presence of shared characteristics not included in these models (cultural, geographic, etc.) rather than to unique properties of their legal systems. Consequently, caution should be exhibited in drawing any inferences from this relationship. Nevertheless, it is clear that, as a group, the Scandinavian countries showed significantly higher increases in their governance ratings.

[21] This suggests that the predictive power associated with this variable stems from its correlation with changes in per capita incomes, and that any causal effect it is having over this time period is likely to be running through its impact on economic activity. Legal systems of French origin may have continuing negative effects on governance in so far as these systems are associated with regulatory regimes that dampen economic activity.

Given that the fundamental structure of the legal system is typically one of the least changeable, or most permanent, components of the institutional makeup of a country, it is understandable that this variable should exhibit only relatively weak effects over a short period of time. The major effects of the legal system on government quality are likely to be primarily static, as a function of the initial constraints placed upon the holders of political power within the system, and the extent to which that system effectively enshrines protection of the judiciary from political and economic pressures. Secondary effects, however, associated with the legal system's implications for economic activity, investment, and long term economic evolution may continue to be important, and the evidence reviewed here does suggest that legal systems of French origin are associated with lower regulatory quality, and in parallel lower economic growth, which could have substantial impact in the long run on governance quality.

3.9 Religious Affiliation

The impact of religious affiliations on governance is re-examined in this section. Again following the methodology used by La Porta et al. (1999), measures of government quality are regressed on variables indicating the percentage of a country's population affiliated with particular religions. Initial regressions on the quality of governance index in 1996 as a dependent variable also substantiate the findings of La Porta et al. (1999). In these regressions, the coefficients on the variables associated with the percent of the population Catholic and the percent of the population Muslim are negative and significant. Broadly, higher percentages of the population following both Catholicism and Islam are significantly associated with poorer governance. Note, however, that the magnitude of the predicted effect is small compared to the effect of the initial income level. Regressions on the change in the quality of governance indicators between 1996 and 2006 as the dependent variables also reveal statistically significant relationships. In three out of the four regressions on the individual governance indicators, the coefficients on the Catholic and Muslim variable are negative and significant in all models tested, including those controlling for the initial income level and income changes. Only with respect to the rule of law measure do these variables lack any predictive power.[22] The negative relationship between these religious variables and the change in the aggregate quality of governance index is also significant in all models tested, however, testifying to the relatively broad nature of the effects being revealed. Again, the magnitude of these effects is exceedingly small relative to

[22] This is perhaps not unexpected given that the impact of religious affiliation is speculated to originate in the hierarchical and more authoritarian nature of these religions, which would perhaps be less deleterious to this dimension of governance than others.

those of the economic variables, with many of the coefficients being very close to zero. Religious affiliation does appear to be importantly associated with the quality of government; however the size of the effect may be sufficiently small as to be of negligible importance in the short run. In the long run, if these effects continue to influence changes in government quality, they may yield substantial variations.[23]

Muslim and Catholic countries appear to have worse quality of governance than Protestant ones, for their income levels, and to be less likely to experience significant improvements in the quality of governance over time. It should also be noted that there are relationships between religious affiliation and forms of government not examined in these regressions. One is that countries with a majority Muslim population are less democratic on average than their non-Muslim counterparts. Given that democratic representation itself is a significant determinant of the quality of governance, if Muslim countries are less likely to initiate democratic reforms, this could be a plausible channel explaining any deleterious effect of Muslim religious affiliation on the quality of governance. Another possible avenue of impact not examined is the possibility that political instability may be positively associated with these religious affiliations, and that it is through instability that they affect government quality and changes in government quality. More detailed research is required to illuminate further the mechanisms through which the effects predicted in these models operate.

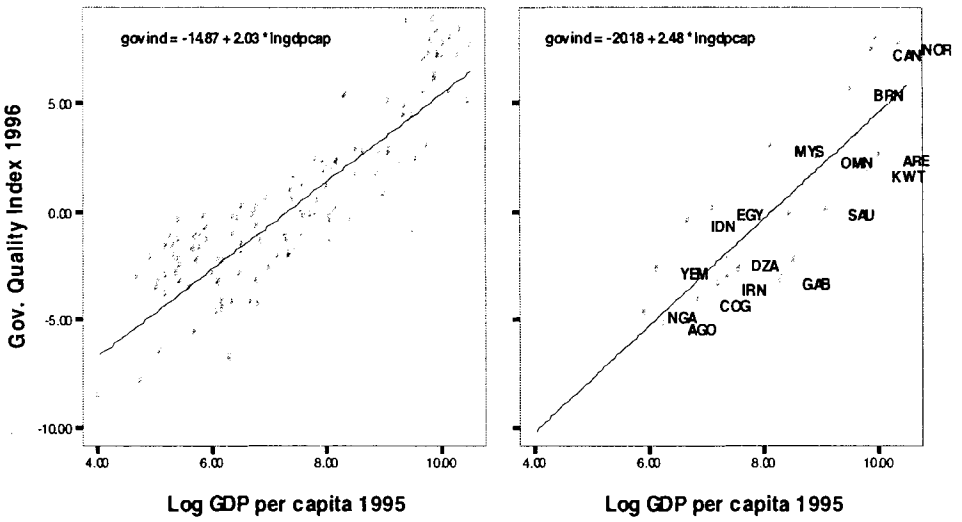
3.10 Oil Export

Empirical examination of the relationship between the quality of governance and oil exports reveals significant evidence that oil exportation is associated with worse governance. When included with the current level of GDP per capita in a regression on the initial quality of governance index, the coefficient on this variable is negative and significant, indicating that overall oil exporting countries have worse quality of governance than non-oil exporting countries of similar levels of income. Figure 3.8 presents this result graphically, plotting the initial value of the government quality index for 1996 against the log of GDP per capita for 1995. The plot on

[23] It should also be noted that the coefficient on the 'Other Religion' variable in these regressions is generally negative and significant in many of the models. Given that this variable includes a large number of disparate religious practices, it is difficult to interpret this result. La Porta et al. (1999) found a similar effect however did not appear to view the effect as sufficiently informative to warrant discussion. The variable could be merely a proxy for the extent of colonial involvement (akin to settler mortality rates), with countries that received larger influxes of settlers also ending up with higher percentages of their population following Protestant or Catholic religions. Alternatively, it could also be associated with Asian and East Asian countries, suggesting that for their levels of income, these countries also typically exhibit lower levels of governance quality, however this interpretation is improbably given the fact that Singapore's governance ratings are extremely high for its income level.

the right exhibits the values for oil exporting countries, while that on the left shows those for the non-oil exporters, with basic OLS regression lines included in each. Note the difference in intercepts between the two regressions. The value exhibited for oil exporters is substantially lower than that shown for the non-oil exporting group, indicating that, on average, this group of countries exhibits lower levels of governance for their levels of income. The magnitude of the coefficient on the oil export variable is also large, suggesting that oil exporters can be expected to exhibit governance quality index ratings nearly two points below their non-oil exporting counterparts (close to the effect of a one unit change in the log of GDP per capita).

Figure 3-7 Governance and Oil Export



The regression models on the change in governance quality over the study period also reveal evidence of a negative relationship between oil exportation and quality of governance, although here the evidence is less pronounced. In the models on the change in regulatory quality, the impact of the oil export variable is negative and significant in the majority of estimates, including all those that control for economic variables. And again the magnitude of this effect is large, roughly equal to that associated with a one unit change in the log of GDP per capita. In the models on government effectiveness and the rule of law, the coefficient on the oil export variable remains negative in all cases and is significant in those control for initial income levels, but the effect becomes insignificant when changes in GDP per capita are incorporated (note however that the t-statistics for the variable remains high in both of these models, and each

is significant and just under the 90% confidence interval). None of the models on the changes in the control of corruption indicator reveal any significant effect, however, and in the models on the aggregate government quality index, the oil export coefficient is significant above the 90% confidence level only when the initial level of income is controlled for but income growth is not. And here, the magnitude of the oil-export variable, relative to that of the economic variables, is considerably reduced.

Oil exportation is statistically associated with lower quality of governance, and is detrimental to certain dimensions of the quality of governance over time. Regulatory quality appears to be especially vulnerable to this negative impact. Government effectiveness and rule of law also show evidence of a negative effect, however control of corruption does not. This suggests that negative impact of economic dependence on oil exports operates primarily through decreasing the overall efficiency of the regulatory system and the government without, however, significantly expanding the extent of corruption.[24]

3.11 Aid

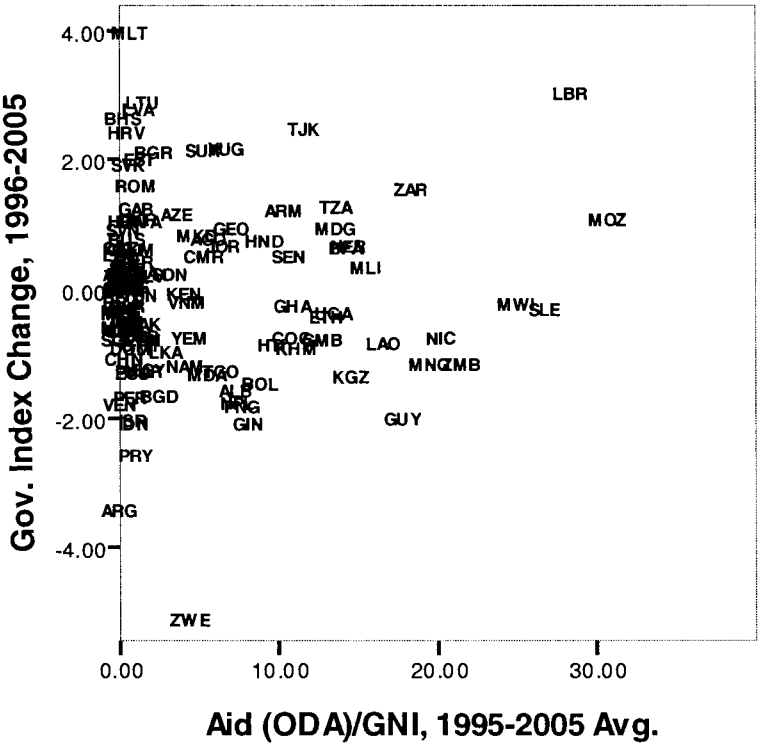
In order to further investigate the relationship between aid dependence and quality of government, I reproduce Knack (2001)'s specifications here, substituting the WBI institute measures of governance quality as the dependent variable and focusing on the period 1995 - 2005. In contrast to Knack (2001), however, these regressions reveal little support for the contention that high levels of aid are detrimental to the quality government in the recipient countries. Using Knack's exact specifications, small negative and significant effects are found associated with individual governance measures however there is no significant relationship between aid levels and changes in the aggregate measure of government quality. In addition, once initial levels of income are controlled for, the coefficients on aid variables become positive although they remain only weakly significant.

Figure 3.9 plots average levels of aid for the period against the changes in the aggregate measure of government quality over roughly the same period. There is no readily apparent relationship; Average levels of aid are generally small, however there are countries receiving large amounts of aid that register positive changes in the quality of government, such as Liberia,

[24] Possibly this is the result of the effect that rent-seeking opportunities associated with oil production are relatively highly concentrated and that whatever corruption is enabled by the industry are limited to high-level government positions with substantial regulatory power. Other primary resource industries, however, which are less capital intensive and more widely distributed, could broaden opportunities for corruption in more expansive ways. It would consequently be instructive to test the relationship between other primary resource exports and measures of governance quality.

Mozambique, and Tajikistan, as well as countries receiving large amounts of aid with declining quality of government such as Guinea-Bissau and Guyana. In addition, countries like Malta indicate large improvements in government quality with little aid while countries like Argentina and Zimbabwe exhibit declining governance quality as well as relatively low levels of aid.

Figure 3-8 Governance Change and Aid Receipt, 1996-2005



Following Knack (2001), the change in the quality of government index was regressed on the average level of aid dependence for the period (measured both as a percent of GNI and as a percent of central government spending), while controlling for the initial level of governance, changes in the size of the population, and changes in GDP per capita. The rationale for controlling for changes in population size is to capture any effects from economies of scale that might be associated with providing public services, while the rationale for controlling for income growth is that higher levels of income may be associated with greater tax revenues allowing improvements in public services and that including growth in the regressions removes the possibility of spurious findings in the case that the governance ratings are being inferred from

economic growth rates in the country. In addition, because aid levels may be endogenous, or dependent upon the quality of governance, reverse causality is controlled by 2SLS regressions that use additional exogenous variables to instrument for aid levels. These variables are the initial 1995 GDP per capita (in log), the initial 1995 population (in log), and the infant mortality rate in 1995, which together predict aid levels for the period with a high level of accuracy (see Appendix C for details on 2SLS models).

While in Knack's study the coefficients for the initial governance index, the change in GDP per capita, and aid were all significant, in the regressions performed here only the change in GDP per capita was significant predictor of changes in the aggregate governance quality above the 90% confidence level. The coefficients on this variable were positive, relatively large, and significant in all four models, again indicating a strong relationship between income growth and change in the quality of government, however no evidence was found here that the aid levels were statistically associated with changes in the quality of governance. In addition, these models had relatively low predictive power, with adjusted R^2 values between 0.1 and 0.2 compared to those around 0.55 reported in Knack's basic specifications. Repeating the robustness checks used by Knack also failed to yield any coefficients for the aid variables of any statistical significance. Whereas in Knack's study, coefficients for aid remained negative and significant for all country samples tested, identical sample constraints here produce aid coefficients with varying signs and generally small magnitudes, none of which are statistically significant.

A breakdown of the governance index into its constituent components reveals results more consonant with Knack's findings. Coefficients on aid as percent of GNI are negative and significant at the 90% confidence level in models on the change in government effectiveness, regulatory quality and the control of corruption, although their size remains small in comparison to those associated with the change in per capita income. The size and significance of these coefficients also increases in all 2SLS specifications, which are arguably more accurate in the case that that aid levels are jointly determined with governance quality. While not as substantial or robust as the coefficients reported by Knack on the component indexes of the ICRG governance index, these results do provide evidence of a statistical association between high levels of aid and declining government effectiveness, regulatory quality, and control of corruption. Furthermore, the 2SLS estimates suggest that the results are not based on a causal

effect running from governance to aid.[25] Perhaps more disturbing, when the aid variable is limited to technical assistance in these regressions, the negative association remains, implying that even technical assistance aid is linked to declining, rather than increasing, quality of governance.

These models, however, are likely misspecified. While Knack controls for changes in per capita income, he does not control for the initial level of per capita income. This is a significant omission. Initial income levels are robustly and positively correlated with changes in these measures of governance quality, as discussed in all preceding sections, and earlier evidence has shown that poorer countries are more likely to experience declining quality of government than rich ones. When Knack's study is repeated, controlling for the initial GDP per capita in 1995 as well as the change in GDP per capita over the period, the results are importantly different. The explanatory power of the models increases, and the coefficients on the initial index for governance quality become statistically significant. In addition, the sign for the coefficients on initial income levels are positive and in all cases they are significant at above the 99% confidence level.[26] As for the coefficients on the aid variables, they change from being negative and insignificant to positive and weakly significant in three out of four cases. The magnitude of these coefficients relative to the change in income or the initial level of income remains small, however on balance the evidence suggests that, once initial levels of income are controlled for, aid is positively, rather than negatively, related to changes in government quality. Regressions on the individual component governance indicators controlling for initial income levels are largely consistent with the aggregate index models. In regressions on the change in the rule of law and control of corruption, the coefficients on aid are positive and significant in both OLS and 2SLS regressions. For those on the change in regulatory quality, aid coefficients are positive and significant in the 2SLS models. Once initial levels of income are controlled for, higher levels of aid are statistically associated with reduced corruption, improved rule of law, and better regulatory quality, although again these effects are quite small compared to those associated with income levels and growth and the initial governance quality.

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[25] Note again, however, that due to the large potential for measurement error in the individual governance indicators, the aggregate governance quality indicator, and the regression results associated with it, are likely a more reliable indicator of large changes in government quality to the extent that real (as opposed to merely observed) changes in the various of dimensions of quality of governance are expected to be positively correlated.

[26] One plausible explanation for the change in the significance for the coefficient on the initial governance index is that the correlation between this variable and income levels was causing it pick-up two contradictory effects, the regression-to-the-mean effect whereby countries with higher (lower) governance ratings would be expected to have lower (higher) scores for the change in the index, and the income effect whereby richer countries are more likely to have improving governments than poor ones.

