

The importance of institutions for economic development and growth has long been understood—emphasized, for example, in the writings of Adam Smith and, more recently, David Landes (1998), and recognized in the 1993 Nobel Prize awarded to Douglass North. In the past few years, however, there has been a resurgence of interest in this subject, including research into the sources of institutional differences across countries, the channels through which institutions may affect economic performance, and the quantitative importance of these links.

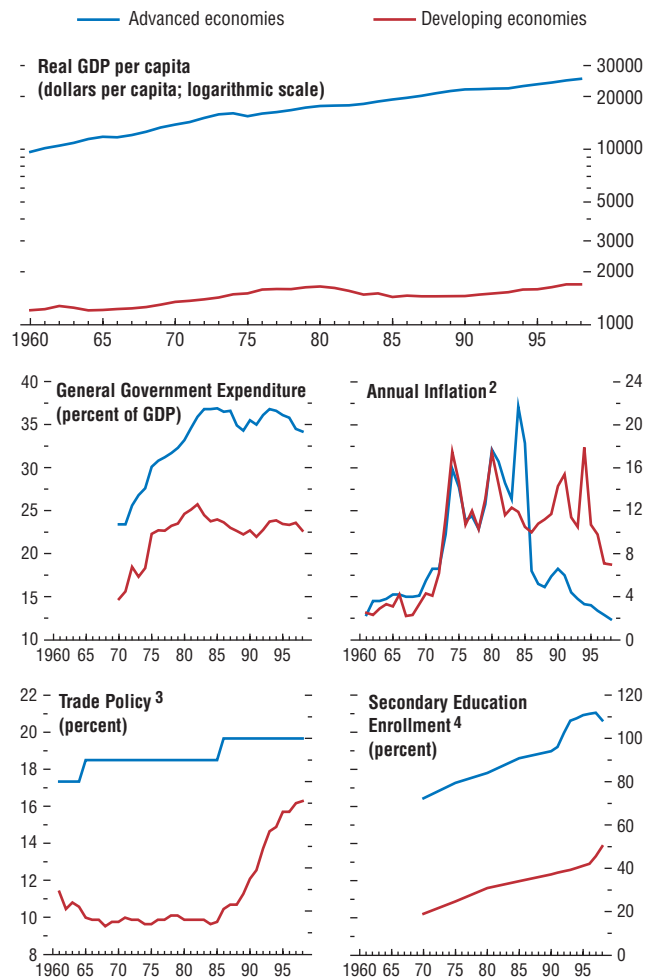
Motivating much of this work is the renewed attention to the enormous cross-country differences in incomes (Table 3.1). Not only are the extremes of this global income distribution striking—GDP per capita ranging from about \$100 a year in Ethiopia, for example, to over \$43,000 in Switzerland—but so also is the uneven dispersion of incomes. It is notable, for example, how few countries have what could be viewed as an “intermediate” level of income, between about \$6,000 and \$16,000 per capita, and how many—including most of sub-Saharan Africa—have incomes of well under \$1,000 per capita. Furthermore, while subsequent improvements in macroeconomic policies may have helped reverse the overall stagnation of per capita incomes among developing economies that set in early in the 1980s, these countries continue to face large and persistent income gaps relative to advanced economies (Figure 3.1).

In this context, the observation that income differences appear closely correlated with indicators of institutional quality has attracted substan-

Note: The main authors of this chapter are Maitland MacFarlan (lead), Hali Edison, and Nicola Spatafora, with consultancy support from Ross Levine. Bennett Sutton provided able research assistance.

**Figure 3.1. Growth and Policies in Selected Advanced and Developing Economies<sup>1</sup>**

Most developing economies have experienced an improvement in their policy environment over recent years, particularly trade openness. However, there remains a huge income gap compared with advanced economies.



Sources: Sachs and Warner (1995a); World Bank, *World Development Indicators* (2002); and IMF staff estimates.

<sup>1</sup> There are 25 countries in the selected advanced economies group and 69 in the developing group. See Appendix 3.1 for composition of groups.

<sup>2</sup> Arithmetic mean of inflation for advanced economies; median for developing economies.

<sup>3</sup> The trade openness measure is the percent of years since 1960 that are classified as open. For details, see Sachs and Warner (1995a).

<sup>4</sup> Gross enrollment in secondary school programs in percent of total secondary school age population. Values larger than 100 are explained by enrollees who are not of secondary school age, such as enrollees in some adult education programs.

**Table 3.1. Economic Development<sup>1</sup>**

Group 1 \$102–280	Group 2 \$281–769	Group 3 \$770–2,111	Group 4 \$2,112–5,792	Group 5 \$5,793–15,891	Group 6 \$15,892–43,600
Ethiopia	Uganda	Syrian Arab Rep.	Peru	Saudi Arabia	Israel
Congo, Dem. Rep. of	Bangladesh	Bolivia	Russia	Barbados	New Zealand
Mozambique	Central African Rep.	Ukraine	Colombia	Argentina	Ireland
Malawi	Togo	Congo, Rep. of	Turkey	Slovenia	Italy
Burundi	Kenya	Papua New Guinea	Thailand	Portugal	United Kingdom
Tanzania	Gambia, The	Egypt	Mexico	Korea	Canada
Sierra Leone	Georgia	Indonesia	Estonia	Greece	Australia
Rwanda	Haiti	Philippines	Poland	Cyprus	Hong Kong SAR
Niger	Ghana	Morocco	Botswana	Spain	Singapore
Chad	India	Kazakhstan	Costa Rica		Finland
Nepal	Zambia	Guatemala	Slovak Rep.		Netherlands
Burkina Faso	Nicaragua	Iran, Islamic Rep. of	Venezuela		France
Madagascar	Angola	Algeria	Mauritius		Belgium
Nigeria	Mauritania	Dominican Republic	South Africa		Sweden
Sudan	Pakistan	Bulgaria	Trinidad and Tobago		United States
Vietnam	Senegal	Ecuador			Austria
	China	Jordan	Malaysia		Germany
	Cameroon	El Salvador	Hungary		Norway
	Zimbabwe	Lithuania	Brazil		Denmark
	Honduras	Paraguay	Chile		Japan
	Sri Lanka	Jamaica	Gabon		Switzerland
	Côte d'Ivoire	Latvia	Czech Rep.		
		Tunisia	Uruguay		

Source: World Bank, World Development Indicators Database (2002).

<sup>1</sup>Countries are sorted within groups, in ascending order, by real GDP per capita in U.S. dollars in 1995. For each income group the difference between the highest-income country and the lowest is equal in natural logs. In dollar terms, income in the highest-income country within each group is about 2.75 times that of the lowest-income country.

tial attention (Figure 3.2). In particular, recent work on growth and institutions has sought to identify the deep structural determinants of countries' level of development. In contrast, the earlier growth accounting literature focused on the main proximate causes of growth, including capital accumulation (physical and human) and total factor productivity, together with macroeconomic and structural policies. Building on the close correlation between institutional quality and development, recent analyses attempt to address the possibility of reverse causality from development to institutions, and the relative significance of institutions compared with other influences on development, such as trade openness, geographical factors, and economic policies.

This chapter aims to take stock of recent work on the impact of institutions on economic performance, advance the debate through new empirical analysis, and—to the extent possible—come to some conclusions that may be relevant for policymakers. The first section considers briefly what is meant by institutions, how cross-

country institutional differences may arise, and how they may affect economic outcomes. An empirical perspective on these issues is provided in the following section. Particular attention is given to the influence of both institutional measures and macroeconomic policies in determining cross-country differences in income per capita, income growth, and the volatility of growth. The final section offers some policy messages and conclusions, including a discussion of measures that may contribute to overall institutional development.

## Some Background Considerations

### What Are “Institutions” and Why Do They Matter?

Institutions have been defined along a wide spectrum. Toward one end is the notion of institutions as establishing the “rules of the game” for a society or, using North's (1990) widely cited definition, as the formal and informal constraints on political, economic, and social inter-

actions. From this perspective, “good” institutions are viewed as establishing an incentive structure that reduces uncertainty and promotes efficiency—hence contributing to stronger economic performance.<sup>1</sup> Toward the other end of the spectrum, and giving more specific shape to this broad concept of institutions, would be particular organizational entities, procedural devices, and regulatory frameworks. Such institutions affect performance primarily by fostering better policy choices. Examples include commitment devices such as central bank independence and balanced budget amendments; the existence and design of international trade agreements; and regulations governing the functioning of labor, product, and financial markets.