This weak positive relationship, however, lacks the robustness documented in the original study. When this new specification is employed with the country sample parameters from the original study, in no case do the coefficients on aid remain significant in all four models. When the sample is limited to countries with populations over one million, aid as a percent of GNI remains significant but aid as percent of government spending does not. When the sample is limited to countries with initial GDP per capita less than $4000, the coefficients are again significant in three out four cases, but when the sample is restricted to countries with initial incomes of less than $2000, none remain significant. This is also the case in the high-aid sample, and the sample containing only African countries. The coefficients on the regressions using technical assistance as the aid variable are positive, large, and weakly significant in the 2SLS models. These results indicate that the positive relationship between aid and governance is strongest in middle-income countries, however may be predominantly absent in poorer ones.

On balance, the empirical evidence reviewed here does not support the finding of Knack (2001) that higher levels of aid are detrimental to the quality of government in recipient countries, and provides modest support for the opposite hypothesis. Controlling for the level and change in income and the initial level of governance, countries that receive more aid are more likely to exhibit improving governance relative to those that receive less. There are, however, a variety of ways to interpret the discrepancy between these findings and those reported by Knack. One is that increased attention to the importance of quality of governance in determining aid outcomes has led donors to be more sensitive when allocating aid in recent times than they were in the time period covered in Knack's study. If donors are now directing aid primarily to those countries with better performing public institutions, this could result in the statistical association of higher levels of aid with better quality of government. This would bias any estimates of causal effects of aid on governance from OLS regressions, however the 2SLS regressions control for this possibility by instrumenting for aid and therefore should still provide roughly accurate assessments of the direction of the relationship between aid and governance. Another possibility is that aid practices themselves have changed significantly between the periods covered in the two studies, and whereas formerly aid was detrimental to government quality, new sensitivity to governance issues and accountability in the management of aid has now reversed any previously negative affects. Finally, both studies are subject to measurement errors associated with the admittedly imperfect measures of government quality. The contrast between the results presented here and those in the original study strongly suggest the usefulness of further empirical investigation, and given the theoretical arguments that aid can be deleterious to local institutions,

it remains incumbent on aid donors to ensure that the effects of their aid on local government quality are benign.

3.12 Aggregate Models

The preceding sections discussed evidence of relationships between a selection of variables and measures of governance quality and changes in governance quality based on regressions focused on individual variables or sets of variables (controlling for initial governance, income, and economic growth). These variables were also combined into single models in order to test their effects jointly. The results of these aggregate models including all independent variables are discussed below.

Note first that including all the independent variables explored in this study in single regression models sharply reduces the available sample size due to missing data, typically from between 130 and 150 countries to around 60. With the corresponding increase in the number of variables, the degree of freedom in these regressions becomes substantially smaller and the overall statistical accuracy of the estimates is likewise reduced. Because of this limitation, these aggregate models should not necessarily be interpreted as more reliable than the individual tests presented above. Variables which presented significant relationships before may have become insignificant in these aggregate models due primarily to data constraints and the reduction in sample size rather than their relationship actually being eclipsed by (or contingent on) the effects of another variable.

The estimates on the initial governance quality index for 1996 are frequently consistent with the earlier individual tests; however they also exhibit substantial differences. Initial GDP per capita remains strongly significant and positively correlated with governance quality. The coefficient on the latitude index remains positive, however statistically insignificant (below the 90% level) in the aggregate model (recall that in the earlier tests, this variable was only significant in the model excluding GDP per capita). The coefficient on the average total years of schooling in the population remains positive and significant, again indicating higher levels of educational attainment are associated with higher quality of governance in the same time period. The coefficient on the Polity variable for democratic representation remains positive, but is not statistically significant in this model, in contrast to the individual test. This indicates the possibility that the democracy measure was merely proxying some other country characteristic in the earlier test; however, again the disappearance of the effect could also be explained by changes the sample of countries. In addition, the oil export variable is correlated with democracy (or lack

thereof) and this may be reducing its estimated effect. The ethnic fractionalization index remains largely insignificant in this model, as in earlier tests, and the variable for oil exporting countries remains negative but now insignificant. None of the religious variables are importantly significant in this specification. Both variables for legal origin (French and Socialist) have diminshed statistical significance in these models, whereas in earlier tests they had significant predictive power, however their t-statistics remain relatively high and their p-values indicate significance at just under the 90% confidence interval. In summary, in this aggregate model on initial governance quality, the dominant statistical associations are positive correlations with income levels and educational attainment and weak negative correlations with French and socialist legal systems. Combined with the earlier tests, these findings contribute additional support to the hypothesized relationships between these variables and governance quality; however they weaken the evidence of an association between democratic institutions and higher quality governance.

In the aggregate models exploring the changes in the government quality measures, relatively few of the variables, aside from the initial governance rating and the economic variables, retain any statistical significance. The initial governance rating is nearly always significant and negative, as expected, again providing evidence of a fairly strong 'regression-to-the-mean' effect. The only exception to this is with respect to the governance index models, which fail to capture any evidence of this effect. In addition, the coefficients on the initial level of GDP per capita are typically positive and significant, suggesting countries with higher initial incomes were by and large more likely to experience substantially improving quality of governance, again with the exception of the final model on the aggregate governance index. By far the most powerful predictor in all of these models remains the change in GDP per capita. Countries with improving per capita incomes tended to experience improving quality of government and vice versa. Again, there are a number of possible explanations for this effect including a spurious correlation between rising incomes and changed quality of governance ratings (due to bias in subjective rating systems), rising government revenues and fiscal capacity, and increasing public awareness and demand for quality public services. In addition, some countries may be experiencing economic declines *caused* by declines in government quality (possibly due to political shocks), or the opposite suggesting that causality runs with from governance to growth. Evidence presented earlier suggests that, with regard to these measures, the relationship between income and changes in governance quality is more substantial than that between governance quality and changes in income. However this result could be specific to only short periods of time, or possibly only to these particular measures of governance. Without

further testing, the nature and direction of this relationship remains opaque. It's significance and predictive strength, however, is substantial in all specifications tested.

With respect to the other independent variables, none exhibit consistently high levels of statistical significance. The latitude index is significant (and positive) only in the model on the change in government effectiveness and only when the change in per capita income is included. Educational attainment, as measured by the average total years of schooling, has low levels of significance in all models, consistent with earlier tests. The Polity measure of democracy, however, is highly significant in several cases, namely with respect to government effectiveness, the rule of law, and the governance index, and its sign in all these cases is positive, providing further support that more democratic governments are more likely to experience improving quality of governance. Interestingly, the ethnic fractionalization index is moderately significant and positive in the regressions on the aggregate governance index, suggesting that more ethnically diverse countries were more likely to experience positive changes in governance, controlling for these other factors. While this is hardly conclusive of an existing positive causal relationship, it does further undermine the supposition that higher levels of ethnic fractionalization typically have negative effects on institutional quality (as well as growth). Neither of the legal origin variables have high levels of significance in any of these regressions, providing little evidence of ongoing impacts of the original structure of the legal system on governance quality. Of the variables on religious affiliation, the percent of the population Catholic is of little significance in all estimations, however, perhaps counter-intuitively, the variable on Muslim affiliation is strongly significant and positive on the Rule of Law estimates. Countries with largely Muslim populations experienced larger improvements in their rule of law ratings than their non-Muslim counterparts. The variable for aid, the average level of aid as a percent of GNI over the period, is moderately significant in only one case, the change in regulatory quality and only without the inclusion of the GDP per capita growth. Its sign, however, is positive, again providing some moderate support for the hypothesis that aid is beneficial rather than detrimental to governance quality. And finally, the variable for oil exporting countries is highly significant only in those models on the change in the control of corruption variable. Here the sign is negative, as expected by the hypothesized impact, but recall that in the preceding variable-specific tests, oil export status did not predict changes in the control of corruption indicator, however did predict changes in several of the other indicators. This change complicates the interpretation of this variables impact, but remains consistent with the predictions of theory.

On the whole, the aggregate models on the changes in the governance quality indicators reveal that few of the variables in this study yield robust, statistically significant effects. With the exception of the variables for initial levels of governance and income and the change in per capita income, none have consistently significant coefficients and many have coefficients that change sign depending on the specification. In addition, these equations have fairly low predictive power, particularly those excluding economic growth. The model on the change in the aggregate governance index, which again may be regarded as the most reliable indicator of actual changes in government quality (as it may average out measurement errors in individual indicators) is particularly weak, with the changes in per capita income being the only strong predictor (note the change in the adj. R^2 before and after its inclusion). As a result, no firm conclusions can be drawn from these aggregate models about the nature of majority of these relationships. In most cases, the null hypothesis of no statistically significant relationship can not be consistently ruled out. The regressions focusing only on the initial level of governance yield somewhat more stable results, particularly with respect to educational attainment and legal system origin, however they too reveal significant ambiguities. The only concrete conclusions that can be drawn from this collection of estimates is that, over the time period covered by the study, by far the most powerful predictors of changes in governance quality were the economic variables, both income growth and initial levels of income. Combined with the established correlation between income levels and governance quality, this implies a strong causal relationship running from income levels and economic growth to governance quality - an effect that, in the short term, dominates all others.

4 Policy Implications of Results

As pointed out in the introduction, poor quality of governance in many countries has become one of the most significant overarching challenges in both development and foreign policy arenas in recent years. Conceived in these broad strokes, however, poor governance is primarily a 'policy problem' for wealthy, developed countries – not poor ones with poor governance. The latter may struggle with creating an effective police force, or reducing corruption in public procurement, or eliminating inefficient regulation in the energy sector, but they do not typically concern themselves with their overall quality of governance, and rightly so. Wealthy, aid giving countries are more interested in aggregated measures of governance quality because these measures assist in identifying threats to international security (in terms of states which are failing or in danger of failing), emerging humanitarian crises, and because they appear to be important factors in predicting overall aid effectiveness. However, even with respect to development and foreign policy issues, it should be clear that 'poor governance' is virtually never understood as a single, well-defined problem that can be addressed with one or even a few policies. Rather, the issues involved are broken down into their constituent sectors – security, the legal sector, democratic institutions and elections, anti-corruption activities, basic social services, etc. and government, and attempts are made to craft policies that will improve the functioning of the government in these areas. This is the only sensible way to proceed; bad governance is almost never one problem but a collection of many, generally all of which result in the government failing to provide core public services effectively and efficiently.

Consequently, the usefulness of discussing poor governance (or even the component categories of poor regulatory quality, government effectiveness, rule of law, or control of corruption) as a single policy problem is limited. This does not, however, negate the usefulness of identifying social, political, economic, and geographic factors that are significantly related to governance quality. Recognizing and appreciating these relationships has at least two potentially useful purposes with respect to policy development. First, this knowledge can assist in the identification of countries that have low quality of governance, those that are likely to develop governance problems and the potential underlying causes of low quality governance where it exists. Second, it can identify possible areas for long-term strategic intervention. The first use is

primarily diagnostic; by helping to identify governance problems and their sources, policy-makers can allocate resources accordingly and consider what interventions, if any, may be able to mitigate the suggested underlying causes. The second is more immediately policy relevant. Clear relationships between democratic institutions and government quality provide substantial empirical support for maintaining a policy of fostering democratization abroad. Likewise, the relationship between education levels and governance quality may suggest that investing in educational attainment is likely to impact governance positively in the long run. Country characteristics such as these can be important causes of poor government performance that are at the same time amenable to modification through policy.

4.1 Variables Susceptible to Policy

There are four variables, or sets of variables, covered in this study directly susceptible to policy: economic variables, including income level and growth; educational attainment; democratic representation; and aid. I review the implications for each of these variables below. Note that little effort is made here to differentiate between policies pursued by international actors and those pursued by domestic actors, although there are inevitably important differences in the actual policies practiced and employed by these different actors. This omission is unimportant here, however, as the study implications most directly relate to the suitability of various high level policy strategies for improving governance that could be pursued by both domestic and foreign powers. Local governments (or organizations) in poor countries as well as aid agencies from wealthy countries may attempt to improve governance through education or through democratization or through stimulating economic growth, although the strategies they would employ to reach those goals would differ. Only aid is relevant solely to international actors and policy makers.

4.1.1 Aid

This study, in contrast to the earlier study by Knack (2001), finds no significant evidence that aid dependence or high levels of aid adversely affect the quality of governance. There may be persuasive arguments to believe that such an effect is plausible but it receives no support from the empirical data here. On the contrary, once initial level of income is controlled for, aid is sometimes found to have significant, if small, positive impacts on measures of governance. These positive effects, however, are not very robust, and are found to be significant in only a

small portion of the tests run. While this finding is in contrast with the previous study, it broadly confirms the intuition within the international community that aid is not generally an effective means of producing large changes in the quality of governance, positive or negative. And evidence from the period does suggest that aid levels tend to decrease with the quality of government, with donors now shifting funds away from countries with particularly ineffective or corrupt governments. Perhaps more disturbingly, these results generally hold true for the measure of technical assistance as well, revealing little evidence of a positive relationship between this kind of aid and improvements in governance. While this is a relatively unspecific means of evaluating these expenditures, it nevertheless casts some doubt on the usefulness of this kind of aid. As a result, the implications of this research for aid are two fold. On the one hand, aid donors may be reassured that there does not appear to be significant evidence of a deleterious effect of aid on governance, at least during the past decade; on the other, they should also find it somewhat sobering that there is little evidence of any positive effects of aid on government institutions in receiving countries, even with that form of aid dedicated specifically to the task.[27]

4.1.2 Income

By far the most robust and significant results in this study relate to the relationship between income and governance. It is no surprise that the two measures are highly correlated. It is also not particularly surprising that economic growth is a good predictor of change in government quality (or vice versa). What is both surprising and significant is that, in this study, the initial level of income is in most cases a good predictor of changes in the quality of governance over the study period. Wealthier countries are more likely to experiencing improving governance ratings, while poorer ones are more likely to experience declines. The initial quality of governance, in contrast, is not an especially good predictor of changes in per capita income over the study period. Better-governed countries did not appear to grow faster than worse governed ones. Most research on the relationship between economic development and institutions acknowledges that impacts likely run in both directions, but predict that the impact of governance on the economy is the stronger of the two effects. The results above suggest the reverse. In the short-term, changes in government quality appear more sensitive to income levels than changes in income are to government quality. Growth precedes good governance.

[27] This second finding is particularly disturbing coming from the data for recent years as there as been a large increase in the amount of aid being devoted to governance reform in the past decade (Carothers 2000).

How should this finding be interpreted? On one level, it is immediately suspect based on common sense intuitions. Most people readily accept that the economies of countries that are woefully mismanaged by their governments and political leaders are likely to stagnate. With corrupt governments that siphon off public funds for private gain or governments that fail to provide basic security for investment or governments that fail to deliver basic goods such as usable roads and clean water, the economic prospects are grim. Undoubtedly, based not only on common sense but also on large bodies of past research, these are real, existing negative economic impacts of bad governance. Poorly performing governments do damage the prospects of their economies. However, what is apparent from the data here is that economies are more resilient in the face of these effects than is often assumed. There is no indication here of governance-induced poverty traps. Even those countries with the worst governance in the sample exhibited average per capita growth rates comparable to the better-governed countries. And those countries that do manage to grow their economies also typically experience improvements in their government services. Of course, these patterns vary significantly across countries. Sudan's low quality of governance did not prevent it from achieving high growth rates over the period, thanks to its booming oil exports. Somalia's near total lack of any government at all, however, may have radically limited any possibilities for economic recovery. But not all the countries with low-quality governments that experienced growing per capita incomes were oil-exporting autocracies like Sudan. Some were very poor countries recovering from periods of intense conflict, such as Sierra Leone and Liberia (both of which received large infusions of foreign aid during the period), others were countries in South East Asia like Cambodia and Viet Nam, that have rapidly growing economies despite poor control of corruption and little government accountabilty. Poor governance, at least of certain types, is not invariably a binding constraint on economic growth. And countries that grow can generally expect better government to follow.