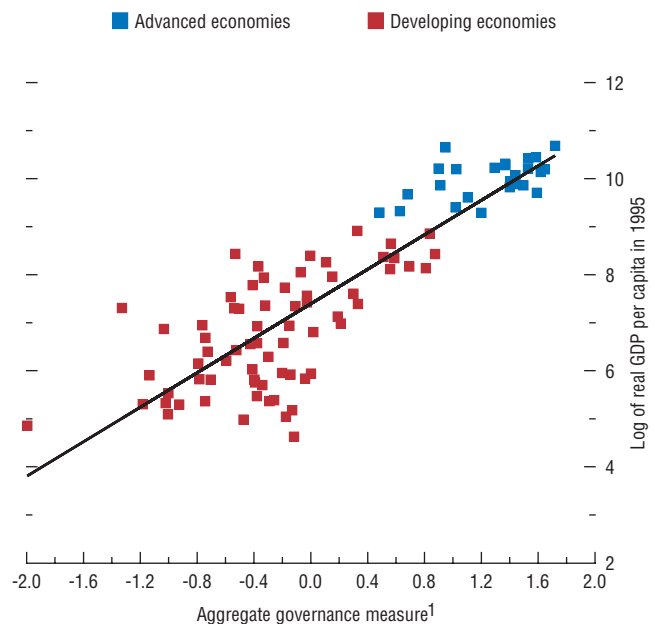
Much of the recent research into determinants of economic development—including this chapter—follows an approach that lies between these two perspectives. This work tends to focus on *perceptions and assessments* of public institutions—especially about how well they function and what their impact is on private sector behavior. In particular, the empirical analysis below uses three measures of institutions. These indicate, first, the quality of governance, including the degree of corruption, political rights, public sector efficiency, and regulatory burdens;<sup>2</sup> second, the extent of legal protection of private property and how well such laws are enforced; and third, the level of institutional and other limits placed on political leaders. (See Appendix 3.1 for further details on these indicators.) The perceptions of the political, economic, and policy climate embodied in the institutional measures are likely to be of key importance in shaping overall conditions for investment and growth. Given the mobility of international capital, for example, such assessments may play a major role in determining a country’s ability to attract and retain investment inflows.

<sup>1</sup>See, for example, North (1991).

<sup>2</sup>The term “governance” is therefore used in a broad sense, covering political influences and perception of government effectiveness and efficiency, rather than the narrower interpretation sometimes used, which focuses mainly on the extent of corruption.

**Figure 3.2. Relationship Between Income and Institutions**

Real income per capita is closely correlated with institutional quality.



Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999); World Bank, *World Development Indicators* (2002); and IMF staff calculations.

<sup>1</sup>This index measures the overall quality of governance, including the degree of corruption, political rights, public sector efficiency, and regulatory burdens (for further details, see Appendix 3.1).

**Table 3.2. Correlation Between Institutions and Economic Performance<sup>1</sup>**

Variable	GDP per Capita <sup>2</sup>	Growth Rate <sup>3</sup>	Growth Volatility <sup>4</sup>	Aggregate Governance Measure <sup>5</sup>	Property Rights	Constraint on Power of Executive
GDP per capita <sup>2</sup>	1.00					
Growth rate <sup>3</sup>	0.65	1.00				
Growth volatility <sup>4</sup>	-0.53	-0.36	1.00			
Aggregate governance measure <sup>5</sup>	0.86	0.59	-0.61	1.00		
Property rights	0.76	0.54	-0.62	0.79	1.00	
Constraint on power of executive	0.72	0.45	-0.64	0.73	0.63	1.00

Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999b); Heritage Foundation (2003); Gurr and Marshall (2000); and World Development Indicators, World Bank (2002).

<sup>1</sup>All correlations are significant at the 5 percent level.

<sup>2</sup>Real GDP per capita in U.S. dollars in 1995.

<sup>3</sup>Average annual growth rate of real GDP per capita for the period 1960–98.

<sup>4</sup>Standard deviation of annual growth rate of real GDP per capita for 1960–98.

<sup>5</sup>Aggregate institutional quality measure from Kaufmann, Kraay, and Zoido-Lobaton (1999b).

### Institutions and Incomes: Some Simple Correlations

In practice, much the same story emerges from the various measures of institutional quality, reflecting the generally high correlations among them (Table 3.2). All appear closely related to cross-country differences in GDP per capita, as well as to other measures of economic performance such as growth rates and the volatility of growth. For example, Figure 3.3 illustrates the relationship between income levels and institutions, the latter measured by several subcomponents of the quality of governance index (which was shown in Figure 3.2), and by the ratings on property rights protection and constraints on the executive. Some differences are apparent in the distribution of these various measures—for example, in the particular country sample used here, a relatively large number of countries are assessed as having rather unoppressive regulatory burdens, while many of these countries receive poor ratings on graft and corruption. On the whole, though, high-income countries tend to have relatively strong institutions, whatever measure is used; conversely, institutions tend to be consistently weaker in low-income countries.

Moreover, across the different developing country regions, per capita income levels and

institutional quality rise more or less in tandem (Figure 3.4). The pattern is not as consistent in the case of regional differences in growth rates and the volatility of growth, although sub-Saharan Africa—with the weakest institutions—also has the lowest average growth and close to the highest volatility, while the advanced economies have stronger average growth and lower volatility than any of the developing country groups.<sup>3</sup>

### Some Possible Sources of Institutional Differences

While the association between institutional quality and economic performance—both measured along various dimensions—appears strong and robust, much more unsettled are questions about what lies behind these findings, including the relevant direction of causality and the relationship with other theories of economic development. For example, stronger economic performance may well induce institutional change: as countries grow and prosper, they may find they need—and can afford—to strengthen the institutions underpinning real and financial market activity, such as their legal and regulatory frameworks.

In trying to gauge the “exogenous contribution” of institutions—the part that causes, but is

<sup>3</sup>See Appendix 3.1 for more detailed data on these variables.

not caused by, differences in economic outcomes—recent research has given particular prominence to the possible roles played by geographical and historical influences on institutional formation.<sup>4</sup> This research makes use of a well-established literature on the effects of geography on development, which argues that influences such as location (for example, latitude, distance from main markets, and access to the sea), climatic conditions, and resource endowments may have a significant impact on economic performance.<sup>5</sup> Possible links include the roles of agricultural productivity, health, and external trade: for example, latitude and climate tend to be associated with the prevalence of pests and diseases; opportunities to trade may be held back by a landlocked location and long distances from major markets; and resource-rich countries may experience limited opportunities for export diversification.

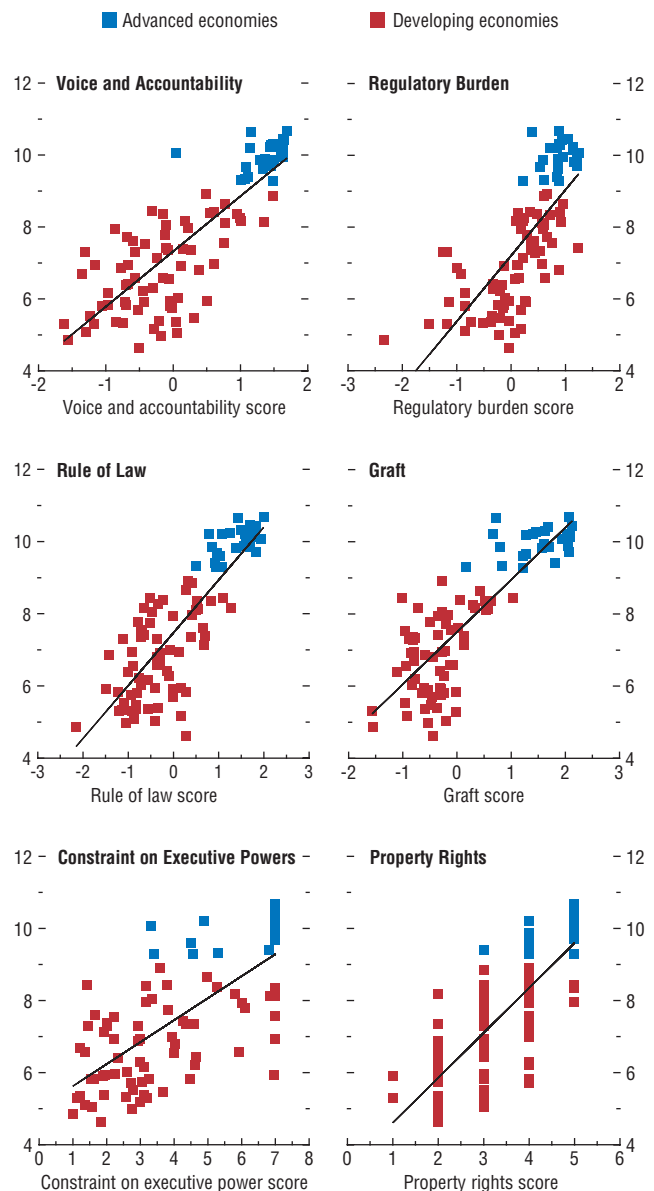
While not denying the role of geography, a recent series of papers emphasizes the role of institutions as the key intermediary between geographic influences, broadly defined, and economic development. As discussed in Box 3.1, this literature traces current institutional differences among some countries to historical patterns of colonization and settlement. For example, a contrast is drawn between countries where Europeans settled in relatively large numbers, compared with those where settlement was more limited and where a local elite was empowered to extract or manage natural resources. In the former case, institutional developments tended to encourage broad-based participation

<sup>4</sup>Some differences are apparent within this work regarding whether geographical and historical variables are viewed primarily as instruments to get around the possible endogeneity of direct measures of institutions, or are given a broader role in the context of theories of economic development. For a discussion of this point, see Rodrik, Subramanian, and Trebbi (2002). In this chapter, the empirical work in the next section makes use of geographical and historical variables primarily as instruments for institutions, rather than as independent determinants of economic performance.

<sup>5</sup>See, for example, Diamond (1997), Sachs and Warner (1995b, 2001), and Gallup, Sachs, and Mellinger (1998).