This finding is too unspecific to be of much use in formulating development policy for particular countries. And the possibility remains that the econometric models behind it are miss-specified, that more detailed growth models may reveal a stronger association with governance measures. As a result, it would be premature to reject earlier evidence documenting the importance of good institutions for growth. However, this result is suggestive that the current preoccupation with governance in contemporary development discourse has gone too far. When it comes to determining economic growth, good policies and good education appear to be far more significant predictors than broadly measured dimensions of 'good governance'. And countries don't need particularly deep or far reaching institutional reforms to stimulate periods of economic growth (Rodrik 2000). As we have seen, poor countries almost always have poor

governance according to these measures. What separates those that grow from those that do not is whether these governments enact policies that provide at least minimal levels of security, macroeconomic stability, and basic social services. Those that manage this stand a decent chance of enjoying a period of increasing per capita incomes (with the possible exception of countries that are particularly resource poor and/or land-locked). Those that do not will likely be subject to persistent stagnation – both economic and institutional. The research here indicates that the international community's time and resources would be better spent on advocating, supporting, and implementing specific, growth-oriented policy reforms and raising overall levels of educational attainment than in trying to implement deep, sweeping institutional reforms. Raising the quality of governance by catalyzing economic growth is a safer bet than trying to catalyzing growth through raising the quality of governance.

4.1.3 Democracy

Democratic countries are better governed than non-democratic ones. This prediction, extensively supported by theory and borne out in a wide-variety of research, remains secure here. In both the individual and aggregate tests reported above, more democratic governments were more likely to have better governance at the beginning of the study period and were more likely to experience improving quality of governance throughout the past decade. In addition, this result remains true, even when the sample is reduced to low-income countries. Even in low-income countries, democratic governments are more effective and have less burdensome regulatory systems than non-democratic ones. As a result, democratization – the adoption or strengthening of mechanisms of democratic representation in the political system - can be expected to induce real dividends in terms of government performance. Supporting the expansion of democracy is an empirically valid way to improve the quality of government in countries where it is lacking. However, while significant and robust, it should be noted that the effects of democracy on governance predicted by this study are often not large. They are orders of magnitude smaller than those associated with the economic variables. And democratization is by no means a panacea. On average, there is a positive effect, but it is by no means guaranteed. Democratization can go badly wrong. Much research has demonstrated that democratic governments tend to be unstable in poor countries (for example, Pzerowski 2000), and a key finding of recent, exhaustive research on political instability is that partially democratic regimes that are combined with political competition that is factional in nature (based on well-defined ethnic, regional, or other social demarcations) is a powerful predictor of the likelihood of civil violence (Goldstone et al. 2005). Consequently, democratization is a governance reform strategy with substantial risk. And, as

found here, the difference in governance ratings in poor countries based on their level of democracy is relatively small. Poor countries that are perfect democracies have better governance on average than poor countries that are perfect autocracies, but both groups' ratings remain negative and well below the mean for all countries. The extent of the research in this study does not allow for a detailed evaluation of the trade-offs between democratization, improvements in government quality, and political instability risks, however it should be recognized that, relative to the reward in terms of improving governance, the risks are substantial, especially in low-income countries. Democratization may be an effective development policy objective in poorly governed countries, but it is likely so only in those countries that stand a reasonable chance of avoiding political violence and instability following the change in institutions.

4.1.4 Educational Attainment

As demonstrated in this study, higher levels of educational attainment in society are also generally found in better-governed countries. This may imply that better education results in a public that demands better governance, or that a better government supplies more education. The evidence here is not conclusive either way, but the fact that levels of educational attainment do not seem to predict changes in government quality with any accuracy is more supportive of the latter than the former. Were it the case that better educated publics demanded better government services, some association of initial education levels with subsequent positive changes in government quality would be expected, and no evidence of this is found here. Were it the case, however, that better governments merely provide better educational services, changes in governance quality would be expected to precede changes in overall levels of educational attainment. Based on the data here, this appears the more likely sequence; however it should be investigated with further research comparing initial governance ratings with changes in educational attainment through time. Because the supply-side interpretation of this relationship seems more probable, pursuing improvements in governance quality through better education should not be expected to yield substantial results, at least over the short term. Possibly the positive effects of education levels on governance are so small or gradual that they were overshadowed by other variables here, but would be present in studies that covered a longer period of time or used more accurate measures of governance quality. Certainly, the theoretical argument for such effects is strong. However, again, the evidence does not indicate that educational attainment is a major determinant of governance quality, despite the strong correlation that exists between the two in level even after per capita incomes are controlled for.

Of the variables reviewed here that are directly susceptible to policy, how do they compare? If the overarching policy objective is improved quality of government, then economic growth trumps the rest. Higher incomes and higher income growth yield the largest, clearest, and most significant dividends. The effect of aid is not generally negative, but neither is it positive, and appears to have little potential to effect changes in governance. Democratic institutions do typically produce better governance, but not as much better as higher incomes. And this benefit can come at the cost of increased political instability, especially in poor countries. Levels of educational attainment are related to good governance, but do not predict changes in government quality, suggesting that good governance might produce better education rather than the reverse. Of course, these variables are themselves more akin to policy objectives than actual policies. In each case, growth, democratization, education, there is a multiplicity of actual policies that could be followed to achieve the goal, with some undoubtedly being more successful than others. And in some cases, for some actors, there may be only very limited potential for policy to realize the goal. Despite the United States government's official adoption of democratization as a core component of its foreign/development policy, studies suggest that democracy assistance programs are typically of marginal to negligible importance (Carothers 1999). Rarely, if ever, is it within the power of foreign policy makers to change a non-democratic regime into a democratic one. Likewise, the ability of aid donors to enact policies that have a straightforward positive effect on economic growth is in many ways dubious. Broad-based, pro-poor economic growth may constitute a strategic policy orientation for aid donors and development specialists but actual policies will focus on smaller and more well-defined objectives. The usefulness of the above results to policymakers is that they inform decisions about the strategic objectives these actors may or may not pursue as means of improving the overall quality of government in specific countries. In this regard, all of the results discussed above are relevant, but those surrounding the economic variables are the most so as they suggest that one now common overarching policy orientation, that of improving a country's economic prospects through supporting and introducing wide-ranging governance reforms, may be misguided.

4.2 Policy Options

This study has concentrated on relatively high-level variables that affect quality of governance. The variables are too general to be of much direct assistance in identifying and assessing specific policy measures. However, the findings are of use in informing general policy directions. They provide a basis for assessing the relative impact of different kinds of policies in contributing to good governance.

As discussed above, the three variables susceptible to policy found to have the most significant impact on governance are: income, democratization, and education. The study results suggest that in terms of policy strategy, interventions focussing on the above should receive the greatest attention, other things being equal.[28] Since aid itself is found not to have a negative impact on governance, there are no negative consequences for governance of pursuing such interventions through traditional forms of aid. However there is no clear advantage in aid if other instruments are available. And again, while these policy objectives are suitable to both domestic and international actors, the policies employed by each would differ substantially. The following discussion of these options therefore focuses primarily on considerations important to international actors.

Three corresponding strategic policy alternatives are recommended based on the findings of this study:

Economic Growth Oriented Policies

Policies that support economic growth include the reduction in trade barriers, privatization, de-regulation, the strengthening of market institutions, provision of increased investment financing, macroeconomic stabilization, infrastructure investment, etc.

Policies that Increase Educational Attainment

Policies that improve educational attainment include financial support for schools, early childhood development, teacher training, incentives for school attendance, among others.

Policies that Support Democratization

Polices that support democratization include support for elections, political parties, civic education, civil society organizations, and the development of democratic institutions.

How do these different high-level governance reform strategies compare with one another? The empirical investigation in this study focused only on estimating the impact of these variables on governance quality, however there are other criteria relevant to international actors considering

[28] For instance, one factor not considered here is the capacity for effective management and delivery of programs needed to implement the strategies suggested.

these different policy orientations. The relative strength of each option might, for example, be assessed on the following grounds:

a. *Effectiveness*

   Magnitude of impact on governance quality, as captured by broad measures of governance (i.e. government effectiveness, rule of law, regulatory quality, corruption, etc.) such as those used in this study.

b. *Cost*

   The financial cost of policy implementation and administration.

c. *Feasibility*

   A measure of how feasible policy implementation for that objective is, including consideration of political barriers, the acceptability of policy options in the target country, compatibility with stakeholder interests, ease of implementation and administration, etc.

d. *Political Risk*

   The political risks associated with the policy objective: Is the policy potentially destabilizing? Could it increase political instability and civil conflict? Does it jeopardize the welfare of particular social groups or stakeholders? Does it jeopardize the national interests of the implementing country?

e. *Positive Externalities*

   Does achieving the objective result in other social benefits besides governance improvement? Does it improve public welfare and material well-being? Does it advance other national and international objectives (i.e. human rights protection, trade integration, regional stability, etc.)?

Table 4.1 provides a rough, qualitative comparison of these alternative approaches based on the criteria outlined above. The different policy types are given a general rating for each criterion, followed by a brief explanation of the assessment and the key issues involved. A rigorous analysis of the costs and benefits associated with different governance reform strategies would obviously require much more detailed policy options and evaluative criteria than the broad categories presented above. The comparison of these options presented here is intended merely

to indicate the range of issues and trade-offs involved in considering these objectives, rather than to provide a full, costed analysis of well-structured policy alternatives.

The ratings on the effectiveness measure are based directly on the results of the study. As initial income levels and economic growth were the strongest predictors of the change in governance quality, policies designed to stimulate growth are also those most likely to positively impact governance. Educational attainment levels are correlated with cotemporaneous governance quality, but do not predict changes in governance, indicating that good governance may precede and improve educational outcomes more than educational outcomes improve and precede good governance. The level of democratic representation in the government is related to both governance quality in level and change, and therefore democratization, like economic growth, is likely to improve governance. However this effect was of a much smaller magnitude than that associated with the economic variables in all of study regressions. It should also be remembered effectiveness, as assessed here, is the impact of *achieving* the policy objective on governance quality. International actors, however, may be more or less effective at meeting their goals in these different policy areas. While international actors and aid donors may choose to support democratic institutions through the types of policies described above, their ability to actually induce substantive democratic reforms is questionable, and at least one review suggests that democracy assistance is usually of only marginal significance in altering the course of political change in a country (Carothers 1999). Increasing economic growth and raising educational attainment are subject to similar criticism; donors may target these high level objectives, but their ability to actual impact economic growth rates and overall levels of educational attainment is often questioned. Based on general reviews of development research, I think it is plausible that donors have a more substantial ability to impact economic and educational outcomes than they have to affect political representation in the government, but this is likely subject to considerable variation across countries.

Table 4-1 Comparing Strategic Policy Options for Governance Reform

	Income	Education	Democracy
Effectiveness	**High** Highest demonstrated effect on governance quality, however international actors may have limited impact.	**Low – None** Related to current government quality, but does not predict short run change. Possibly negligible effect.	**Low** Democratization results in small gains in governance quality. But policy instruments may not be effective at catalyzing democratization.
Cost	**Variable** Costs are highly variable; potentially low cost policies (trade policy, removing reg. barriers) can have large impact.	**High** Costs are also variable, but a large impact on overall level of educational attainment requires substantial investment.	**Low** Democracy and governance assistance at current levels is relatively inexpensive.
Feasibility	**Medium** Political barriers to implementation depend on policy options; but economic growth can be compatible with all stakeholders.	**Medium – High** High compatibility with most interest groups (possible opposition from strongly autocratic governments), but administratively complex.	**Low** Providing current levels of support for democratization is feasible, but the end objective of political change will likely be resisted by political elites.
Political Risk	**Low** Stimulating economic growth in low income countries generally reduces instability risks.	**Low** Higher educational attainment has low political risk in the short run; may lead to destabilizing political change.	**High** In cases where support does lead to political change, potential for instability and civil conflict increases.
External Benefits	**High** Improved material welfare; possible reductions in poverty rates and inequality.	**High** More educated public; increased economic opportunities and growth. Possible improvements in political rights.	**High** Increased protection of civil rights, political self-determination, possible improvements in international stability.

In terms of cost, again only general conclusions can be offered. The financial costs of policies targeting economic growth will vary widely, from low cost options associated with relatively minor modifications in trade policy to financing large-scale investments in public infrastructure. In certain circumstances, it may be possible to realize substantial gains in

economic growth by the removal of regulatory burdens or the privatization of inefficient state owned industries at relatively low levels of fiscal cost, however in these cases there will likely be substantial political opposition. The costs associated with efforts to improve educational outcomes will also vary, however it can be assumed that significant improvements in the overall levels of educational attainment in society will require substantial investment. Based on current levels of aid expenditure, the amounts spent on democracy and governance assistance are comparatively lower; typically well less than 10% of the aid budget of most donors is dedicated to programs in this area. That could change in the future if donors begin to fund these kinds of programs more aggressively, however at current levels of funding democratization support is the lowest cost policy option, followed by economic growth and then educational attainment.

The feasibility criterion is intended to illuminate other barriers to policy implementation, particularly those associated with political resistance and stakeholder opposition to the policy objective. Here, both economic growth and educational attainment perform relatively well, as both have broad appeal across social groups and can be made compatible to the interests of political elites. This is not invariably true; there are instances where the holders of political power have strong, vested interests in regulations, or industries, with distortionary effects on the economy, and strongly autocratic governments may be resistant to raising public education levels due to a perceived threat to the stability of their regime. However in most cases these objectives will not be directly resisted by large sections of the public or government. The primary feasibility challenge with respect to education oriented policies results from the fact that education is a widely distributed public good the quality of which is often difficult to monitor and assess. Because of this, delivering educational services is administratively complex, and orchestrating improvements in education outcomes may entail overcoming substantial bureaucratic challenges. The feasibility of democratization is rated lower. Democratization almost always entails redistributing political power away from those who currently hold it, something to which the holders of power are typically resistant.

In terms of political risk, economic and educational policy options are also preferable to democratization due to the fact that democratization, in particular, and any institutional change, in general, can result in political destabilization and an increase in the potential for civil conflict and violence. Low per capita incomes are one of the most robust risk factors for political instability and consequently any policies which successfully stimulate economic growth are likely to reduce instability risks as well. Increasing educational attainment in the long run may have the same effect through better economic outcomes. There is perhaps some risk associated with the

possibility of producing a well-educated population in cases where the labour market does not provide sufficient opportunities for skilled labour. Democratization, however, can lead to real instability risks in low-income countries, particular those that have only partial democracies and factional political competition (Goldstone et al. 2005), and consequently any democratic transition carries with it the potential to increase political instability. Note, that this evaluation is based on the assumption that democracy assistance does catalyze political change. If democracy assistance does directly promote political change, it creates additional political risks. However if democracy assistance is gauged at supporting the consolidation of political transitions already underway, then it may reduce instability risk rather than create it.

The final criterion highlights the positive externalities that might result from the pursuit of these diverse policy objectives. The primary objective being targeted is the improvement in governance quality, broadly measured; however each of these policy objectives, economic growth, greater educational attainment, and democracy, has been pursued in its own right for reasons unrelated to governance. Economic growth directly increases material wellbeing for some, and may result in an overall decline in the incidence of poverty and less economic inequality. Educational attainment increases economic opportunities at a social and individual level, raises productivity, bolsters social tolerance, and possibly leads to more representative governments in the long run. And democratization may result in more political freedom and self-determination, better protection of human rights and civil liberties, and increased international stability. All three categories of options consequently have significant positive externalities. Seriously ranking them requires determining the relative importance of each of these secondary goals, and the relative importance of these secondary objectives may reasonably differ across policy makers, and a conclusive analysis would require the relevant policy maker to weight the importance of these secondary objectives for him or herself prior to comparing the options.

Clearly, based on this simplistic assessment, income enhancing policy options perform relatively better overall than education or democratization oriented policies. Based on the study, raising income levels is likely to have the most substantial impact on governance quality. At the same time, focusing on this goal may entail less political resistance, reduce political instability risks, and create substantial external benefits in terms of increased material well-being and poverty reduction. Raising educational attainment entails many of these same benefits, but is less likely to directly improve governance quality and may be more costly and administratively complex than some growth oriented policy options. Democratization can be expected to produce small gains in government quality in the short term (potentially large gains in the long term),

however pursuing this objective entails taking on both more political risk and more political resistance, and the ability of international actors to effect change in this arena may be comparatively smaller.

This cursory assessment should not be substituted for a full, focused policy analysis targeting particular governance problems where they exist. But it adds further strength to the policy implications of the studies' principal empirical results. Even considering other evaluative criteria besides the improvement in governance, growth oriented policies are likely the most effective set of options for international actors seeking to raise the standard of governance in developing countries. Policy-makers currently investing in other strategies of governance reform should carefully weigh the costs and benefits of those approaches relative to what could be gained if the same resources were invested in economically oriented alternatives.