**Figure 3.3. Income per Capita and Selected Institutions**  
(Logarithm of GDP per capita on y-axis; x-axis as stated)

The link between income per capita and institutional quality is high, regardless of the specific institutional measure used.



Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999); Gurr and Marshall (2000); Heritage Foundation (2003); World Bank, *World Development Indicators* (2002); and IMF staff calculations.

**Box 3.1. Institutional Development: The Influence of History and Geography**

A recent series of papers emphasizes the impact of historical and geographical influences in shaping institutions and subsequent patterns of economic development. This literature focuses in particular on institutional development among former colonies of European countries; it is not directly applicable, therefore, to many other countries considered in this chapter—especially in Europe and Asia—that were not subject to colonization. Furthermore, as emphasized in the main text of this chapter, *economic policies* are likely to play a major role in influencing cross-country variations in institutional quality and economic performance—both among countries that were subject to colonization and among those that were not.

An important contribution comes from the work of Acemoglu, Johnson, and Robinson (2001a, 2002), who consider the impact that different forms of seventeenth- to nineteenth-century European colonization of the then-developing world may have had on institutions in the countries concerned. They distinguish in particular between “settler colonies,” where Europeans established well-populated settlements accompanied by institutions to ensure property rights, enforce the rule of law, and hence support investment and growth (examples include the United States, Australia, and New Zealand); and “extractive states,” where, with much more limited migration and establishment instead of a local elite, institutional emphasis was on solidifying colonial control and supporting the extraction of natural resources (for example, in much of sub-Saharan Africa and Latin America). Extractive states were more likely to be established in conditions where climate, pests, diseases, and so on made conditions more difficult, whereas settler colonies were formed where the natural environment was less hostile. Finally, these authors argue that colonial origins have had enduring effects on the form and strength of institutions in the countries concerned, and hence on economic performance more generally.

Considering institutional development and growth in the Americas, Engerman and Sokoloff (1997, 2002) emphasize the interactions among institutions, factor endowments, and inequality. They argue in particular that institutions in much of central and South America were designed to concentrate power in the hands of an elite whereas, in North America, institutions allowed for and encouraged much broader participation in economic and political activ-

ity. This contrast is attributed to differences in primary production methods. In Central and South America, production was geared to exploit extensive economies of scale—particularly on large plantations for sugar, tobacco, and other highly valued commodities, and in gold and silver mining—and to draw on abundant supplies of labor. In contrast, land characteristics in North America and more limited supplies of labor favored production of wheat and other commodities that could be grown on small-scale family farms—hence dispersing ownership and economic power. Moreover, initial institutional choices were perpetuated by policies in such areas as immigration, schooling, and the formation of financial and corporate enterprises. In each case, widespread and low-cost access was encouraged in North America whereas entry tended to be more restrictive and costly in Central and South America.

The implications of alternative legal institutions have also received substantial attention in the literature, notably the impact of systems stemming from different colonial influences. Some have argued, for example, that the civil law framework inherited from continental Europe, particularly France, has tended to produce a larger role for the state, higher regulatory burden, and less flexible and adaptable legal and economic institutions—holding back financial development, for example.<sup>1</sup> In contrast, common law practices stemming from British colonization have been associated with more adaptable institutions and greater protection of investors—both from state appropriation and from corporate insiders. The ultimate effects of these possible differences on GDP per capita are not clear-cut, however. For example, several papers find that although British colonies tend to have stronger institutions, French legal origins (controlling for other dimensions of institutional quality) may be associated with higher levels of GDP per capita.<sup>2</sup> Moreover, with Britain and France themselves having almost identical levels of GDP per capita, the performance of *transplanted* legal systems may depend on strengths and weaknesses in surrounding institutions. For example, legal institutions that tend to increase the role of the state may perform satisfactorily when democratic principles are well embedded, but may become dangerous when constraints on and trust in the executive are low.<sup>3</sup>

<sup>1</sup>See Beck, Demirgüç-Kunt, and Levine (2003a, 2003b) and La Porta and others (1999).

<sup>2</sup>See Acemoglu, Johnson, and Robinson (2001a), and Rodrik, Subramanian, and Trebbi (2002).

<sup>3</sup>See Djankov and others (2003).

Note: The main author of this box is Maitland MacFarlan.

in political and economic activity, and were conducive to innovation, investment, and growth. In the latter, with an institutional emphasis on maintaining the power and wealth of the elite, conditions for sustained economic development were less favorable. A related strand in this literature has considered implications of the common law framework compared with civil law, stemming from different colonial influences. This work suggests that legal and economic institutions tend to be more flexible and adaptable under common law, although the implication of such differences for GDP per capita are not clear-cut.

### Interactions Between Institutions and Policies

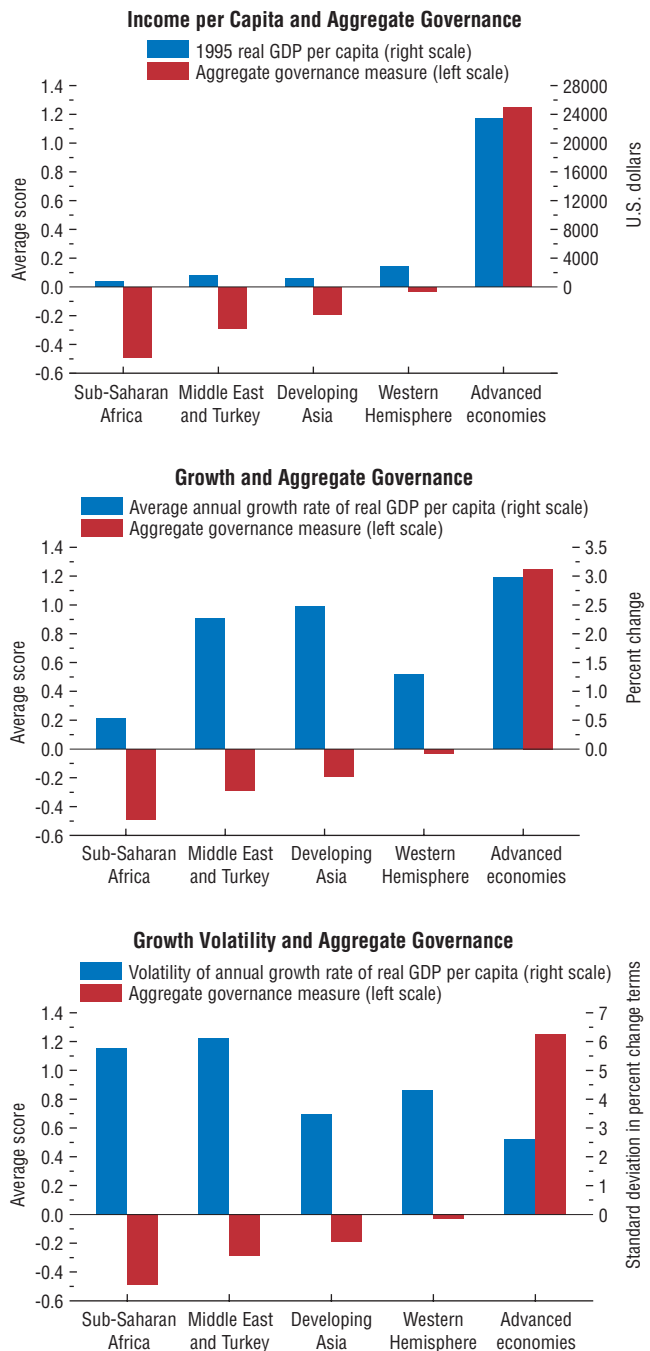
Institutional development is likely to reflect a wide range of influences, however. If geographical factors were the only determining factor, for example, it would be difficult to reconcile the strong economic performance of Botswana with the severe difficulties in neighboring countries such as Angola and Zimbabwe, or the high standard of living in Singapore with the much lower incomes in many other equatorial countries. Countries are not “predestined” (say, by geography or history) to have “good” or “bad” institutions—in particular, there are likely to be important interactions between institutions and *economic policies*.

First, as discussed in the final section of this chapter, there is some evidence that greater openness to trade, stronger competition, and higher transparency are conducive to institutional growth: policies thus seem to have a bearing on institutional quality. In some specific contexts, external incentives (or “anchors”) may also help the drive for better domestic institutions: for example, the EU accession process may have contributed to strengthening institutions among countries in central and eastern Europe (see Box 3.2).

But, second, there also seems to be causality running in the other direction, from institutions to policies, with the strength and sustainability of policies depending on the quality of the institu-

**Figure 3.4. Economic Outcome Measures and Aggregate Governance**

Across regions there is a high correlation between economic performance and the quality of institutions.



Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999); and World Bank, *World Development Indicators* (2002).

### Box 3.2. Have External Anchors Accelerated Institutional Reform in Practice?

The case of those economies in central and eastern Europe and the Baltic countries that are due to join the European Union in May 2004 offers a telling example of the impact of external anchors on domestic institutional reform. Over a period of about a decade, the prospect of European Union (EU) accession encouraged broad-ranging institutional reforms in the central and eastern European accession candidates<sup>1</sup>—reforms that underpinned their transformation into well-functioning market economies. In contrast, institutional change in the Commonwealth of Independent States (CIS) countries, for instance, has been systematically slower, hampered by the lack of a clear external anchor. Looking beyond the case of EU accession, World Trade Organization (WTO) membership and the North American Free Trade Agreement (NAFTA) represent other examples of external anchors for domestic institutional reform.

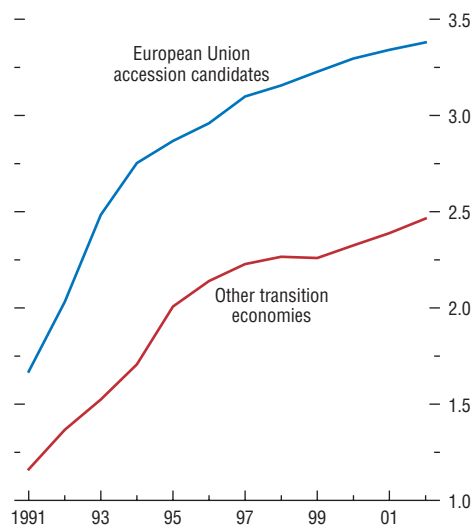
There are major differences among transition economies in the results of their efforts at structural and institutional reform. The EU accession countries began their structural reform process earlier, pursued it more vigorously, and are currently far more advanced than other transition economies. The European Bank for Reconstruction and Development's (EBRD) aggregate "transition indicator" (which measures progress in such areas as market liberalization and competition, enterprise privatization and restructuring, and financial sector reform) shows much faster structural reform among the accession candidates than in other transition countries (see the figure).<sup>2</sup> While these measures cover progress in areas beyond institutional reforms, the gap is particularly wide in areas that require the greatest institutional and legal

Note: The main author of this box is Nicola Spatafora.

<sup>1</sup>Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia.

<sup>2</sup>Indeed, only one other transition economy (Croatia) currently outperforms *any* of the accession candidates.

#### Aggregate Transition Indicator<sup>1</sup>



Source: European Bank for Reconstruction and Development, *Transition Report 2002*.

<sup>1</sup>Simple average of EBRD indicators for eight structural indicators. A score of 1 represents conditions before reform in a centrally planned economy; a score of 4 1/3 shows structural characteristics comparable to those in advanced economies.

changes, including developing well-regulated financial markets, reforming public and private governance, restructuring large-scale enterprises, and developing and enforcing competition policy. Furthermore, the EBRD rankings are also highly correlated with the institutional quality measures used in the main text, including the governance indicators. Overall, EU accession economies have higher-quality institutions than are typical for countries at comparable income levels, while institutional quality in the CIS is somewhat lower than in countries with similar incomes.<sup>3</sup>

There are several reasons for these differences. For instance, in those countries closest to western Europe, the imprint of central planning was more limited, and memories of how market economies functioned remained stronger. A key factor was that EU accession was seen as deliver-

<sup>3</sup>Murrell (2002) provides a fuller discussion.

ing concrete benefits to the accession countries, and the desire to secure accession spurred institutional reform.<sup>4</sup> Strong support for such reforms reflected the belief that, as these countries anchored their institutional structures to the European Union, they would be viewed as more secure places for investing and doing business.<sup>5</sup> Benefits were also expected from further financial market integration, removal of trade barriers, increased trade in services, and access to EU Structural Funds. Given these large expected benefits, EU accession provided an overriding national objective, which forced consensus on a substantial number of controversial policy goals, and helped reformers overcome domestic sectional interests and bureaucratic inertia.

EU accession proved an especially powerful anchor because it forced concrete discussions of specific and wide-ranging laws, including the entire *acquis communautaire*. For instance, accession candidates had to deal with detailed obligations related to the common external tariff and associated requirements for the customs union, full opening of the capital account, and the minimum standards associated with the European Social Charter (in areas such as health and safety, rights of workers and workers' representatives, bargaining arrangements, and social welfare).

In addition, the accession process placed a strong emphasis on increasing competition and trade. This helped reduce rent-seeking opportunities, lowering the benefits to vested interests from the status quo, and reducing the resources

they had available to oppose reform. The role of the external anchor proved especially strong where a country could see neighbors and competitors aiming for the same goal; the fear of being left behind then motivated further reforms. For instance, in December 1997 the Luxembourg European Council decided to commence accession negotiations with a "first echelon" of six countries. Countries left out of this group then made strong efforts to catch up: for example, the inclusion of Estonia but not the other Baltic republics led to an acceleration of reforms in Latvia and subsequently in Lithuania.

Most CIS countries, in sharp contrast to the accession countries, had no obvious alternative model to follow when the Soviet Union disintegrated, little remaining knowledge of the operations of a market economy, and no comparable external anchor to spur institutional change. As a result, reforms moved relatively slowly, and vested interests were able to stall further progress. As output declined and inequality rose, public support for reforms weakened.

The European Union is not the only example of a successful external anchor: the WTO has played a similar role for developing economies (although its impact is limited by its narrower entrance requirements, which focus on international trade). In particular, WTO membership was a major issue on China's policy agenda, since it was seen as helping to ensure that China's substantial exports of labor-intensive manufactures (including textiles) were not discriminated against in foreign markets.<sup>6</sup> The goal of WTO accession encouraged the authorities to agree to significant reforms, continuing through 2005, and by increasing the external competition faced by domestic firms it may help accelerate restructuring of state-owned enterprises and reform of the financial system, as well as encourage the removal of internal trade barriers such as obstacles to labor migration. However, WTO

<sup>4</sup>Berglöf and Roland (1997, 2000) analyze the role of the EU as an outside anchor to the central and eastern European reform process, and argue the strength of this effect has increased over time. See also the October 2000 *World Economic Outlook* for a discussion of the EU accession process.

<sup>5</sup>Piazolo (1999) estimates that EU accession-induced institutional change could yield a "growth bonus" equivalent to 24–36 percent of accession economies' GDP. Grogan and Moers (2001) confirm that improving institutions boosts growth in transition economies, both directly and by raising foreign direct investment.

<sup>6</sup>Panitchpakdi and Clifford (2002) and Lardy (2002) discuss more fully WTO accession and China.

**Box 3.2 (concluded)**

entry appears likely to play a smaller role in the policy agenda of transition economies other than China. One reason may be the difference in the commodity composition of exports: the primary products that dominate exports from Russia and several other CIS members are less affected by WTO rules, so that WTO membership constitutes a smaller prize.

Regional trade agreements and associations such as NAFTA and ASEAN may also have played some role in structural and institutional reform in countries such as Mexico, and Cambodia, Laos, and Vietnam. For instance, NAFTA helped lock in Mexico's liberalization,<sup>7</sup> and may also have acted as a successful signal of

<sup>7</sup>Whalley (1998).

policymakers' commitment to further domestic reforms. However, the impact of these regional agreements has been relatively limited, owing to their much less stringent membership requirements. For instance, NAFTA made no attempt to "cover domestic microeconomic reforms such as privatization or deregulation," and only committed Mexico to "some fairly modest provisions with respect to the observance of existing labor and environmental law" (Fernandez, 1997). Still, international treaties that help promote openness may also act to encourage institutional reform, both by increasing the potential payoff to improvements in transparency (as discussed in the main text), and because the need to reallocate labor will encourage reduction in internal barriers—for example, to start up new firms.

tional setting. Indeed, there is substantial evidence suggesting that growth-enhancing policies, including in the areas of human capital accumulation and trade openness, are less likely to arise or be effective where political and other institutions are weak.<sup>6</sup> As a result, the adverse effects of weak institutions on economic performance are reinforced by their deleterious influence on macroeconomic and structural policies. In practice, as discussed below, the two-way causality between institutions and policies creates difficulties for identifying their individual contributions to economic performance.

A third issue is that, even where policy reforms are implemented, their positive effects on economic performance may be undermined by weak institutions. Looking at monetary policy, for example, the strength of political institutions

appears to be an important determinant of whether a disinflation program will succeed.<sup>7</sup> Similarly, institutional quality may affect the benefits from and risks of financial liberalization and integration. Where financial regulation and supervision are weak, for example, liberalization may encourage domestic financial institutions to build up excessive risk, borrowing excessively from the international capital market and/or expanding lending to overly risky activities.<sup>8</sup> There are also indications that countries with better governance and more transparent government operations find it easier to attract foreign direct investment; hence, reflecting the relative stability of this type of inflow, these countries may be less prone to "sudden stops" in capital flows and to capital account crisis.<sup>9</sup> In a similar vein, destabilizing herding behavior by interna-

<sup>6</sup>See, for example, Easterly (2002), and Banerjee and Iyer (2002).

<sup>7</sup>See Hamann and Prati (2002) for empirical results, and Cukierman, Edwards, and Tabellini (1992) for potential theoretical underpinnings.

<sup>8</sup>See Barth, Caprio, and Levine (2001a, 2001b), Arteta, Eichengreen, and Wyplosz (2001), and Demirgüç-Kunt and Detragiache (2002). A broader discussion on the links between financial integration and output volatility is provided Chapter 3 of in the September 2002 *World Economic Outlook*.

<sup>9</sup>See, for example, Reisen and Soto (2001) and Frankel and Rose (1996).

tional investors appears to be more severe in countries with a lower degree of transparency.<sup>10</sup>

To sum up, even if institutions matter, as seems to be the case, there is too much potential for two-way causality between institutions and policies, and too much evidence that the impact on economic performance depends on interactions between policies and institutions, to rule out a key role for policies as well.