5 Conclusion: Learning About Governance

This study has investigated the relationships between a series of social, political, and economic characteristics and changes in governance quality in recent time. The findings reported here, while modest, are significant. As argued above, these relationships (or in some cases the absence of any relationship) have both important theoretical and practical implications. On the theoretical side, the results here strongly support models of institutional change that focus on economic characteristics and economic development. At the same time they suggest that the causal effect of governance quality on economic growth rates, at least in the short term, may have been overstated in much recent work. Government outcomes such as inflation, trade policy, the provision of infrastructure, etc. no doubt matter for the economy, but the evidence here does not suggest the existence of well-defined governance-induced poverty traps. Even poorly governed countries grow, and when they do, it is likely that the quality of government will improve as well. On the practical level, knowledge about the effects of these characteristics on governance quality informs general debates about what strategies and objectives make sense for international and domestic actors pursuing institutional reforms, and about what factors might raise important barriers to their efforts. Some of these findings are encouraging; there is little empirical evidence here that aid is bad for governance despite compelling theoretical arguments that it could be and previous research indicating that it was. In addition, there is little evidence that more ethnically diverse countries are doomed to worse governance. Sub-Saharan Africa's governments are not corrupt because their countries are ethnically diverse; they are corrupt because their countries are poor. And more democratic governments do provide better public services, even in poor countries. Not all the relationships investigated here are as clear, but knowledge about all of these factors can be of real assistance to policy-makers and scholars trying to understand why some countries are fortunate in governance while others are not.

This knowledge, however, will obviously not lead immediately to more effective policies for improving the quality of governance in those countries most in need of reform. The political systems of Nepal, Bangladesh, and Pakistan are dangerously unstable and are likely to remain so for some time. The governments of Iraq and Afghanistan – two countries where the international community has invested vast resources in improving the calibre of national institutions - are

weak, ineffective in many sectors and regions, and deeply divided. And the people of North Korea and Zimbabwe and Myanmar and many other countries remain at the mercy of autocratic governments with a history of public policy disastrously destructive to their citizens' quality of life. Unfortunately, understanding the deep cultural, historical, geographic, and economic determinants of government quality does not immediately suggest ways to improve the circumstances of any of these peoples or their governments.

Based on both the trends in recent research on governance and economic growth as well as trends in development policy concerned with governance issues, the progress that has been made in understanding institutions and institutional change can perhaps be reduced to two general lessons. The first, amply demonstrated by the burgeoning research in the fields of the new institutional economics and endogenous growth theory, is simply that institutions matter. For too long, policymakers and economists in development circles paid little attention to the quality of government institutions in aid receiving countries. As a result, growth proved elusive in many of the most destitute countries and countless aid dollars have been poorly spent, or squandered outright, in attempts to work through corrupt, ineffective, and inefficient governments. The success or failure of public institutions determines rates of investment in the economy, widely influences the quality of life of a country's citizens (both now and in the future) by providing or not providing essential goods and services, and also greatly affects the ability of international actors to positively contribute to a country's development. Because of these wide-ranging effects, the importance of good governance to aid outcomes and the welfare of a country's citizens cannot be ignored.

The second lesson, however, is more humbling, and it is a lesson still being learned. Institutions are not readily transferable across borders. The economist Thrainn Eggertsson has likened institutions to 'social technologies', roughly equivalent to the physical technologies that bolster productivity in manufacturing processes, with this difference: While in many cases new physical technologies spread quickly and can be adopted by firms or industries in various locations and with various production constraints, the spread of social technologies – even in cases where they offer unequivocal welfare gains – is severely constrained. They are constrained by the ability of new formal institutions to mesh successfully with underlying informal institutions; they are constrained by the vested interests political elites and other stakeholders have in the existing institutional structures; they are constrained by commitment problems (the difficulty of constructing credible, enforceable contracts involving redistributions in political power) between different political factions; and they are sometimes constrained simply by the

inability of the pertinent stakeholders to perceive that institutional change is in their interest (Eggertsson 2005). The implication of this lesson for development policy is clear; however development practitioners (and many governments and policymakers) have proved obdurate in their failure to appreciate them. Only rarely will improvements in governance be brought about by simple transfers of resources and expertise. The problem is generally not that poorly performing governments are unaware of better social technologies and better ways to serve their citizens; it is that those with the ability to change the structures or practices of the government too often have insufficient incentive to do so. And even in cases where political elites do choose to pursue a course of reform, their efforts are often stymied when new formal institutions transplanted onto old informal ones fail to take. As a result, much time, energy, and resources in aid agencies and international organizations and NGOs working in the new development fields of democracy and governance assistance are now devoted to envisioning plans for institutional reforms which critically ignore these ever-present barriers. Naïve assumptions of simple transfers of social institutions and quick dividends in governance reform should, by now, be put to rest. All evidence suggests that only rarely can good governance be exported. For the most part, it must be slowly, painstakingly cultivated from within.

What does this mean for policymakers in wealthy countries concerned about development or security threats in countries with weak, unstable, or ineffective governments? Is there anything that international actors can do, aside from ensuring the availability of good sources of knowledge about public-sector administration, to contribute to better governance in those countries where it is most lacking? Some researchers are deeply pessimistic. In a recent book, the economist and development scholar William Easterly makes an impassioned plea for 'non-intervention' as the guiding policy principle for engagement in countries with sub-par governance (Easterly 2006). Western countries and aid agencies should not support poorly performing or tyrannical governments by providing them with aid and bailing out their governments when economic crises result from years of fiscal mismanagement, but neither should they attempt to change these governments. He writes, addressing the aid community, "Discard your patronizing confidence that you know how to solve other people's problems better than they do. Don't try to fix governments or societies. Don't invade other countries, or send arms to one of the brutal armies in a civil war. End conditionality. Stop wasting our time with summits and frameworks. Give up on sweeping and naïve institutional reform schemes. The aim should be to make individuals better off, not to transform governments or societies," (Easterly 2006: 368). For Easterly, such schemes are yet another example of the utopian exercises in social planning that crippled aid effectiveness in the past. It is difficult enough to find innovative ways

to get mosquito netting to pregnant mothers or keep children in school; constructing grandiose schemes to improve 'governance' is a quixotic waste of public resources badly needed elsewhere.

Easterly's critique is well-founded, but his proposed doctrine of non-intervention will be of little comfort to those in countries that continue to be ransacked by their governments, or lack thereof. And as another prominent development economist Paul Collier has noted, the problem of extreme poverty in the world is being increasingly relegated to those countries with fragile, failed, and failing governments. Rates of poverty are decreasing in most parts of the developing world, and by 2015 the incidence of extreme poverty in the world will decline by one-half if the trends of the 1990s persist (Collier 2007). But not all countries are improving equally. Extreme poverty is becoming concentrated in a hard core of failing states – states typically plagued by a legacy of conflict and violence, economic dependence on primary commodities, limited opportunities for international trade, and bad governance. Collier, like Easterly, concurs that the traditional tools of aid are not up the challenges posed by these problems, bad governance being no exception. And likewise, he refrains from supporting wholesale attempts to change government institutions from the outside, although he does argue that external military interventions and peace-keeping operations are in many cases vital to stopping cycles of instability and conflict. But Collier is more optimistic than Easterly about the capacity of wealthy countries to improve political circumstances in poor ones. Many of the policies Collier suggests to this end are striking in that they target the institutions of the developed world rather than the developing one. Rich countries can improve governance in poor ones by reforming their own laws on corruption, strengthening injunctions against bribery, enacting charters that govern business and investment practices associated with extractive industries, and by tailoring trade policies in order to benefit the most economically vulnerable countries. Policymakers may have little chance of instigating political and economic reforms in other countries, but their odds of catalyzing change are much better in their own. And while the effects of these 'domestic' policy options may not be revolutionary in scope, they may bring real, measurable benefits in the long-term political and economic development of the poor countries they impact.

These are not the only policies that have been suggested to help improve government quality where it is lacking or where the benefits of government are absent altogether. But they are uniquely promising in that they combine a sense of humility about the capacity of international actors to directly impact and improve institutions in other countries with ingenuity in addressing some of the fundamental, underlying determinants of poor governance, determinants such as geographic barriers and economic dependence on natural resource

extraction and a legacy of civil conflict. The purpose of this study was to clarify the nature and magnitude of some of these effects, and to draw attention to where governance has improved in the world in recent years and where it hasn't, and what country characteristics explain and predict those differences. This information, like the theoretical research that preceded it, provides much needed background to the overarching policy problems posed by poorly governed countries. Most of the real work, however, of identifying specific barriers to reform in places where it is needed, and then – by far the harder part - defining focused policy options for international actors that are realistic, feasible, and potentially effective ways to catalyze specific, incremental, improvements in government quality remains to be done. Even in those countries in the most desperate circumstances, it will be primarily up to their own citizens to determine the quality of their government. But, with careful planning, modest goals, and a deep appreciation for the complexity of institutional transitions, wealthy, well-governed nations may still find creative ways to be of some assistance.

Appendices

Appendix A Regression Results

This appendix presents the full regression results of a series of empirical investigations on the correlates of governance quality and changes in governance quality between 1996 and 2005. Specifically, regressions were run to estimate statistical associations between an index measuring governance quality in 1996, the changes in four measures of governance quality (regulatory quality, government effectiveness, the rule of law, and control of corruption) between 1996 and 2005, and the following variables: income levels and growth, latitude, educational attainment, democratic institutions, ethnic fractionalization, the origin of the legal system, religious affiliation, oil exportation, and levels of foreign aid. The majority of these tests are basic ordinary least squares (OLS) regressions with measures on governance quality and governance quality change as the dependent variables, although, following Knack (2001) two stage least squares (2SLS) regressions were used in estimations concerning aid impact in order to control for the possibility of reverse causality. A constant term was included in all estimations but is not reported.

Table 1. Latitude, Income, and Governance

Dep. Variables	LATITUDE	GOV. RATING 1996	Log GDP p.c. 1995	GDP p.c. Change	N	Adj. R^2	Std. Error
Gov. Index 1996	9.094[a]				150	0.184	3.588
	(1.541)						
	1.049		1.958[a]		142	0.731	2.019
	(0.992)		(0.117)				
Change 1996-2005							
REGULATION	1.303[a]	-0.231[a]			178	0.218	0.526
	(0.217)	(0.042)					
	0.768[a]	-0.56[a]	0.259[a]		169	0.428	0.448
	(0.205)	(0.056)	(0.035)				
	0.379[c]	-0.47[a]	0.248[a]	0.467[a]	157	0.46	0.405
	(0.222)	(0.058)	(0.034)	(0.101)			
GOV. EFFECT	0.671[a]	-0.169[a]			176	0.102	0.449
	(0.204)	(0.038)					
	0.524[a]	-0.461[a]	0.222[a]		168	0.331	0.388
	(0.181)	(0.05)	(0.032)				
	0.197	-0.421[a]	0.22[a]	0.478[a]	156	0.402	0.345
	(0.193)	(0.047)	(0.031)	(0.1)			
RULE OF LAW	0.655[a]	-0.122[a]			164	0.087	0.394
	(0.184)	(0.034)					
	0.633[a]	-0.29[a]	0.11[a]		154	0.183	0.361
	(0.175)	(0.055)	(0.034)				
	0.51[b]	-0.285[a]	0.114[a]	0.17[c]	147	0.202	0.36
	(0.206)	(0.055)	(0.035)	(0.09)			
CORRUPTION	0.609[a]	-0.171[a]			149	0.122	0.425
	(0.207)	0.036					
	0.423[c]	-0.413[a]	0.206[a]		141	0.333	0.369
	(0.185)	(0.049)	(0.032)				
	0.240	-0.390[a]	0.210[a]	0.227[b]	134	0.336	0.362
	(0.214)	(0.049)	(0.033)	(0.111)			
GOV. INDEX	2.814[a]	-0.092[a]			149	0.126	1.264
	(0.603)	(0.029)					
	2.623[a]	-0.232[a]	0.355[a]		141	0.191	1.221
	(0.604)	(0.052)	(0.126)				
	1.243[c]	-0.206[a]	0.416[a]	1.523[a]	134	0.270	1.142
	(0.669)	(0.051)	(0.123)	(0.351)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS Regressions for a cross section of countries. The dependent variables are the 1996 WBI governance index value and the changes in the WBI governance indicators and index value between 1996 and 2005. The independent variables are the initial GDP per capita in 1995 (log), the absolute value of the latitude of the country, the initial 1996 governance rating for the dependent variable, and the % change in GDP per capita between 1995 and 2005. Standard errors are in parentheses.

Table 2A GDP p.c. Growth and Initial Governance Quality

	(1)	(2)	(3)	(4)	(5)	(6)
GDP p.c. 1995 (log)	-0.084[a]	-0.057[c]	-0.075[b]	-0.049[c]	-0.067[a]	-0.059[b]
	(-0.019)	(0.030)	(0.032)	(0.027)	(0.025)	(0.026)
Latitude	1.036[a]	0.872[a]	1.040[a]	1.021[a]	0.899[a]	0.884[a]
	(0.157)	(0.148)	(0.169)	(0.157)	(0.139)	(0.149)
Gov. Index 1996		-0.010				
		(0.013)				
Rule of Law 1996			-0.031			
			(0.051)			
Regulation 1996				-0.090[b]		
				(0.045)		
Gov. Effectiveness 1996					-0.009	
					(0.038)	
Corruption 1996						-0.037
						(0.038)
N	160	134	147	157	156	134
Adj. R^2	0.212	0.203	0.201	0.228	0.205	0.204
Std. Error	0.327	0.284	0.332	0.324	0.280	0.284

[c]sig < 0.1; [b]sig < 0.05; [a]sig. < 0.01

OLS regression results for a cross-section of countries. The dependent variable is the % change in GDP p.c. between 1995 and 2005. The independent variables are the GDP per capita in 1995 (log), the absolute value of the latitude of a country, and four World Bank Institute (WBI) governance indicators for 1996, and an composite index of these four indicators. Standard errors are in parentheses.

Table 2B GDP p.c. Growth and Final Quality of Governance

	(1)	(2)	(3)	(4)	(5)	(6)
GDP p.c. 1995 (log)	-0.084[a]	-0.121[a]	-0.110[a]	-0.144[a]	-0.137[a]	-0.093[a]
	(-0.019)	(0.029)	(0.031)	(0.029)	(0.026)	(0.029)
Latitude	1.036[a]	0.775[a]	0.986[a]	0.940[a]	0.757[a]	0.832[a]
	(0.157)	(0.152)	(0.175)	(0.160)	(0.139)	(0.153)
Gov. Index 2005		0.024[c]				
		(0.013)				
Rule of Law 2005			0.044			
			(0.052)			
Regulation 2005				0.130[b]		
				(0.050)		
Gov. Effectiveness 2005					0.143[a]	
					(0.044)	
Corruption 2005						0.032
						(0.047)
N	160	134	147	157	156	134
Adj. R^2	0.212	0.220	0.203	0.241	0.257	0.201
Std. Error	0.327	0.281	0.331	0.321	0.271	0.284

[c]sig < 0.1; [b]sig < 0.05; [a]sig. < 0.01

OLS regression results for a cross-section of countries. The dependent variable is the % change in GDP p.c. between 1995 and 2005. The independent variables are the GDP per capita in 1995 (log), the absolute value of the latitude of a country, and four World Bank Institute (WBI) governance indicators for 2005, and an composite index of these four indicators. Standard errors are in parentheses.