## Empirical Analysis and Assessment

What explains the large differences in economic performance across countries? This question is examined empirically in the current section. In particular, the analysis focuses on the roles of institutions and macroeconomic policies, considering the impact of each factor on per capita income, economic growth, and the volatility of growth. As discussed in more detail in Appendix 3.1, the quantitative analysis is based on a simple econometric framework relating macroeconomic outcomes for each country to indicators of institutional quality, policy measures, and a set of exogenous variables.<sup>11</sup>

Much of the recent focus in the institutional literature, especially since Hall and Jones (1999), has been on the level of economic development—typically measured as GDP per capita on a purchasing-power-parity (PPP) basis.<sup>12</sup> A substantial body of literature stemming mainly from the early 1990s, however, has examined cross-country differences in growth rates, focusing primarily on the role of policies in

explaining these differences.<sup>13</sup> More recently, the measurement of institutional quality has improved such that it is now possible to reexamine the relative contributions of policies and institutional development to observed cross-country differences in growth. Notwithstanding the voluminous literature on output volatility, there have been relatively few contributions testing the role that institutions play in explaining volatility in growth rates.<sup>14</sup>

The results in the literature are extended in the following empirical work, giving particular emphasis to the implications of changes in institutional quality—especially as measured by the overall quality of governance—on economic performance in different regions. The discussion is organized as follows. The first three subsections summarize the results for the impact of institutional quality on macroeconomic outcomes—GDP per capita, GDP growth, and volatility of growth. The final subsection looks at the impact of policy variables on macroeconomic performance.

### How Do Institutions Affect the Level of GDP per Capita?

Background work conducted for this chapter finds that each of the institutional measures has a statistically significant impact on GDP per capita. Such findings are consistent with those reported in the literature.<sup>15</sup> As noted in Appendix 3.1, the aggregate governance measure of institutions is alone capable of explaining

<sup>10</sup>Gelos and Wei (2002).

<sup>11</sup>The selected model tends to be quite parsimonious. Given that institutions themselves are likely to depend on economic performance, a key issue is to identify a good set of instruments for institutions. The choice of instruments is discussed in Appendix 3.1.

<sup>12</sup>Recent work addressing the impact of institutions on the level of GDP per capita includes Acemoglu, Johnson, and Robinson (2001a, 2002), Easterly and Levine (2003), and Rodrik, Subramanian, and Trebbi (2002).

<sup>13</sup>Starting with the seminal work of Barro (1991), many economists have found a variety of important policy variables—including trade openness and human capital development—to be robust determinants of growth. See, for example, Barro (1997), Levine and Renelt (1992), and Berg and Krueger (2003). Early examples where the roles of both policies and institutions are examined directly include Knack and Keefer (1995), Mauro (1995), and Easterly and Levine (1997).

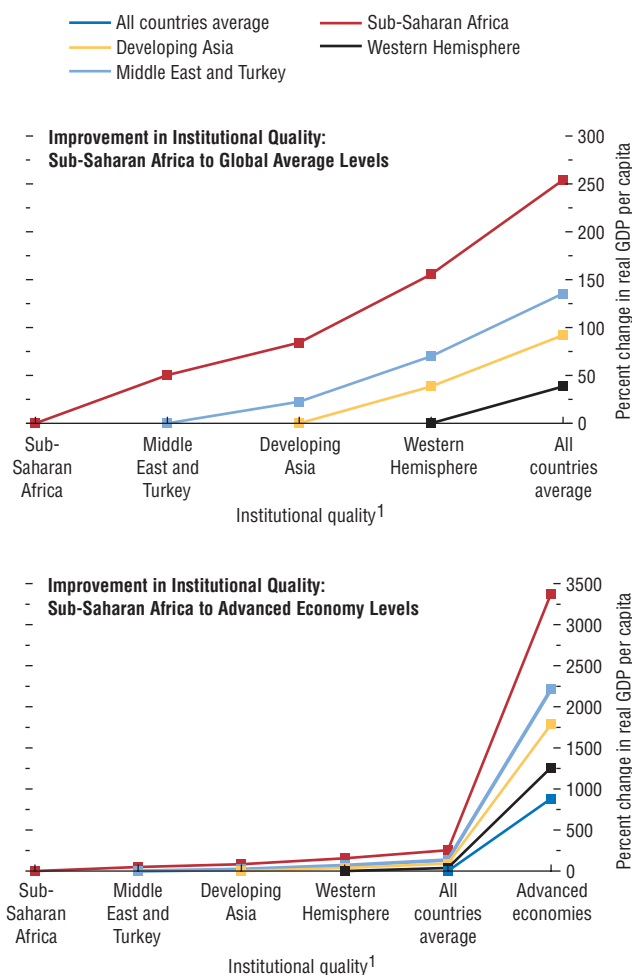
<sup>14</sup>Acemoglu and others (2003) document a robust relationship between institutions and volatility. The standard macroeconomic view, embodied in the so-called “Washington consensus” (as set out by Williamson, 1990, for example), links economic volatility to bad macroeconomic policies.

<sup>15</sup>See, for example, Hall and Jones (1999), Acemoglu, Johnson, and Robinson (2001a), Easterly and Levine (2003), and Rodrik, Subramanian, and Trebbi (2002).

**Figure 3.5. Income per Capita and Improvements in Institutions**

(Percent change)

Substantial gains in income per capita are implied if developing economies improve their level of institutional quality.



Source: IMF staff calculations.

<sup>1</sup>Measured by aggregate governance indicator. Not to scale: in particular, the figure understates the differences in quality of institutions.

nearly three-fourths of the cross-country variation in income per head.

How can the impact of stronger institutions on economic development be quantified? There are two ways to address this question. The first considers the general effect on the level of income of improving the quality of institutions by one standard deviation. In the case of the aggregate governance measure, this increase is approximately equivalent, for example, to improving the quality of institutions in Cameroon (-0.72) to the average level of institutions for all countries in the sample (0.13). The results indicate that income would increase almost *five-fold* (by 462 percent) with this improvement—equivalent to increasing per capita income in Cameroon from \$600 to \$2,760.

Second, the implications of changes in institutional quality for average incomes in individual regions are examined. Starting with regions at a lower level of income per capita and poorer quality of institutions, this assessment considers the impact of gradually improving institutions to identify the marginal benefit these changes would have on income. Initially, these country groups are ranked according to the aggregate governance index. Then, based on this ranking, the impact on income of raising institutional quality to the next region's level is examined. The results depend on two factors: the estimated coefficient on institutional development and the difference in the quality of institutions between the two regions.

While these experiments are mainly for illustrative purposes, the results are striking—providing an empirical sense of the importance of institutional factors for economic development (Figure 3.5). For example, an improvement in sub-Saharan Africa's level of institutional development from its current average (-0.49) to the mean of developing Asia (-0.19) would imply an 80 percent increase in sub-Saharan Africa's per capita income (that is, from about \$800 to over \$1,400). The implicit benefits to sub-Saharan Africa continue to rise markedly as its institutions improve: as shown in the figure, there is a 2½-fold increase in regional income if sub-

Saharan Africa's institutions strengthen to the all-country average; the income gain is many times larger if institutional quality moves to the advanced-economy level.

How do these results compare with those for other countries? All regions and groups of countries would benefit dramatically. For example, developing Asia's income level roughly doubles if this region's institutional quality moves to the all-country average. Clearly, achieving such gains in practice would be neither immediate nor automatic: much else has to fall into place, including appropriate and supportive economic policies. Nevertheless, these findings provide a compelling case for reform efforts aimed at strengthening the quality of institutions.

### How Do Institutions Affect GDP Growth?

The analysis conducted for this section uses a standard growth model to capture the effects of institutions and policies on cross-country variations in GDP growth (see Appendix 3.1 for details). As in other such models, initial levels of income and schooling are included to capture possible convergence effects (see Barro, 1997, for example).

Just as with the level of GDP per capita, the results indicate that institutions have a strong and significant impact on GDP growth. As noted earlier, this impact may partly reflect the role of institutions in enhancing the sustainability of policies. On average, improving institutional quality by one standard deviation—for example, moving Cameroon up to the all-country average as noted above—would imply an increase of 1.4 percentage points in average annual growth in GDP per capita (Table 3.3). The implications of institutional improvements for growth across different regions are illustrated in Figure 3.6. Again, substantial gains emerge. For instance, annual growth in sub-Saharan Africa would increase by 1.7 percentage points if countries in this region adopted the average quality of institutions found in the entire sample. Countries from other regions would also gain from adopting higher quality institutions, as shown in

**Table 3.3. Effects of Institutions and Policy on Growth and Volatility<sup>1</sup>**

(Percentage point change per year)

	Improvement in Institutional Quality <sup>2</sup>	Improvement in Financial Development <sup>3</sup>	Reduction in Exchange Rate Overvaluation <sup>4</sup>
Growth	1.4	0.5	...
Volatility	-1.2	...	-0.4

Source: IMF staff calculations.