Table 2C GDP p.c. Growth, Initial Human Capital, and Governance Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GDP p.c. 1995 (log)	-0.114[a]	-0.186[a]	-0.132[a]	-0.188[a]	-0.174[a]	-0.145[a]	-0.211[a]
	(0.037)	(0.036)	(0.048)	(0.045)	(0.034)	(0.045)	(0.044)
Latitude	0.745[a]	0.623[a]	0.343[c]	0.183	0.822[a]	0.897[a]	0.787[a]
	(0.153)	(0.157)	(0.186)	(0.182)	(0.151)	(0.159)	(0.169)
Life Exp. 1995	0.011[b]	0.012[a]	0.007	0.009[c]	0.019[a]	0.016[a]	0.018[a]
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Years of Schooling 1995			0.026	0.016			
			(0.019)	(0.018)			
Financial Depth 1995					-0.002[a]	-0.002[a]	-0.003[a]
					(0.001)	(0.001)	(0.001)
Inflation (1995-2005 average)					-0.002[b]	-0.003[b]	-0.002[a]
					(0.001)	(0.001)	(0.001)
Trade % of GDP (1995-2005 average)					0.001[b]	0.001[b]	0.001[c]
					(0.001)	(0.001)	(0.001)
Budget Deficit/Surplus (1995 -2005 average)					0.015[b]	0.015[b]	0.016[b]
					(0.007)	(0.008)	(0.008)
Gov. Index 1996	-0.008		0.007			-0.016	
	(0.012)		(0.015)			(0.015)	
Gov. Index 2005		0.028[b]		0.040[a]			0.020
		(0.012)		(0.013)			(0.014)
N	134	134	91	91	102	90	90
Adj. R^2	0.236	0.263	0.058	0.155	0.419	0.428	0.433
Std. Error	0.278	0.273	0.240	0.227	0.245	0.246	0.244

[c]sig < 0.1; [b]sig < 0.05; [a]sig. < 0.01

OLS regressions for a cross section of countries. The dependent variable is the % change in GDP per capita between 1995 and 2005. Independent variables are the initial GDP per capita (log), latitude, the average life expectancy in 1995, the average total years of schooling in 1995, financial depth (measured as broad money as a % of GDP), the average budget deficit/surplus for the period, the average level of inflation (consumer goods) for the period, the average level of trade (imports plus exports as a percent of GDP) for the period, and WBI governance indicators. Alternate specifications using the average GDP per capita growth rate as the dependent variable yielded similar results. Standard errors are in parentheses.

Table 2D GDP p.c. Growth and Governance in Low and Middle Income Countries (GDP p.c. 1995 < $US 6000)

	(1)	(2)	(3)	(4)	(5)
GDP p.c. 1995		-0.069[b]		-0.038	-0.103[a]
		(0.030)		(0.038)	(0.036)
Latitude	1.171[a]	1.293[a]	0.922[a]	1.059[a]	0.948[a]
	(0.187)	(0.191)	(0.190)	(0.181)	(0.184)
Gov. Index 1996			0.006	-0.012	
			(0.014)	(0.018)	
Gov. Index 2005					0.036[b]
					(0.017)
N	124	124	100	100	100
Adj. R^2	0.236	0.261	0.217	0.239	0.271
Std. Error	0.358	0.352	0.314	0.310	0.303

[c]sig < 0.1; [b]sig < 0.05; [a]sig. < 0.01

OLS regression results for a cross-section of countries. The dependent variable is the % change in GDP p.c. between 1995 and 2005. The independent variables are the GDP per capita in 1995 (log), the absolute value of the latitude of a country, and the aggregate WBI governance index for 1996 and 2005. Standard errors are in parentheses.

Table 3 Educational Attainment and Governance

Dep. Variable	YEARS OF SCHOOL (1995)	GOV. RATING 1996	Log GDP p.c. 1995	GDP p.c. CHANGE	N	Adj. R^2	Std. Error
GOV. INDEX 1996	1.212[a]				95	0.726	2.136
	(0.076)						
	0.486[a]		1.385[a]		92	0.808	1.755
	(0.130)		(0.225)				
Change 1996 -2005							
REGULATION	0.131[a]	-0.369[a]			102	0.213	0.473
	(0.025)	(0.079)					
	0.03571	-0.509[a]	0.238[a]		98	0.301	0.437
	(0.033)	(0.086)	(0.06)				
	0.001	-0.449[a]	0.271[a]	0.831[a]	97	.436	0.392
	(.030)	(0.078)	(0.054)	0.169			
GOV. EFFECT	0.05273[b]	-0.181[a]			101	0.082	0.339
	(0.021)	(0.055)					
	0.01347	-0.281[a]	0.133[a]		98	0.16	0.327
	(0.025)	(0.062)	(0.047)				
	-0.005	-0.319[a]	0.186[a]	0.641[a]	97	0.336	0.292
	(.023)	(0.056)	(0.043)	(0.126)			
RULE OF LAW	0.04501[b]	-0.138[b]			103	0.029	0.377
	(0.023)	(0.062)					
	0.00121	-0.135[c]	0.06851		98	0.01	0.35
	(0.027)	(0.07)	(0.051)				
	-0.021	-0.139[b]	0.107[b]	0.617[a]	97	0.177	0.319
	(0.025)	(0.065)	(0.048)	(0.136)			
CORRUPTION	0.0461[b]	-0.163[c]			95	0.066	0.359
	(0.022)	(0.056)					
	0.0016	-0.243[a]	0.138[a]		92	0.123	0.353
	(0.027)	(0.138)	(0.051)				
	-0.010	-0.257[a]	0.174[a]	0.406[a]	91	0.178	0.332
	0.026	0.061	0.050	0.147			
GOV. INDEX	0.019	-0.007			95	-0.021	1.172
	(0.080)	(0.057)					
	-0.057	-0.058	0.261		92	-0.009	1.172
	(0.093)	(0.070)	0.179				
	-0.134	-0.082	0.455[a]	2.348[a]	91	0.220	1.035
	(0.084)	(0.062)	(0.162)	(0.452)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 WBI governance index value and the changes in the WBI governance indicators and index value between 1996 and 2005. The independent variables are the average years of schooling for a person in the country's population in 1995, and the initial 1996 governance rating for the dependent variable. Results are presented with and without initial income and the percent change in GDP per capita as controls. Standard errors are in parentheses. Coefficients for a constant (included in all regressions) are not reported.

Table 4A Democracy and Governance

Dep. Variable	POLITY 1995	GOV. RATING 1996	Log GDP p.c. 1995	GDP p.c. CHANGE	N	Adj. R^2	Std. Error
GOV. INDEX 1996	0.292[a]				131	0.274	3.231
	(0.041)						
	0.104[a]		1.841[a]		125	0.756	1.859
	(0.028)		(0.116)				
Change 1996 - 2005							
REGULATION	0.01833[b]	-0.161[a]			143	0.05	0.491
	(0.007)	(0.056)					
	0.01615[b]	-0.479[a]	0.236[a]		137	0.277	0.427
	(0.006)	(0.071)	(0.035)				
	0.016[a]	-0.481[a]	0.244[a]	0.641[a]	132	0.424	0.382
	(0.006)	(0.068)	(0.033)	(0.106)			
GOV. EFFECT	0.02169[a]	-0.168[a]			143	0.155	0.381
	(0.005)	(0.035)					
	0.01732[a]	-0.363[a]	0.158[a]		137	0.272	0.352
	(0.005)	(0.052)	(0.033)				
	0.017[a]	-0.389[a]	0.179[a]	0.553[a]	132	0.439	0.313
	(0.005)	(0.047)	(0.030)	(0.087)			
RULE OF LAW	0.00673	-0.1[a]			140	0.043	0.362
	(0.005)	(0.035)					
	0.006269	-0.222[a]	0.08818[b]		134	0.077	0.361
	(0.005)	(0.061)	(0.037)				
	0.006	-0.222[a]	0.095[a]	0.435[a]	130	0.193	0.341
	(0.005)	(0.059)	(0.036)	(0.097)			
CORRUPTION	0.0005599	-0.129[a]			131	0.076	0.432
	(0.006)	(0.041)					
	-0.002036	-0.381[a]	0.222[a]		125	0.324	0.365
	(0.006)	(0.051)	(0.033)				
	-0.001	-0.369[a]	0.223[a]	0.292[a]	121	0.348	0.353
	(006)	(0.050)	(0.032)	(0.103)			
GOV. INDEX	0.019	-0.038			131	-0.003	1.223
	(0.018)	(0.033)					
	0.020	-0.167[a]	0.346[a]		125	0.044	1.192
	(0.019)	(0.058)	(0.130)				
	0.022	-0.161[a]	0.374[a]	1.887[a]	121	0.265	1.054
	(0.017)	(0.052)	(0.117)	(0.308)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 WBI governance index value and the changes in the WBI governance indicators and index value between 1996 and 2005. The independent variables are the Polity IV polity measure of democracy/autocracy (scored from -10 to 10 with -10 indicating a pure autocracy and 10 indicating a pure democracy), taken for the regime in power in 1995, and the initial 1996 governance rating for the dependent variable. Results are presented with and without initial income and growth as controls. Standard errors are in parentheses.

Table 4B Democracy and Governance in Low Income Countries

	GOV. EFFECTIVENESS	REGULATION	GOV. INDEX
GPD p.c. 1995			
<$4000	0.020[a]	0.019[a]	0.050[b]
	(0.006)	(0.007)	(0.184)
GDP p.c. 1995			
<$2000	0.015[b]	0.012	0.031
	(0.006)	(0.007)	(0.022)

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

Cell entries indicate coefficients of the Polity IV polity variable in regressions the change in the WBI governance indicators for Government Effectiveness, Regulatory Quality, and an aggregate governance index between 1996 and 2005. Other independent variables included in the regressions, but not reported, are the initial values for the 1996 governance indicators, the initial 1995 GDP per capita (in log), and the percent change in GDP per capita over the period.

Table 5 Ethnic Fractionalization and Governance

Dep. Variable	ETHNIC FRACTION.	GOV. RATING 1996	Log GDP p.c. 1995	GDP p.c. CHANGE	N	Adj. R^2	Std. Error
GOV. INDEX 1996	-7.249[a]				147	0.208	3.562
	(1.151)						
	-0.882		1.979[a]		139	0.740	2.004
	(0.773)		(0.119)				
Change 1996 - 2005							
REGULATION	-0.654[a]	-0.219[a]			177	0.134	0.57
	(0.172)	(0.046)					
	-0.175	-0.592[a]	0.308[a]		167	0.398	0.475
	(0.161)	(0.059)	(0.037)				
	-0.026	-0.482[a]	0.281[a]	0.565[a]	156	0.468	0.417
	(0.144)	(0.059)	(0.034)	(0.092)			
GOV. EFFECT	-0.389[a]	-0.147[a]			175	0.084	0.459
	(0.143)	(0.037)					
	-0.157	-0.44[a]	0.232[a]		166	0.309	0.398
	(0.134)	(0.051)	(0.034)				
	-0.009	-0.416[a]	0.231[a]	0.528[a]	155	0.409	0.347
	(0.120)	(0.047)	(0.031)	(0.089)			
RULE OF LAW	-0.265[c]	-0.102[a]			163	0.039	0.409
	(0.141)	(0.036)					
	-0.114	-0.289[a]	0.138[a]		153	0.131	0.377
	(0.139)	(0.057)	(0.035)				
	-0.036	-0.278[a]	0.143[a]	0.273[a]	147	0.185	0.367
	(0.139)	(0.056)	(0.035)	(0.083)			
CORRUPTION	0.0125	-0.122[a]			147	0.073	0.441
	(0.081)	(0.038)					
	0.152	-0.388[a]	0.228[a]		139	0.314	0.377
	(0.147)	(0.049)	(0.033)				
	0.262[c]	-0.369[a]	0.236[a]	0.336[a]	133	0.348	0.361
	(0.147)	(0.048)	(0.033)	(0.102)			
GOV. INDEX	-0.457	-0.051			147	0.004	1.371
	(0.500)	(0.032)					
	-0.331	-0.229[a]	0.468[a]		139	0.091	1.316
	(0.510)	(0.056)	(0.136)				
	0.486	-0.194[a]	0.516[a]	1.936[a]	133	0.267	1.161
	(0.474)	(0.051)	(0.123)	(0.329)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 WBI governance index value and the changes in the WBI governance indicators and index value between 1996 and 2005. The independent variables are an index of ethnic fractionalization, and the initial 1996 governance rating for the dependent variable. Results are presented with and without initial income as a control. Standard errors are in parentheses.

Table 6 Origin of the Legal System and Governance

	ORIGIN OF LEGAL SYSTEM									
Dep. Variable	SOC.	FRENCH	GERM.	SCAND.	GOV. 1996	Log GDP p.c. 1995	GDP p.c. CHG.	N	Adj. R^2	Std. Err.
GOV. INDEX 1996	-2.202[a]	-1.399[b]	3.748[b]	6.508[a]						
	(0.836)	(0.694)	(1.556)	(1.688)						
	-1.267[a]	-1.106[a]	1.068	1.605[c]		1.864[a]		143	0.755	1.929
	(0.461)	(0.382)	(1.045)	(0.95)		(0.108)				
Change 1996 - 2005										
REGULATION	0.096	-0.278[a]	0.211	0.72[a]	-0.201[a]			181	0.165	0.554
	(0.122)	(0.095)	(0.238)	(0.261)	(0.045)					
	0.132	-0.241[a]	0.01198	0.293	-0.582[a]	0.302[a]		171	0.455	0.448
	(0.101)	(0.079)	(0.24)	(0.218)	(0.056)	(0.033)				
	-0.034	-0.150[b]	0.121	0.328	-0.488[a]	0.263[a]	0.517[a]	159	0.489	0.406
	(0.106)	(0.076)	(0.220)	(0.200)	(0.057)	(0.032)	(0.106)			
GOV. EFFECT	0.102	-0.176[b]	-0.322	0.287	-0.123[a]			179	0.107	0.45
	(0.101)	(0.078)	(0.198)	(0.221)	(0.038)					
	0.104	-0.191[a]	-0.225	0.278	-0.459[a]	0.244[a]		170	0.37	0.377
	(0.086)	(0.067)	(0.204)	(0.186)	(0.05)	(0.03)				
	-0.014	-0.086	-0.111	0.316	-0.439[c]	0.231[a]	0.486[a]	158	0.423	0.340
	(0.091)	(0.064)	(0.187)	(0.170)	(0.048)	(0.029)	(0.103)			
RULE OF LAW	0.096	-0.022	0.072	0.276	-0.085[b]			166	0.022	0.409
	(0.094)	(0.076)	(0.181)	(0.202)	(0.036)					
	0.081	-0.041	0.123	0.31[c]	-0.302[a]	0.142[a]		156	0.139	0.372
	(0.088)	(0.072)	(0.202)	(0.185)	(0.059)	0.034				
	-0.022	0.005	0.183	0.323[c]	-0.303[a]	0.142[a]	0.294[a]	149	0.187	0.365
	(0.098)	(0.073)	(0.200)	(0.183)	(0.059)	(0.034)	(0.096)			
CORRUPTION	0.013	-0.060	0.011	0.345	-0.148[a]			149	0.078	0.4363
	(0.104)	(0.085)	(0.195)	(0.221)	(0.038)					
	-0.010	-0.105	0.195	0.4[b]	-0.439[a]	0.222[a]		141	0.340	0.3677
	(0.089)	(0.073)	(0.201)	(0.187)	(0.051)	(0.031)				
	-0.134	-0.090	0.223	0.373[b]	-0.433[a]	0.222[a]	0.331[a]	135	0.365	0.354
	(0.098)	(0.074)	(0.196)	(0.182)	(0.050)	(0.031)	(0.116)			
GOV. INDEX	0.743[b]	-0.025	-0.113	1.280[c]	-0.041			150	0.054	1.324
	(0.316)	(0.261)	(0.587)	(0.655)	(0.030)					
	0.652[c]	-0.222	0.195	1.283[b]	-0.237[a]	0.485[a]		142	0.156	1.255
	(0.308)	(0.256)	(0.683)	(0.625)	(0.057)	(0.128)				
	0.022	-0.042	0.407	1.207[b]	-0.226[a]	0.483[a]	1.807[a]	135	0.272	1.149
	(0.319)	(0.244)	(0.633)	(0.578)	(0.053)	(0.121)	(0.375)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 Governance index and changes in the WBI governance indicators and index between 1996 and 2005. The independent variables are origin of the legal system (Socialist, French, German, Scandinavian, or English) , and the initial 1996 governance rating for the dependent variable. Following La Porta et al. (1999), the English legal origin is the omitted variable. Results are presented with and without initial income as a control. Standard errors are in parentheses. In the final regressions, the dependent variable is the initial aggregate governance rating for 1996, and results are presented with and without a control for latitude.

Table 7 Religious Affiliation and Governance

	RELIGION (% of Population)								
Dep. Variable	CATH.	MUSLIM	OTHER	GOV. RATE 1996	GDP p.c. 1995	GDP p.c. CHG.	N	Adj. R^2	Std. Error
GOV. INDEX 1996	-0.047[a]	-0.075[a]	-0.060[a]				149	0.147	3.682
	(0.016)	(0.015)	(0.016)						
	-0.023[a]	-0.019[b]	-0.006		2.022[a]		141	0.751	1.950
	(0.009)	(0.009)	(0.009)		(0.109)				
Change 1996 - 2005									
REGULATION	-0.006[b]	-0.007[a]	-0.006[b]	-0.197[a]			177	0.104	0.561
	(0.002)	(0.002)	(0.002)	(0.046)					
	-0.003[c]	-0.004[b]	-0.001	-0.600[a]	0.314[a]		168	0.418	0.45
	(0.002)	(0.002)	(0.002)	(0.057)	(0.034)				
	-0.004[b]	-0.004[b]	-0.003[c]	-0.474[a]	0.263[a]	0.533[a]	156	0.467	0.401
	0.002	0.002	0.002	0.058	0.032	0.095			
GOV. EFFECT	-0.002	-0.005[a]	-0.004[b]	-0.143[a]			175	0.091	0.447
	(0.002)	(0.002)	(0.002)	(0.035)					
	-0.003[b]	-0.004[a]	-0.002	-0.463[a]	0.244[a]		167	0.326	0.385
	(0.002)	(0.002)	(0.002)	(0.051)	(0.033)				
	-0.004[b]	-0.004[a]	-0.004[b]	-0.428[a]	0.221[a]	0.546[a]	155	0.413	0.338
	(0.001)	(0.001)	(0.002)	(0.048)	(0.031)	(0.093)			
RULE OF LAW	-0.002	-0.002	-0.001	-0.077[a]			163	0.011	0.407
	(0.002)	(0.002)	(0.002)	(0.034)					
	-0.002	-0.001	-0.001	-0.294[a]	0.152[a]		153	0.118	0.372
	(0.002)	(0.002)	(0.002)	(0.059)	(0.036)				
	-0.002	-0.001	-0.002	-0.285[a]	0.149[a]	0.257[a]	146	0.161	0.366
	(0.002)	(0.002)	(0.002)	(0.059)	(0.036)	(0.086)			
CORRUPTION	-0.004[b]	-0.004[b]	-0.006[a]	-0.155[a]			148	0.116	0.427
	(0.002)	(0.002)	(0.002)	(0.036)					
	-0.006[a]	-0.005[a]	-0.005[a]	-0.443[a]	0.234[a]		140	0.356	0.363
	(0.002)	(0.002)	(0.002)	(0.05)	(0.033)				
	-0.005[a]	-0.004[b]	-0.005[a]	-0.425[a]	0.231[a]	0.304[a]	133	0.371	0.352
	0.002	0.002	0.002	0.050	0.033	0.103			
GOV. INDEX	-0.014[b]	-0.013[b]	-0.015[b]	-0.056[c]			148	0.027	1.315
	0.006	0.006	0.006	0.030					
	-0.016[a]	-0.014[b]	-0.012[b]	-0.252[a]	0.510[a]		140	0.119	1.255
	0.006	0.006	0.006	0.056	0.135				
	-0.014[a]	-0.012[b]	-0.017[a]	-0.207[a]	0.446[a]	1.900[a]	133	0.278	1.117
	0.005	0.005	0.006	0.052	0.124	0.328			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 Governance index and changes in the WBI governance indicators and index between 1996 and 2005. The independent variables are the % of the population Catholic, the % of the population Muslim, the % of the population following other religions, and the initial 1996 governance rating for the dependent variable. Following La Porta et al. (1999), the % of the population Protestant is the omitted variable. Results are presented with and without initial income as a control. Standard errors are in parentheses.

Table 8 Oil Export and Governance

Dep. Variable	OIL EXPORT	GOV. RATING 1996	Log GDP p.c. 1995	GDP p.c. CHANGE	N	Adj. R^2	Std. Error
GOV. INDEX 1996	-0.236						
	(0.873)						
	-1.705[a]		2.080[a]		143	0.754	1.936
	(0.445)		(0.099)				
Change 1996 - 2005							
REGULATION	-0.146	-0.165[a]			181	0.067	0.586
	(0.126)	(0.045)					
	-0.425[a]	-0.634[a]	0.355[a]		171	0.451	0.450
	(0.104)	(0.056)	(0.033)				
	-0.314[a]	-0.534[a]	0.315[a]	0.538[a]	159	0.503	0.401
	(0.099)	(0.058)	(0.032)	(0.088)			
GOV. EFFECT	0.01468	-0.112[a]			179	0.046	0.465
	(0.1)	(0.034)					
	-0.219[b]	-0.471[a]	0.267[a]		170	0.327	0.389
	(0.092)	(0.051)	(0.033)				
	-0.137	-0.439[a]	0.247[a]	0.524[a]	158	0.419	0.342
	(0.085)	(0.048)	(0.031)	(0.086)			
RULE OF LAW	-0.02162	-0.06981[b]			166	0.018	0.410
	(0.089)	(0.032)					
	-0.183[b]	-0.313[a]	0.166[a]		156	0.148	0.370
	(0.089)	(0.057)	(0.035)				
	-0.146	-0.303[a]	0.163[a]	0.268[a]	149	0.197	0.362
	(0.091)	(0.057)	(0.035)	(0.080)			
CORRUPTION	0.116	-0.121[a]			150	0.083	0.435
	(0.095)	(0.033)					
	-0.125	-0.416[a]	0.236[a]		142	0.321	0.373
	(0.089)	(0.05)	(0.033)				
	-0.102	-0.397[a]	0.232[a]	0.279[a]	135	0.341	0.361
	(0.090)	(0.050)	(0.033)	(0.098)			
GOV. INDEX	-0.018	-0.037			150	-0.001	1.362
	(0.298)	(0.028)					
	-0.607[c]	-0.261[a]	0.581[a]		142	0.111	1.288
	(0.314)	(0.058)	(0.139)				
	-0.286	-0.220[a]	0.535[a]	1.821[a]	135	0.267	1.153
	(0.298)	(0.054)	(0.129)	(0.315)			

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

OLS regressions for a cross section of countries. The dependent variables are the 1996 WBI governance index value and the changes in the WBI governance indicators and index value between 1996 and 2005. The independent variables are a dummy variable equal to one if the country is an oil exporter and zero otherwise, and the initial 1996 governance rating for the dependent variable. Results are presented with and without initial income and growth as controls. Standard errors are in parentheses.

Table 9 Aid Dependence and Governance

	(1)	(2)	(3)	(4)
	OLS		2SLS	
	AID/GNI	AID/GOV.	AID/GNI	AID/GOV.
Constant	-0.639[b]	-0.604[c]	-0.624[b]	-0.577
	(0.269)	(0.355)	(0.273)	(0.361)
Gov. Index 1996	-0.080	-0.041	-0.103	-0.082
	(0.049)	(0.062)	(0.0548)	(0.070)
Population Change	-0.240	-0.627	-0.028	-0.156
	(0.938)	(1.215)	(0.969)	(1.279)
GDP p.c. Change	1.631[a]	1.521[a]	1.639[a]	1.623[a]
	(0.392)	(0.516)	(0.396)	(0.528)
Aid	-0.009	-0.001	-0.024	-0.009
	(0.018)	(0.005)	(0.023)	(0.008)
N	110	85	110	85
Adj. R^2	0.179	0.135	0.183	0.142
Std. error of est.	1.250	1.313	1.260	1.330

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

Regression results for a cross section of countries. The dependent variable is the change in the WBI governance index between 1996 and 2005. Independent variables are the initial 1996 value for the governance index, the percent change in the population between 1995 and 2005, the percent change in GDP per capita between 1995 and 2005, and variables for aid. Exogenous instruments in 2SLS specifications include infant mortality in 1995, the log of GDP per capita in 1995, and the log of the total population in 1995. Standard errors are in parentheses.

Table 10 Aid Dependence and Governance: Alternate Samples

		OLS		2SLS		N (GNI, GOV)
		AID/GNI	AID/GOV	AID/GNI	AID/GOV	
(1)	basic	-0.009	-0.001	-0.024	-0.009	110,85
		(0.018)	(0.005)	(0.023)	(0.008)	
(2)	1995 Pop. > 1 million	-0.002	-0.001	-0.020	-0.009	106,84
		(0.017)	(0.005)	(0.022)	(0.007)	
(3)	1995 GDP p.c. < $4000	-0.001	0.000	-0.022	-0.010	92,70
		(0.018)	(0.005)	(0.023)	(0.008)	
(4)	1995 GDP p.c. < $2000	0.004	0.003	-0.010	-0.005	74,53
		(0.017)	(0.005)	(0.021)	(0.007)	
(5)	High Aid	-0.021	0.002	-0.057	-0.007	40,30
		(0.022)	(0.006)	(0.034)	(0.012)	
(6)	Africa only	-0.017	-0.007	-0.047	-0.009	34,23
		(0.022)	(0.008)	(0.030)	(0.010)	
(7)	TA only	-0.852	-0.130	-1.505	-0.204	100,96
		(0.884)	(0.101)	(1.158)	(0.140)	

Cell entries indicate coefficients and standard errors for aid variables. The dependent variable is the change the WBI governance index between 1996 and 2005. Independent variables are the initial 1996 value for the governance index, the percent change in the population between 1995 and 2005, the percent change in GDP per capita between 1995 and 2005, and variables for aid. Exogenous instruments in 2SLS specifications include infant mortality in 1995, the log of GDP per capita in 1995, and the log of the total population in 1995. The 'High Aid' sample includes only countries where AID/GNI > 5 or AID/GOV > 15. No aid coefficients are statistically significant at the 90% confidence interval.

Table 11 Aid Dependence and Governance with Initial Income

	(1)	(2)	(3)	(4)
	OLS		2SLS	
	AID/GNI	AID/GOV	AID/GNI	AID/GOV
Constant	-5.521[a]	-5.495[a]	-7.083[a]	-7.554[a]
	(1.279)	(1.518)	(1.648)	(2.259)
Gov. Index 1996	-0.239[a]	-0.211[a]	-0.254[a]	-0.227[a]
	(0.062)	(0.078)	(0.065)	(0.082)
Population Change	-0.107	-0.677	-0.479	-1.309
	(0.881)	(1.147)	(0.934)	(1.289)
GDP p.c. Change	1.826[a]	1.581[a]	1.864[a]	1.474[a]
	(0.372)	(0.487)	(0.382)	(0.512)
Log GDP p.c. 1995	0.620[a]	0.632[a]	0.813[a]	0.893[a]
	(0.159)	(0.191)	(0.205)	(0.286)
Aid	0.038[c]	0.009	0.081[b]	0.024[c]
	(0.021)	(0.006)	(0.035)	(0.013)
N	110	85	110	85
Adj. R2	0.276	0.229	0.277	0.221
Std. error of est.	1.174	1.239	1.204	1.286

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

Regression results for a cross section of countries. The dependent variable is the change in the WBI governance index between 1996 and 2005. Independent variables are the initial 1996 value for the governance index, the percent change in the population between 1995 and 2005, the percent change in GDP per capita between 1995 and 2005, the log of GDP per capita in 1995, and variables for aid. Additional exogenous instruments in 2SLS specifications include infant mortality in 1995, and the log of the total population in 1995. Standard errors are in parentheses.

Table 12 Aid Dependence and Governance with Initial income: Alternate Samples

		OLS		2SLS		N (GNI, GOV)
		AID/GNI	AID/GOV	AID/GNI	AID/GOV	
(1)	basic	0.038[c]	0.009	0.081[b]	0.024[c]	110,85
		(0.021)	(0.006)	(0.035)	(0.013)	
(2)	1995 Pop. > 1 million	0.037[c]	0.008	0.065[c]	0.016	106,83
		(0.020)	(0.006)	(0.035)	(0.012)	
(3)	1995 GDP p.c. < $4000	0.040[c]	0.011[c]	0.056[c]	0.016	92,70
		(0.021)	(0.006)	(0.033)	(0.012)	
(4)	1995 GDP p.c. < $2000	0.022	0.008	0.016	0.000	74,53
		(0.020)	(0.006)	(0.031)	(0.011)	
(5)	High Aid	-0.014	0.004	-0.062	0.000	40,30
		(0.025)	(0.006)	(0.046)	(0.013)	
(6)	Africa only	0.001	-0.004	-0.036	-0.005	34,23
		(0.027)	(0.011)	(0.045)	(0.019)	
(7)	TA only	1.299	0.090	3.408[c]	0.463[c]	100,96
		(1.040)	(0.119)	(1.769)	(0.244)	

[c]sig. < 0.1; [b]sig. <0.05; [a]sig. <0.001

Cell entries indicate coefficients and standard errors for aid variables. The dependent variable is the change in the WBI governance index between 1996 and 2005. Independent variables are the initial 1996 value for the governance index, the percent change in the population between 1995 and 2005, the percent change in GDP per capita between 1995 and 2005, the log of GDP per capita in 1995, and variables for aid. Exogenous instruments in 2SLS specifications include infant mortality in 1995, and the log of the total population in 1995. The 'High Aid' sample includes only countries where AID/GNI > 5% or AID/GOV > 15%. No aid coefficients are statistically significant at the 90% confidence interval.

Table 13 Aid Dependence and Governance Component Indicators

Dependent Variable	REGULATION		GOV. EFFECTIVENESS		RULE OF LAW		CORRUPTION	
Aid Variable	AID/GNI	TA/GDP	AID/GNI	TA/GDP	AID/GNI	TA/GDP	AID/GNI	TA/GDP
Ind. Variables								
CONSTANT	-0.146	-0.254[b]	0.026	-0.0615	-0.135[c]	-0.208[b]	-0.183[b]	-0.25[b]
	(0.09)	(0.101)	(0.078)	(0.089)	(0.076)	(0.088)	(0.088)	(0.098)
Gov. Rating 1996	-0.308[a]	-0.312[a]	-0.202[a]	-0.171[a]	-0.209[a]	-0.218[a]	-0.267[a]	-0.271[a]
	(0.061)	(0.06)	(0.056)	(0.056)	(0.056)	(0.057)	(0.056)	(0.055)
GDP p.c. % Change	0.502[a]	0.448[a]	0.324[a]	0.253[b]	0.202[b]	0.173[c]	0.243[c]	0.183
	(0.118)	(0.124)	(0.113)	(0.12)	(0.098)	(0.103)	(0.128)	(0.13)
Population % Change	-0.417	-0.155	-0.405	-0.258	-0.298	-0.14	0.238	0.569[c]
	(0.323)	(0.33)	(0.27)	(0.278)	(0.275)	(0.29)	(0.308)	(0.314)
AID (OLS)	-0.0106[c]	-0.268	-0.0134[a]	-0.239	-0.00251	0.0453	-0.010[c]	-0.607[b]
	(0.006)	(0.184)	(0.005)	(0.152)	(0.005)	(0.265)	(0.006)	(0.274)
N	133	121	132	120	124	112	110	98
Adj. R^2	0.35	0.326	0.209	0.116	0.145	0.143	0.177	0.216
Std. error	0.483	0.479	0.398	0.399	0.401	0.41	0.411	0.397
AID (2SLS)	-0.0237[a]	-0.2889	-0.0252[a]	-0.462[b]	-0.011	-0.482	-0.0249[a]	-1.168[a]
	(0.008)	(0.274)	(0.006)	(0.226)	(0.007)	(0.369)	(0.008)	(0.361)

[c] sig. < 0.1; [b] sig. < 0.05; [a] sig. < 0.01

Regression results for a cross section of countries. The dependent variables are the changes in the WBI governance indicators between 1996 and 2005. The independent variables are the initial 1996 governance rating for the dependent variable, the % change in GDP per capita between 1995 and 2005, the % change in the population between 1995 and 2005, and two measures of aid (the average level of aid as a % of GNI and the average level of technical assistance as % of GDP, 1995-2005). Coefficients for the aid variable from 2SLS regressions are also presented, where additional instruments for aid were the log of population in 1995 and infant mortality in 1995 (see Appendix B for details on 2SLS specifications). Standard errors are in parentheses.