<sup>1</sup>The results for growth are based on a growth model estimated using the average annual growth rate of GDP per capita over the period 1960–98 as the dependent variable. The regression is estimated using two-stage least squares in which the aggregate governance variable and financial development are treated as endogenous. Other controls included initial income, initial education, and real exchange rate overvaluation. Instruments included ethnolinguistic fractionalization, latitude, legal origin, the fraction of population speaking English, and the fraction of the population speaking one of the major languages of western Europe.

The results for volatility are based on a model estimated using the standard deviation of the annual growth rate of GDP per capita over the period 1960–98 as the dependent variable. The regression is estimated using two-stage least squares in which the aggregate governance variable is treated as endogenous. Other controls included initial income, initial education, and real exchange rate overvaluation. Instruments included ethnolinguistic fractionalization, latitude, the fraction of population speaking English, and the fraction of the population speaking one of the major languages of western Europe.

<sup>2</sup>Improvement in the quality of institutions is given by a one standard deviation increase in the aggregate governance measure.

<sup>3</sup>Improvement in the financial development measure is given by a one standard deviation increase in the measure, defined as total private credit as a ratio of GDP.

<sup>4</sup>Reduction in exchange rate overvaluation is given by a one standard deviation decrease in the exchange rate measure, defined as the degree of exchange rate overvaluation based on purchasing-power-parity comparisons.

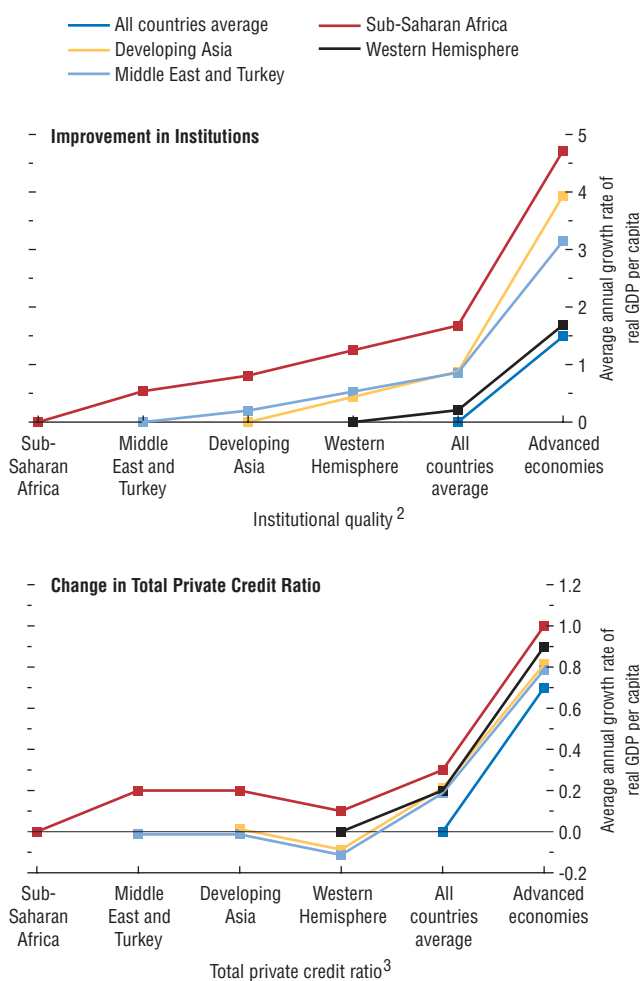
Figure 3.6. Notably, partly reflecting convergence effects, countries starting with the weakest institutions and lowest levels of initial income—in sub-Saharan Africa, for example—would have the most to gain from such improvements.

### How Do Institutions Affect the Volatility of Growth?

Thus far, institutions have been shown to explain a substantial part of cross-country differences in GDP per capita and GDP growth. What about economic volatility? Such instability has often been attributed to poorly managed macroeconomic policies although, as discussed in the next subsection, weak institutions may tend to foster bad policies and undercut the resilience of economies to exogenous shocks. Hence, poor

**Figure 3.6. Growth and Improvements in Institutions and Policies<sup>1</sup>**

Changes in institutions would have a significant impact on growth rates. Changes in the policy environment would also exert an important, though somewhat smaller, impact.



Source: IMF staff calculations.

<sup>1</sup>Figures show change in average annual real GDP per capita growth rate if a particular region improved its institutions or policies to match the quality of other regions.

<sup>2</sup>Measured by aggregate governance indicator. Not to scale: in particular, the figure understates the differences in quality of institutions.

<sup>3</sup>Not to scale: in particular, the figure understates the differences in the total private credit ratio.

institutions may lead to more volatile, crisis-prone economies compared with situations where institutions are better developed.

The results in the background work show a robust effect of institutions on volatility: the higher the quality of institutions, the lower the volatility of growth. Furthermore, the impact of institutions appears to be significant even when policy measures such as differences in inflation, exchange rate overvaluation, openness, and government deficits are taken into account (see below and Appendix 3.1). These findings are consistent with the results reported elsewhere.<sup>16</sup>

What impact would improving institutional quality have on volatility? The results suggest that a one standard deviation increase in the aggregate governance measure would cut volatility by over one-fourth on average (a 1.2 percentage point decline in the standard deviation of growth—see Table 3.3). The effects across different regions of gradual improvements in their quality of institutions are illustrated in Figure 3.7. For example, if countries in sub-Saharan Africa were to adopt the quality of institutions of the average country in the sample, they would experience a 16 percent reduction in volatility.<sup>17</sup>

### What About the Impact of Economic Policies?

There is an extensive literature suggesting that economic policies have a significant impact on macroeconomic outcomes. For example, the positive contributions of trade openness and human capital formation to GDP growth have been widely documented, as have the negative links between high inflation and growth.<sup>18</sup>

<sup>16</sup>See, for example, Acemoglu and others (2003).

<sup>17</sup>That is, the standard deviation of the annual percentage growth rate would fall by 0.8 percentage points, as shown in Figure 3.7.

<sup>18</sup>On the impact of trade, see, for example, Frankel and Romer (1999), and the recent survey by Berg and Krueger (2003). For the effects of inflation, see Barro (1997) and Bruno and Easterly (1995). Temple (1999) provides a broader survey of the recent growth literature, including the role of human capital.

Typically, though, recent work considering the roles of both institutions and policies on economic performance has found that institutions are the dominant factor, with little if any independent influence of policies.<sup>19</sup> Sachs (2003) takes issue with this conclusion, however, arguing that the specification of the basic models is lacking and, therefore, that strong conclusions—in particular, that “institutions rule” to the exclusion of everything else—are suspect.

In background work undertaken for this chapter, using a now-standard specification in the literature (see Appendix 3.1), our main finding is that policy variables do not appear as significant determinants of the *level of income* when institutional quality is taken into account. Some positive results for policies, however, are found in models explaining *growth* and *volatility*.

In the case of growth, the financial development variable, which can be importantly influenced by policy, is found to have a significant impact (Table 3.3). Illustrating this effect, if sub-Saharan Africa were to raise its level of financial development to the average of all countries in the sample, this region’s growth would increase by 0.5 percentage points a year.

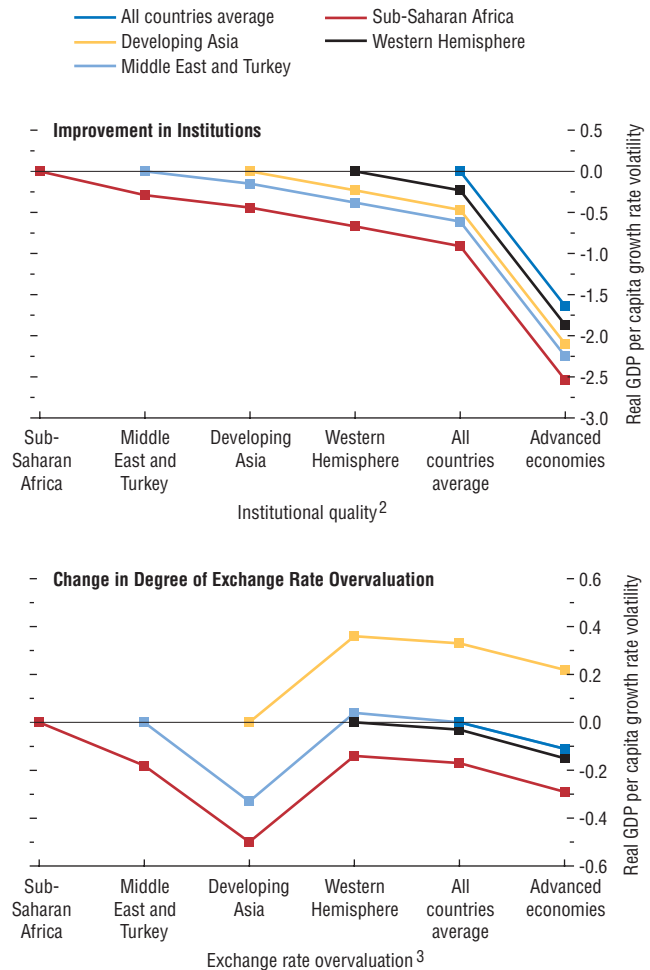
As to volatility, consistent with Acemoglu and others (2003), exchange rate overvaluation—possibly reflecting broader macroeconomic policy imbalances—is found to increase the volatility of growth (Table 3.3). To illustrate the effect, eliminating sub-Saharan Africa’s (estimated) exchange rate overvaluation would reduce the volatility of growth by about 5 percent.<sup>20</sup> Other policy measures—including those reflecting monetary and fiscal policies, as well as trade openness and schooling—do not appear to have a statistically significant impact on growth or on volatility when institutional influences are allowed for.