Table 14 Aid Dependence and Governance Component Indicators with Initial Income

Dependent Variable	REGULATION		GOV. EFFECTIVENESS		RULE OF LAW		CORRUPTION	
Aid Variable	AID/GNI	TA/GDP	AID/GNI	TA/GDP	AID/GNI	TA/GDP	AID/GNI	TA/GDP
Ind. Variables								
CONSTANT	-2.294[a]	-1.936[a]	-2.050[a]	-1.745[a]	-1.691[a]	-1.745[a]	-2.388[a]	-1.936[a]
	(0.359)	(0.298)	(0.328)	(0.268)	(0.357)	(0.351)	(0.333)	(0.353)
Log GDP p.c.1995	0.272[a]	0.225[a]	0.251[a]	0.210[a]	0.193[a]	0.194[a]	0.285[a]	0.229[a]
	(0.046)	(0.040)	(0.041)	(0.034)	(.045)	(0.045)	(0.042)	(0.044)
GDP p.c. %Change	0.578[a]	0.475[a]	0.524[a]	0.424[a]	0.275[a]	0.233[b]	0.307[a]	0.21[c]
	(0.098)	(0.103)	(0.094)	(0.100)	(0.085)	(0.090)	(0.097)	(0.109)
Gov. Rating 1996	-0.488[a]	-0.515[a]	-0.420[a]	-0.400[a]	-0.381[a]	-0.404[a]	-0.482[a]	-0.473[a]
	(0.063)	(0.064)	(0.061)	(0.062)	(0.066)	(0.068)	(0.057)	(0.062)
AID (OLS)	0.008	0.052	0.0051	0.095	0.0104[c]	0.746[b]	0.0173[a]	0.462
	(0.006)	(0.173)	(0.005)	(0.143)	(0.006)	(0.293)	(0.006)	(0.312)
N	133	121	132	120	124	112	110	98
Adj. R^2	0.464	0.469	0.380	0.330	0.250	0.269	0.427	0.371
Std. error of est.	0.432	0.425	0.353	0.347	0.376	0.379	0.343	0.355
AID (2SLS)	0.018[c]	0.534[c]	0.010	0.330	0.020[c]	0.898[c]	0.0238[b]	1.047[c]
	(0.010)	(0.291)	(.009)	(0.238)	(0.010)	(0.507)	(0.010)	(0.547)

[c] sig. < 0.1; [b] sig. < 0.05; [a] sig. < 0.01

Regression results for a cross section of countries. The dependent variables are the change in the WBI governance indicators between 1996 and 2005. The independent variables are the log of GDP per capita in 1995, the % change in GDP per capita between 1995 and 2005, the initial 1996 governance rating for the dependent variable, and two measures of aid (the average level of aid as a % of GNI and the average level of technical assistance as % of GDP, 1995-2005). Coefficients for the aid variable from 2SLS regressions are also presented, where additional instruments for aid were the log of population in 1995 and infant mortality in 1995 (see Appendix B for details on 2SLS specifications). Standard errors are in parentheses

Table 15 Aggregate Models of Governance Quality and Change in Government Quality

	Coefficient sign where	Gov. Index	Change, 1996 – 2005									
					Gov.		Rule					
Dep. Variable	$p < 0.1$	1996	Regulation		Effectiveness		of Law		Corruption		Gov. Index	
Ind. Variables												
1996 GOV. RATING	(-)		0.000	0.000	0.023	0.005	0.008	0.006	0.000	0.000	0.193	0.171
LOG GDP p.c. 1995	(+)	0	0.001	0.001	0.041	0.023	0.126	0.163	0.006	0.003	0.718	0.863
GDP p.c. % CHANGE	(+)			0.001		0.000		0.001		0.051		0.000
LATITUDE	(+)	0.235	0.906	0.783	0.283	0.073	0.781	0.871	0.75	0.582	0.477	0.836
YEARS SCHOOLING 1995	(+)	0.022	0.685	0.659	0.945	0.828	0.765	0.71	0.655	0.562	0.178	0.174
POLITY 1995	(+)	0.483	0.238	0.348	0.001	0.001	0.032	0.04	0.68	0.604	0.081	0.073
ETHNIC FRACT.	(+)	0.305	0.496	0.344	0.427	0.393	0.879	0.988	0.363	0.485	0.063	0.036
LAW - SOCIALIST		0.104	0.119	0.555	0.272	0.84	0.315	0.983	0.585	0.814	0.11	0.59
LAW - FRENCH		0.103	0.312	0.368	0.434	0.533	0.6	0.431	0.489	0.471	0.978	0.838
CATHOLIC		0.244	0.814	0.521	0.767	0.477	0.168	0.534	0.954	0.832	0.938	0.473
MUSLIM	(+)	0.804	0.283	0.98	0.106	0.536	0.001	0.016	0.273	0.383	0.362	0.914
OTHER RELIGION	(+)	0.847	0.462	0.575	0.725	0.355	0.025	0.303	0.464	0.653	0.925	0.215
AID/GNI	(+)		0.061	0.124	0.248	0.377	0.121	0.224	0.194	0.152	0.328	0.451
OIL EXPORTER	(-)	0.173	0.108	0.109	0.983	0.998	0.261	0.262	0.077	0.067	0.491	0.479
N		84	68	67	68	67	68	67	62	61	62	61
Adj. R^2		0.833	0.253	0.361	0.161	0.372	0.235	0.347	0.198	0.234	0.04	0.27

Cell entries indicate coefficient signs and p-values for OLS regressions on a cross section of countries. The dependent variables are the initial WBI governance index value for 1996, and the change in the component governance indicators and governance index between 1996 and 2005. Independent variables are the initial governance rating for the dependent variable, log of GDP per capita in 1995, the percent change in GDP per capita over the period, an index for latitude (absolute value), Average total years of schooling in the population for 1995, the Polity IV polity score for the regime in 1995, ethnic fractionalization, a dummy variable for socialist legal system, a dummy variable for French legal system, the percent of the population Catholic, the percent of the population Muslim, the percent of the population Other religion (excludes Protestant), the average level of aid as a percent of GNI over the period, and a dummy variable for oil exporting countries. A constant was included in all equations, but is not reported. Variables for German and Scandinavian legal systems were excluded due to high co-linearity with other independent variables.

Appendix B Variable Data Sources and Descriptive Statistics

	Governance Variables
World Bank Institute (WBI) Governance Indicators	These are survey-based composite indexes designed to assess the relative quality of governance in a country. They are constructed from multiple sources by researchers with the World Bank Institute, and, each index consists of a score between -2.5 and 2.5 with higher scores indicating better quality of governance. The indexes are constructed under the assumption that governance quality in each sub-category is normally distributed. Measures used in this study include 1996 country ratings for each indicator, the 2005 country ratings, and the difference (or change) between the two. The variables reported are the measure of change unless otherwise specified. Values used are from the 2005 estimates, which can be found in Kaufmann et al. 2006. Source: http://www.govindicators.org/.
Voice	*Voice and Accountability* - Measure of the extent to which a county's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
Stability	*Political Stability and Absence of Violence* – measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism.
Regulation	*Regulatory Quality* – measures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Gov. Effectiveness	*Government Effectiveness* – measures the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Rule of Law	*Rule of Law* - Measures the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence.
Corruption	*Control of Corruption* – Measures the extent to which public power is exercised for private gain, including petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
Gov. Index	The un-weighted sum of the regulatory quality, government effectiveness, rule of law and control of corruption indicators for a particular country for a particular year. Change refers to the difference between this value as calculated for 1996 and as calculated for 2005.
	Aid Variables
Aid/GNI	Total received Official Direct Assistance (ODA) as % GNI; average, 1995-2005. Source: *WDI*
Aid/Gov.	ODA as % of central government expenditures; average 1995-2005. Source: *WDI*
Aid/Capita	ODA per capita; average 1995 – 2005. Source: *WDI*

TA/GDP	Technical cooperation assistance as % of GDP. Technical Cooperation assistance is in current US$, averaged for 1995-2005 and divided by the country's GDP in current US$ in 2000. Source: Technical cooperation assistance data comes from the *OECD DAC Statistical Database*. GDP data for 2000 is from *WDI*.
TA/Gov.	Technical cooperation assistance as a % of central government expenditure. Construction and data sources as above, with central government expenditure in 2000.
TA/Capita	Technical cooperation assistance per capita. Construction and data sources as above; population data from 2000.
	Economic Variables
Log GDP p.c. 1995	The Natural Logarithm of GDP per capita (constant 2000 US$), 1995. Source: *WDI*
GDP p.c. Change	Change in GDP per capita between 1995 and 2005, as a percent of the 1995 value. Source: *WDI*
GDP p.c. Growth Rate	Average Annual GDP per capita growth rate; 1995-2005. Source: *WDI*
Financial Depth	Broad Money (M2) as a % of GDP; 1995. Source: *WDI*
Inflation	Annual Inflation (Consumer prices); average, 1995-2005. Source: *WDI*
Trade	Trade imports plus exports as a % of GDP; average, 1995-2005. Source: *WDI*
Budget Deficit/Surplus	Central government budget deficit or surplus; average, 1995-2005. Source: *WDI*
Oil Exporter	Dummy variable equal to 1 if the country is an oil exporting (net) country and 0 otherwise.
	Social Variables
Population Change	The change in total population between 1995 and 2005 as a percent of the 1995 value. Source: *WDI*
Secondary School Enrollment	Secondary school enrollment (net); average of available years, 1995-2005. Source: *WDI*
Years of Schooling	Average total years of schooling for a country's population; 1995. Source: *Barro and Lee (2000) (available at http://www.cid.harvard.edu/ciddata/ciddata.html)*
Infant Mortality	Infant mortality (deaths per 1,000 births); 1995. Source: *WDI*
Religion	Identifies the percentage of the population of each country that belonged to the three most widely spread religions in the world in 1980. For countries of recent formation, the data is available for 1990-95. The numbers are in percent (scale from 0 to 100). The three religions identified here are: (1) Roman Catholic; (2) Protestant; and (3) Muslim. The residual is called "other religions". Source: *La Porta et al. (1999)*
Ethnic	Ethnic Fractionalization index. Reflects the probability that two randomly selected

Fractionalization	individuals from the general population of a country belong to different ethnic groups; higher values imply greater ethnic diversity. Source: *Alesina et al. (2003)*
	Political Variables
Polity IV	Aggregate index of political regime type, scored from -20 to 20, with -20 being a total autocracy and 20 being a total democracy. Taken for regime in authority in 1995. Source: *Polity IV data set, available on line at http://www.cidcm.umd.edu/polity*.
Executive Constraints	Measure of the constraints placed on the country's chief executive in 1995, with higher values implying more significant constraints. Source: *Polity IV data set.*
Executive Recruitment	Measure of the openness of the executive recruitment process in 1995. Source: *Polity IV data set.*
Political Competition	Measure of the openness and regularity of political competition in 1995. Source: *Polity IV data set.*
Legal Origin	Identifies the legal origin of the Company Law or Commercial Code of each country. There are five possible origins: (1) English Common Law; (2) French Commercial Code; (3) German Commercial Code; (4) Scandinavian Commercial Code; and (5) Socialist/Communist laws. Source: *La Porta et al. (1999)*
	Other Variables
Latitude	The absolute value of the latitude of the country, scaled to take values between 0 and 1. Source: *La Porta et al. (1999)*

WBI Governance Measure Correlations

Correlations	REGULATION	GOV. EFFECTIVENESS	RULE OF LAW	CORRUPTION	GOV. INDEX
1996 Ratings					
REGULATION	1	0.806	0.787	0.753	0.889
GOV. EFFECTIVENESS	0.806	1	0.919	0.915	0.970
RULE OF LAW	0.787	0.919	1	0.915	0.969
CORRUPTION	0.753	0.915	0.915	1	0.950
GOV. INDEX	0.889	0.970	0.969	0.950	1
Change, 1996-2005					
REGULATION	1	0.565	0.368	0.28	0.761
GOV. EFFECTIVENESS	0.565	1	0.549	0.427	0.816
RULE OF LAW	0.368	0.549	1	0.458	0.764
CORRUPTION	0.28	0.427	0.458	1	0.700
GOV. INDEX	0.761	0.816	0.764	0.700	1

WBI Governance Measure Descriptive Statistics

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
1996 Ratings					
REGULATION	183	-3	3.34	-0.0463	0.96329
GOV. EFFECTIVENESS	181	-1.8	2.53	-0.0386	1.00903
RULE OF LAW	168	-2.22	2.14	-0.0524	1.00708
CORRUPTION	152	-2.13	2.44	0.0097	1.08224
GOV. INDEX	151	-8.79	8.74	0.0508	3.97557
Change, 1996-2005					
REGULATION	182	-2.4	1.57	-0.0068	0.60658
GOV. EFFECTIVENESS	180	-1.43	1.44	-0.0075	0.47585
RULE OF LAW	167	-1.18	1.77	-0.068	0.41329
CORRUPTION	151	-1.69	0.92	-0.0448	0.45423
GOV. INDEX	151	-5.09	4.00	-0.1521	1.36134

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
AID/GNI	158	-0.22	85.7	7.9863	11.57633
TECH/GDP	148	0	2.46	0.1942	0.31989
GDP p.c. CHANGE	164	-0.29	2.73	0.3021	0.37058
SECONDARY SCHL. ENROLLMENT	147	3.91	99.63	61.518	27.55766
YEARS OF SCHOOLING 1995	104	0.69	12.18	5.7505	2.90383
POLITY IV SCORE 1995	145	-10	10	2.66	6.956
LOG GDP p.c. 1995	178	4.03	10.51	7.4532	1.58915
OIL EXPORTER	216	0	1	0.1157	0.32066
ETHNIC FRACTIONALIZATION	189	0	0.93	0.439	0.25812
LAW ENGLISH	216	0	1	0.3148	0.46552
LAW SOCIALIST	216	0	1	0.1574	0.36503
LAW FRENCH	216	0	1	0.4167	0.49415
LAW GERMAN	216	0	1	0.0324	0.17749
LAW SCANDINAVIAN	216	0	1	0.0231	0.15072
PROTESTANT	203	0	98.6	14.402	22.74897
CATHOLIC	203	0	99.1	33.2013	36.40411
MUSLIM	201	0	99.9	21.3833	35.0376
OTHER RELIGION	200	0	100	30.7588	31.68366
LATITUDE	201	0	0.8	0.2787	0.18703
POPULATION CHANGE	191	-0.24	0.88	0.1653	0.14495
BUDGET DEFICIT/SURPLUS	133	-18.54	12.66	-1.6233	3.78412
INFLATION	165	-1.33	547.48	13.008	46.45252
FINANCIAL DEPTH 1995	154	6.03	439	43.6057	44.17934
TRADE (% OF GDP)	184	2.09	404.78	89.5536	51.59757
INFANT MORTALITY 1995	185	3.9	176	47.9039	41.13338

Appendix C Instrumenting for Aid

Below are OLS regression results when aid levels are estimated using the four exogenous variables: the initial governance rating, the initial GDP per capita (log), the initial population (log), and the initial infant mortality rate. These variables explain 56% of the variation in the general sample for the average level of AID as percent of GNI for the period and 42% of the variation for technical assistance as a percent of GDP.

Dependent Variable	AID/GNI (average, 1995-2005)	TA/GDP (average, 1995-2005)
Independent Variables		
(Constant)	66.848[a]	2.1[a]
	(7.748)	(0.236)
Gov. Index 1996	2.93[a]	0.083[b]
	(1.077)	(0.033)
Log GDP p.c. 1995	-4.419[a]	-0.142[a]
	(0.715)	(0.022)
Log Population 1995	-2.013[a]	-0.058[a]
	(0.274)	(0.008)
Infant Mortality 1995	0.060[a]	-0.001
	(0.021)	(0.001)
N	146	134
Adj. R^2	0.561	0.423
Std. error of est.	6.082	0.183

c sig. < 0.1; b sig. < 0.05; a sig. < 0.01

OLS regressions for a cross-section of countries. The dependent variables are the average level of aid as % of GNI and technical assistance as a % of GDP between 1995 and 2005. The independent variables are the aggregate governance rating in 1996, the log of GDP per capita in 1995, the log of the total population in 1995, and infant mortality in 1995.

Appendix D Large Changes in Governance Ratings, 1996-2005

The following tables document instances of countries with large changes in their WBI governance ratings between 1996 and 2005. Countries with changes above or below 1.0 in the aggregate governance index (the sum of the four component variables) are listed in the first table. Countries with changes greater or less than 0.5 in their component indicator scores are recorded in the following tables, in descending order. Inclusion in this list roughly corresponds to changes in the governance indicators statistically significant at the 70% confidence interval. Countries with changes greater or less than 0.8 are in bold, roughly corresponding to changes significant at the 90% confidence interval (see for Kaufmann et al. (2002) for details on calculating the exact statistical significance of observed changes in these ratings). Average initial income levels are below for comparison.