<sup>19</sup>See, in particular, Rodrik, Subramanian, and Trebbi (2002), and Easterly and Levine (2003).

<sup>20</sup>That is, the standard deviation of the annual percentage growth rate would fall from 5.8 to 5.5. See Appendix 3.1 for details on the exchange rate overvaluation measure.

**Figure 3.7. Growth Volatility and Improvements in Institutions and Policies<sup>1</sup>**

Improvements in institutional quality would help to reduce volatility. Sustainable macroeconomic policies would also make an important contribution.



Source: IMF staff calculations.

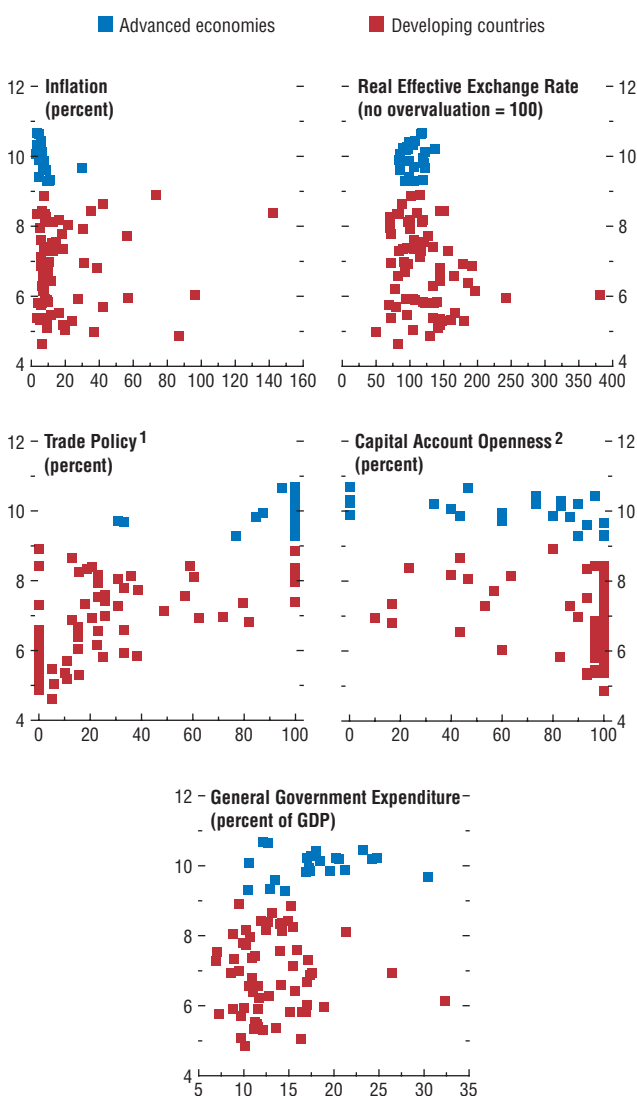
<sup>1</sup>Figures show change in standard deviation of average annual real GDP per capita growth rate if a particular region improved its institutions or policies to match the quality of other regions.

<sup>2</sup>Measured by aggregate governance indicator. Not to scale: in particular, the figure understates the differences in quality of institutions.

<sup>3</sup>Not to scale: in particular, the figure understates the differences in exchange rate overvaluation.

**Figure 3.8. Income per Capita and Policies**  
*(Logarithm of real GDP per capita on y-axis; x-axis as stated)*

Income per capita seems to have only a weak correlation with macroeconomic policies, but a more significant correlation with trade openness.



Sources: Sachs and Warner (1995a); Dollar (1992); IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)*; World Bank, *World Development Indicators* (2002); and IMF staff calculations.

<sup>1</sup>Percent of years between 1960 and 1998 in which trade policy meets "open" criteria according to Sachs and Warner (1995a).

<sup>2</sup>Percent of years between 1960 and 1998 in which capital controls were in effect according to AREAER criteria.

What accounts for the apparently weak role of policies found in this and other research, compared with the earlier literature that excluded institutions? First, in the case of income per capita, such findings are probably not surprising. The current level of income results in part from policies conducted over centuries, and the latter may be poorly proxied by policies as measured over the last 40 years or so.<sup>21</sup> Indeed, there appears to be a generally weak relationship between the level of GDP per capita and the various policy measures shown in Figure 3.8.<sup>22</sup>

Second, our empirical approach—relying on cross-sectional analysis, as few institutional measures are available in time series—is better suited to assessing the impact of institutions on measures of economic performance than that of policies. Institutions tend to evolve slowly, whereas policies often display significant variability through time. But we are unable to make use of the latter variation in our analysis. Moreover, Sachs's argument—that the relationship between economic performance, policies, and institutions is likely to involve complex dynamics (see footnote 22)—only underscores this point.

A third consideration is that some policies and institutional measures are in fact highly correlated, not least because, in some cases, the subjective measures of institutions used in this analysis represent an amalgam of policy and institutional factors.<sup>23</sup> This makes it more difficult to uncover a significant independent role for policy

<sup>21</sup>Rodrik, Subramanian, and Trebbi (2002) refer to a stock-flow distinction between GDP per capita (embodying the accumulated stock of policies over centuries), and macroeconomic policies (flows subject to more frequent change).

<sup>22</sup>A more fundamental issue is discussed in Sachs (2003): he takes issue with those who maintain that institutions matter to the exclusion of everything else, arguing instead that they have oversimplified their models of economic development to the point where strong conclusions are unlikely to be reliable. As Sachs puts it, "there is good theoretical and empirical reason to believe that the development process reflects a complex interaction of institutions, policies, and geography."

<sup>23</sup>This would be true, for example, of perceptions of government effectiveness and regulatory burden, which enter into the aggregate governance measure.

variables when institutions are included, even if some policies by themselves are significant when institutions are excluded. For example, the top panels in Figure 3.9 show simple correlations between growth and two policy measures—trade openness on the left side and educational attainment on the right. In each case, there is a clearly positive association between policies and growth. But, as illustrated in the middle panels, there is also a positive relationship between each policy measure and institutional quality. This close association hampers our ability to draw solid inferences about individual contributions to economic performance.<sup>24</sup>

The “bottom line” from these findings is not that policies are unimportant, but that our econometric framework (which is constrained, in particular, by the limited time series data on institutions) is not well suited to uncovering a relationship between policies and growth that may well be revealed through time. More generally, this evidence tends to reinforce the discussion in the first section of this chapter concerning potential interactions between policies and institutions: for example, sound policies need to be supported and sustained by strong institutions, while weak institutions may reduce the chance of good policies being adopted or may undermine their effectiveness.

## Institutional Reform in Practice

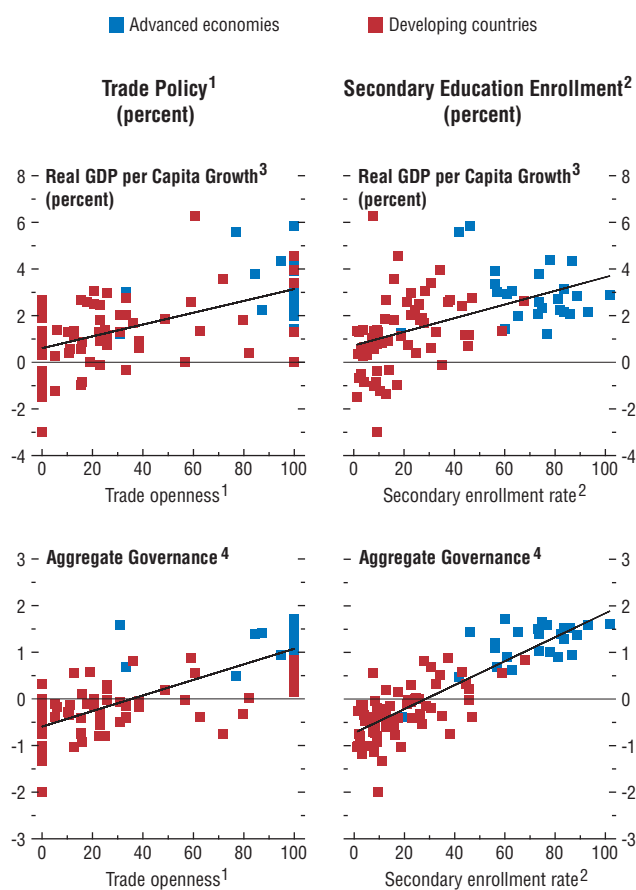
### Empirical Findings: A Clear Case for Institutional Improvement

The key finding from the empirical analysis in the previous section is that institutional quality has a significant impact on economic performance. This result holds whether performance is measured by cross-country differences in the level of income per capita, in growth rates, or in

<sup>24</sup>Indeed, in one of the pioneering papers in this literature—Hall and Jones (1999)—aggregate indicators of openness and institutional quality are combined in a measure of “social infrastructure,” which the authors find is strongly related to cross-country differences in the level of GDP per capita.