Gov. Index Δ	*>1.0*		*<1.0*	
Country	**MALTA**	4.00	UNITED KINGDOM	-1.04
	ICELAND	3.08	CHINA	-1.05
	LIBERIA	3.05	MONGOLIA	-1.12
	LITHUANIA	2.90	ZAMBIA	-1.12
	LATVIA	2.80	NAMIBIA	-1.15
	BAHAMAS	2.65	EGYPT	-1.20
	TAJIKISTAN	2.49	PHILIPPINES	-1.24
	CROATIA	2.43	TOGO	-1.24
	SERBIA AND MONTENEGRO	2.20	MOROCCO	-1.25
	SURINAME	2.18	ECUADOR	-1.27
	BULGARIA	2.14	MOLDOVA	-1.31
	ESTONIA	2.02	KYRGYZ REPUBLIC	-1.32
	SLOVAK REPUBLIC	1.95	BOLIVIA	-1.42
	ROMANIA	1.63	ALBANIA	-1.54
	CONGO, DEM. REP. (ZAIRE)	1.57	BANGLADESH	-1.62
	TANZANIA	1.31	PERU	-1.66
	GABON	1.26	NEPAL	-1.73
	ARMENIA	1.25	VENEZUELA	-1.76
	AZERBAIJAN	1.20	MYANMAR	-1.80
	MOZAMBIQUE	1.12	PAPUA NEW GUINEA	-1.80
	UKRAINE	1.11	GUINEA-BISSAU	-1.87
	BOTSWANA	1.09	GUYANA	-1.98
	HUNGARY	1.08	ISRAEL	-2.00
			GUINEA	-2.06
			INDONESIA	-2.06
			KOREA, NORTH	-2.11
			CUBA	-2.28
			PARAGUAY	-2.54
			BRUNEI	-3.31
			ARGENTINA	-3.41
			IVORY COAST	-4.67
			ZIMBABWE	-5.09
Average GDP per capita 1995 (constant 2000 US$)	$3,539		$2,838	

Regulatory Quality Δ	*>0.5*		*<-0.5*	
Country	**BOSNIA-HERZEGOVINA**	1.57	MOROCCO	-0.50
	ICELAND	1.44	TONGA	-0.53
	ST. VINCENT AND THE GRENADINES	1.37	SRI LANKA	-0.54
	LIBERIA	1.30	LEBANON	-0.54
	ST. KITTS AND NEVIS	1.29	EL SALVADOR	-0.57
	ST. LUCIA	1.29	KIRIBATI	-0.60
	GAMBIA	1.14	MALI	-0.62
	SEYCHELLES	1.10	BANGLADESH	-0.65
	DOMINICA	0.98	GUYANA	-0.66
	ARMENIA	0.93	URUGUAY	-0.66
	SERBIA AND MONTENEGRO	0.91	BENIN	-0.66
	SLOVAK REPUBLIC	0.86	INDONESIA	-0.67
	LITHUANIA	0.85	**IVORY COAST**	-0.82
	TAJIKISTAN	0.85	**ECUADOR**	-0.83
	MALTA	0.81	**DJIBOUTI**	-0.84
	IRAQ	0.78	**COMOROS**	-0.89
	ROMANIA	0.77	**GUINEA**	-0.92
	BARBADOS	0.70	**CENTRAL AFRICAN REPUBLIC**	-0.92
	AZERBAIJAN	0.67	**ZAMBIA**	-0.93
	HUNGARY	0.66	**CHAD**	-0.93
	BULGARIA	0.66	**VENEZUELA**	-0.96
	TURKMENISTAN	0.66	**CUBA**	-0.99
	SOMALIA	0.65	**MYANMAR**	-1.01
	CONGO, DEM. REP. (ZAIRE)	0.58	**TOGO**	-1.17
	LATVIA	0.57	**GUINEA-BISSAU**	-1.25
	MAURITANIA	0.55	**BOLIVIA**	-1.29
	CROATIA	0.52	**ARGENTINA**	-1.37
	GRENADA	0.52	**ZIMBABWE**	-1.39
			PARAGUAY	-1.52
			ERITREA	-1.68
			BRUNEI	-2.40
Average GDP/Capita 1995 (constant 2000 US$)	$3,184		$1,816	

Government Effectiveness Δ	*> 0.5*		*< -0.5*	
Country	**DOMINICA**	1.44	SWITZERLAND	-0.50
	ST. VINCENT AND THE GRENADINES	1.36	GERMANY	-0.51
	ST. KITTS AND NEVIS	1.29	BRUNEI	-0.53
	MALTA	1.18	ISRAEL	-0.53
	LATVIA	1.02	SYRIA	-0.54
	LITHUANIA	1.01	CENTRAL AFRICAN REPUBLIC	-0.54
	BULGARIA	0.87	INDONESIA	-0.56
	SURINAME	0.85	NEW ZEALAND	-0.56
	ROMANIA	0.85	NEPAL	-0.58
	BAHAMAS	0.84	SIERRA LEONE	-0.60
	MADAGASCAR	0.83	TOGO	-0.63
	TANZANIA	0.83	UNITED KINGDOM	-0.63
	ST. LUCIA	0.82	ERITREA	-0.64
	GRENADA	0.81	CUBA	-0.65
	SLOVAK REPUBLIC	0.78	BENIN	-0.67
	CROATIA	0.75	**GUINEA-BISSAU**	-0.90
	SAMOA	0.69	**ARGENTINA**	-0.92
	SEYCHELLES	0.66	**KOREA, NORTH**	-0.93
	ICELAND	0.65	**COMOROS**	-0.97
	BELIZE	0.52	**LAOS**	-1.02
	ESTONIA	0.50	**ZIMBABWE**	-1.39
			IVORY COAST	-1.43
Average GDP/Capita 1995 (Constant 2000 US$)	$4,838		$6,474	

Rule of Law Δ	*> 0.5*		*< -0.5*	
Country	**BHUTAN**	1.77	VENEZUELA	-0.51
	BARBADOS	1.55	SAUDI ARABIA	-0.51
	MALTA	1.39	PAPUA NEW GUINEA	-0.54
	MADAGASCAR	0.75	BENIN	-0.54
	SURINAME	0.73	ERITREA	-0.56
	MALI	0.71	SOMALIA	-0.61
	LITHUANIA	0.65	BELIZE	-0.63
	LIBERIA	0.62	MONGOLIA	-0.70
	CROATIA	0.58	IVORY COAST	-0.73
	MOZAMBIQUE	0.57	RWANDA	-0.76
	BAHAMAS	0.57	GUYANA	-0.77
	ESTONIA	0.52	ARGENTINA	-0.80
			BURUNDI	-0.93
			CHAD	-0.99
			CENTRAL AFRICAN	-1.04
			REPUBLIC	-1.10
			SWAZILAND	-1.18
			ZIMBABWE	
Average GDP/Capita 1995 (Constant 2000 US$)	$3,161		$1,864	

Control of Corruption Δ	*> 0.5*		*< -0.5*	
Country	**SERBIA AND MONTENEGRO**	1.57	JORDAN	-0.51
	BOSNIA-HERZEGOVINA	1.17	TUNISIA	-0.53
	CROATIA	1.08	BELARUS	-0.58
	SIERRA LEONE	1.07	SINGAPORE	-0.64
	INDONESIA	1.01	ERITREA	-0.66
	NIGERIA	0.88	SOLOMON ISLANDS	-0.74
	SURINAME	0.86	HAITI	-0.87
	PERU	0.85	CENTRAL AFRICAN REPUBLIC	-0.93
	GHANA	0.83	IVORY COAST	-1.25
	GAMBIA	0.71	NEPAL	-1.27
	SLOVAK REPUBLIC	0.70	ZIMBABWE	-1.29
	CONGO	0.61		
	MEXICO	0.59		
	LIBERIA	0.56		
	EL SALVADOR	0.55		
	TANZANIA	0.54		
	SENEGAL	0.53		
Average GDP/Capita 1995 (Constant 2000 US$)	$1,987		$2,446	

Bibliography

Acemoglu, D., Johnson, S., and Robinson, J. (2004). *Institutions as the fundamental cause of long-run growth* National Bureau of Economic Research, Inc, NBER Working Papers: 10481.

Acemoglu, D., Johnson, S., and Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review, 91*(5), 1369-1401.

Acemoglu, D., Johnson, S., Robinson, J. A., and Yared, P. (2005). From education to democracy? *American Economic Review, 95*(2), 44-49.

Acemoglu, D., Johnson, S., Robinson, J., and Yared, P. (2005). *Income and democracy*National Bureau of Economic Research, Inc, NBER Working Papers: 11205.

Acemoglu, D., and Robinson, J. A. (2006). De facto political power and institutional persistence. *American Economic Review, 96*(2), 325-330.

Acemoglu, D., and Robinson, J. A. (2006). Economic backwardness in political perspective. *American Political Science Review, 100*(1), 115-131.

Acemoglu, D., and Robinson, J. A. (2006). *Persistence of power, elites and institutions* National Bureau of Economic Research, Inc, NBER Working Papers: 12108.

Alesina, A. et al. (2002). Fractionalization *Journal of Economic Growth*, Springer, vol. 8(2), pages 155-94, June..

Alesina, A. (1996). Political instability and economic growth. *Journal of Economic Growth, 1*(2), 189-211.

Alesina, A., and Perotti, R. (1993). *Income distribution, political instability, and investment* National Bureau of Economic Research, Inc, NBER Working Papers: 4486.

Alesina, A., and Rodrik, D. (1994). Distributive politics and economic growth. *Quarterly Journal of Economics, 109*(2), 465-490.

Aron, J. (2000). Growth and institutions: A review of the evidence. *World Bank Research Observer, 15*(1), 99-135.

Bates, R. H. (2001). *Prosperity and violence : The political economy of development.* New York: Norton.

Barro, R. J. (1996). Democracy and Growth. *Journal of Economic Growth, 1*(1), 1-27.

Barro, R.J. and Lee, J.W. (2000) International Data on Educational Attainment: Updates and Implications. CID Working Paper #42, Harvard University.

Burnside, C. and Dollar, D. (2000). Aid, Policies, and Growth. *American Economic Review.* 90(4), 847-868.

Carothers, T. (1999). *Aiding Democracy Abroad.* Brookings Institution Press. Washington, D.C.

Clague, C. (1996). Property and contract rights in autocracies and democracies. *Journal of Economic Growth, 1*(2), 243-276.

Collier, P. (2007). *The Bottom Billion : Why the poorest countries are failing and what can be done about it.* New York: Oxford University Press.

Collier, P. (2003). *Breaking the conflict trap: Civil war and development policy.* Washington, D.C.:; World Bank;; Oxford and New York:; Oxford University Press.

Collier, P. and Chauvet, L. (2004). Helping Hand? Aid to Failing States. DIAL Working paper DT/2006/14.

Dollar, D., and Kraay, A. (2003). Institutions, trade, and growth. *Journal of Monetary Economics, 50*(1), 133-162.

Ear, Sophal (2007). Does Aid Dependence Worsen Governance? *International Public Management Journal*, 10:3, 259 – 286.

Easterly, W. R. (2006). *The white man's burden : Why the west's efforts to aid the rest have done so much ill and so little good.* New York: Penguin Press.

Easterly, W.R. (2003). Can Foreign Aid Buy Growth? *Journal of Economic Perspectives,* 17(3), 23-48.

Easterly, W., and Levine, R. (2003). Tropics, germs, and crops: How endowments influence economic development. *Journal of Monetary Economics, 50*(1), 3-39.

Eggertsson, Thrainn (2005). *Imperfect Institutions: Possibilities and Limits of Reform.* University of Michigan Press. Ann Arbor, MI.

Fearon, J. D., and Laitin, D. D. (2003). Ethnicity, insurgency, and civil war. *American Political Science Review, 97*(1), 75-90.

Friedman, T. (2006). The First Law of Petropolitics. *Foreign Policy*, May/June 206.

Glaeser, E. et al. (2004). "Do Institutions Cause Growth?," Journal of Economic Growth, 9(3), pages 271-303.

Goldstone et al. (2005) "A Global Forecasting Model of Political Instability." Paper prepared for the annual meeting of the American Political Science Association, Washington, D.C., September 1-4.

Gwartney, J. D. et al. (2004). Economic freedom, institutional quality, and cross-country differences in income and growth. *Cato Journal, 24*(3), 205-233.

Helliwell, J. F. (2006). Well-being, social capital and public policy: What's new? *Economic Journal, 116*(510), C34-45.

Helliwell, J. F. (1994). *Empirical linkages between democracy and economic growth* National Bureau of Economic Research, Inc, NBER Working Papers: 4066.

Helliwell, J. F., and Putnam, R. D. (1999). *Education and social capital* National Bureau of Economic Research, Inc, NBER Working Papers: 7121.

IMF (2003). Growth and Institutions. *The World Economic Outlook 2003*, Chapter 3. International Monetary Fund. Washington D.C., April 2003.

Kaufmann et al (2003). *Governance matters III: Governance indicators for 1996-2002.* The World Bank, Policy Research Working Paper Series: 3106.

Kaufmann et al. (2006). *Governance matters V: Aggregate and Individual Governance indicators for 1996-2005.* The World Bank, Policy Research Working Paper Series: 4012.

Kaufmann, D., and Kraay, A. (2002). Growth without governance. *Economia: Journal of the Latin American and Caribbean Economic Association, 3*(1), 169-215.

Kaufmann, D., Kraay, A., and Zoido-Lobaton, P. (2000). Governance matters from measurement to action. *Finance and Development, 37*(2), 10-13.

Knack, S. (2001). Aid Dependence and the Quality of Governance: Cross Country Empirical Tests. *Southern Economic Journal*, 68(2), 310-329.

Knack, S., and Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics, 112*(4), 1251-1288.

Knack, S., and Keefer, P. (1995). Institutions and economic performance: Cross-country tests using alternative institutional measures. *Economics and Politics, 7*(3), 207-227.

Kormendi, R. C., and Meguire, P. G. (1985). Macroeconomic determinants of growth: Cross-country evidence. *Journal of Monetary Economics, 16*(2), 141-163.

La Ferrara, E., and Bates, R. H. (2001). Political competition in weak states. *Economics and Politics, 13*(2), 159-184.

La Porta et al. (1999). The quality of government. *Journal of Law, Economics, and Organization, 15*(1), 222-279.

La Porta et al. (1998). Law and finance. *Journal of Political Economy, 106*(6), 1113-1155.

Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics, 110*(3), 681-712.

North, D. C. (1990). *Institutions, institutional change, and economic performance.* Cambridge ; New York: Cambridge University Press.

ODI (2006). *Governance, Development, and Aid Effectiveness: A Quick Guide to Complex Relationships.* Overseas Development Institute Briefing Paper, March 2006.

Persson, T., Roland, G., and Tabellini, G. (2003). *How do electoral rules shape party structures, government coalitions, and economic policies?*National Bureau of Economic Research, Inc, NBER Working Papers: 10176.

Persson, T., and Tabellini, G. (2006). Democracy and development: The devil in the details. *American Economic Review, 96*(2), 319-324.

Persson, T., and Tabellini, G. (2006). *Democratic capital: The nexus of political and economic change*National Bureau of Economic Research, Inc, NBER Working Papers: 12175.

Persson, T., and Tabellini, G. (2004). Constitutions and economic policy. *Journal of Economic Perspectives, 18*(1), 75-98.

Pritchett, L. (2003). A toy collection, A socialist star, and a democratic dud? growth theory, vietnam, and the philippines. In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 123-151)Princeton and Oxford:; Princeton University Press.

Przeworski, A. (2000). *Democracy and development : Political institutions and well-being in the world, 1950-1990.* Cambridge: Cambridge University Press.

Qian, Y. (2003). How reform worked in china. In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 297-333)Princeton and Oxford:; Princeton Uni

Richards, J. (2006). Can Aid Work? *CD Howe Commentary #231*, The CD Howe Institute. April 2006.

Rodrik, D. (2003). What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1-19)Princeton and Oxford:; Princeton University Press.

Rodrik, D. (2004). *Growth strategies.* National Bureau of Economic Research, Inc, NBER Working Papers: 10050.

Rodrik, D. (2000). *Institutions for high-quality growth: What they are and how to acquire them*National Bureau of Economic Research, Inc, NBER Working Papers: 7540.

Rodrik, D., Subramanian, A., and Trebbi, F. (2002). *Institutions rule: The primacy of institutions over geography and integration in economic development*National Bureau of Economic Research, Inc, NBER Working Papers: 9305.

Scully, G. W. (1988). The institutional framework and economic development. *Journal of Political Economy, 96*(3), 652-662.

Svensson, J. (1998). Investment, property rights and political instability: Theory and evidence. *European Economic Review, 42*(7), 1317-1341.

Temple, Jonathan (1999). The new growth evidence. *Journal of Economic Literature*, 37(1), March, 112-156.

World Bank (1998). Assessing Aid: What Works, What Doesn't, and Why. Washington D.C.: World Bank.