**Figure 3.9. Growth, Institutions, and Policies**  
(Y-axis as noted in panel label; x-axis in percent)

Economic policies appear correlated with both growth and institutions.



Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999); Sachs and Warner (1995a); World Bank, *World Development Indicators* (2002); and IMF staff calculations.  
<sup>1</sup> Trade policy measured as the percent of years between 1960 and 1998 that meet “open” criteria as defined by Sachs and Warner (1995a).  
<sup>2</sup> Percent of all secondary school age children enrolled in secondary education.  
<sup>3</sup> Average annual growth rate of real GDP per capita over the period 1960–98.  
<sup>4</sup> Aggregate institutional quality measure from Kaufmann, Kraay, and Zoido-Lobaton (1999). Values are scores as presented by original authors, with a higher score indicating higher quality institutions.

the volatility of growth. Specifically, improvements in institutions lead to higher incomes, stronger growth, and lower volatility. These results are quite robust and are independent of the specific measure of institutional quality adopted: similar results emerge whether one focuses on political, legal, or economic institutions. Moreover, the relationships hold across all the main regions, and are not driven by one or two specific country groups.

The analysis also indicates the presence of “catch-up” or convergence effects. While countries at all levels of development would benefit from stronger institutions, the impact of institutional improvements on growth appears to be strongest for countries starting from a lower level of economic (and institutional) development. This result further emphasizes the need for institutional strengthening to be at the forefront of efforts to improve growth and reduce poverty, particularly among the low-income countries. A key question then is how to create a “virtuous circle” whereby policies are put in place to strengthen institutions, and stronger institutions help support and sustain better policies.

### **Institutional Change: Often Slow but Sometimes Rapid**

A country’s institutions—such as those considered earlier reflecting the power and accountability of political leaders, and the degree of economic freedom—may be deeply rooted in its history and culture. Effecting change under these circumstances may be difficult and slow, not least because those with vested interests in current arrangements—probably including those in power—may be disinclined to introduce or support sweeping institutional reforms. A telling example in this regard may be the relatively slow pace of institutional reform in the Commonwealth of Independent States (CIS) during the transition process, especially compared with the more rapid reforms in central and eastern Europe (see Box 3.2). Faced with a range of institutional shortcomings, including a weak judiciary

and few other checks to executive power, vested interests in the CIS were able to use their political power to distort or stall reforms.

Institutions can and do change, however, often slowly—particularly among the advanced economies where institutions are already strong—but sometimes remarkably quickly. For example, trends in the rule of law from the mid-1980s to the present are illustrated in Figure 3.10. All regions show progress in strengthening the rule of law over the period—most notably in the first half of the 1990s. Some reversals occurred in the late 1990s, however, especially in developing Asia in the wake of the region’s financial crisis (which set back earlier progress in strengthening institutions in Indonesia and Malaysia, for example).

In some cases, institutional improvements have come about only after collapse of the previous regime—especially where this has been driven by a widespread desire for political and economic reform rather than, for example, the overthrow of one oppressive regime by another. Recent examples, albeit with varying degrees of success, include reforms among the formerly centrally planned economies, notably the general strengthening of institutions among countries in central and eastern Europe. Radical change has also come about in the “postconflict” states such as Timor-Leste, Kosovo, and Afghanistan, where establishing sound institutions has been a key part of international efforts in support of the new governing bodies.

Such drastic changes in regime are the exception, however. There are far more cases—among both advanced and developing economies—where institutions have been strengthened in a systematic and orderly manner. Some principles and mechanisms that may contribute to such reforms are considered next.

### **High-Quality Institutions: Some Broad Principles**

A growing literature, including Rodrik (1999, 2002) and Frankel (2002), suggests that successful market-based economies need institutions that will:

- Protect property rights, uphold the rule of law, and rein in corruption;
- Provide appropriate regulation of product, factor, and financial markets to counteract the sources or consequences of market failure;
- Support macroeconomic stabilization, including protecting the value of money and ensuring a sustainable fiscal stance; and
- Promote social cohesion and stability, including by guarding against extremes of poverty, reducing civil conflict, and muting the adverse consequences of economic dislocation and change.

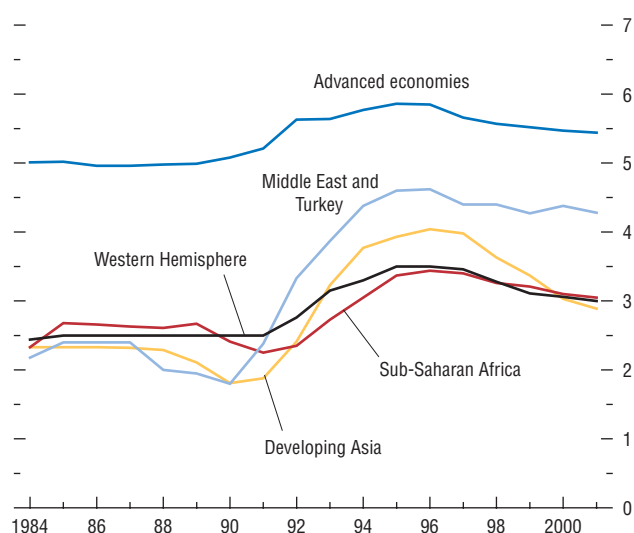
While these functions may be relatively uncontroversial, there is substantial uncertainty surrounding what might constitute an appropriate reform agenda for any particular country—both the specific endpoints of reform and the strategies for getting there.

- *Details of institutional design.* There is little understanding of what specific institutional forms will work best in any specific context. For example, high levels of income and wealth have been achieved among the advanced economies under a range of institutional structures—including various legal and regulatory approaches, and different degrees of state involvement in the economy. Similarly, fast-growing developing economies such as China, Botswana, and Mauritius have been able to achieve these results under substantially different institutional arrangements.<sup>25</sup>
- *Reform strategies and priorities.* Similarly, we know little a priori about what reform strategies—including priorities and sequencing—will be most effective in any particular set of circumstances. Countries that have experienced significant institutional change over recent decades—including China, Chile, and the central European economies—have done so using vastly different approaches. It

<sup>25</sup>For recent analyses of these countries' economic performance and the role of institutions, see Qian (2001) for China; Acemoglu, Johnson, and Robinson (2001b) for Botswana; and Subramanian and Devesh (2001) for Mauritius.

**Figure 3.10. Changes in the Rule of Law**

Institutions are not immutable. While advanced economies continue to exhibit a much more stable rule of law, several developing economies have experienced significant improvements over the past decade.



Source: International Country Risk Guide (ICRG).

**Box 3.3. Promoting Stronger Institutions and Growth: The New Partnership for Africa's Development**

At its inaugural Summit in Durban, South Africa, in July 2002, the African Union adopted an Action Plan of the New Partnership for Africa's Development (NEPAD) as the continent's framework for promoting economic development and strengthening partnerships with the international community. The main objectives of NEPAD are to promote peace and good governance, boost economic growth and fight poverty, and enhance aid mobilization and its effectiveness. It is envisaged that the domestic efforts in capacity and institution building would be supported by development partners, as indicated, for example, in the G-8 Africa Action Plan.

As elaborated below, NEPAD incorporates many of the principles identified in this chapter as conducive to institutional strengthening and growth. For example, emphasis is placed on reducing conflict, protecting human rights, and pursuing other measures to improve political governance. In addition, attention is focused on policies to promote competition, trade, and foreign investment, underpinned by measures to strengthen macroeconomic and structural policy frameworks—drawing in part on international practices and peer review. NEPAD also emphasizes the need for adaptation of development strategies—including institutional growth—to local circumstances, supported by the strengthening of domestic agencies and mechanisms through which policy improvements are implemented.

Actions planned to improve political governance focus on strengthening regional mechanisms for conflict prevention, management, and resolution, with the expectation that the African Union would play a central role in these efforts. Work is under way to develop the capacity for triggering early warning signals of potential conflicts and preventive actions, taking remedial actions, and managing the peace process—including support for postconflict reconstruction in affected countries. To promote democracy and protect human rights, a Steering

Committee of NEPAD is developing proposals for political governance standards and a peer review mechanism for promoting the adoption of these standards.

Turning to economic governance, NEPAD underscores the importance of fighting corruption and calls for the adoption of internationally accepted standards, supported by peer reviews in three key areas: macroeconomic policy, institutional and market infrastructure, and financial regulation and supervision. It stresses that compliance with appropriate standards would be required of both public and private sector entities.

NEPAD's strategy for growth is based on two mutually supportive pillars: a climate conducive to investment, both public and private, and sectoral priorities focused on education, health, water and sanitation, agriculture, energy, and essential infrastructure (including transport, and access to information and communication technology). To develop and improve public service delivery in these sectors, a number of African governments—notably, Benin, Burkina Faso, Mali, Mozambique, Tanzania, and Uganda—are restructuring public expenditures. They are also establishing the regulatory, institutional, and incentive frameworks needed to encourage private investment, partly through public-private partnerships, and stronger regional cooperation and integration. In several countries, including Cameroon, Ghana, Tanzania, and Zambia, special efforts are being made to develop the financial sector, with a view to expanding microfinance to the rural sector and small and medium-sized firms, establishing long-term credit facilities, and adapting the supervision and regulatory framework to promote these activities. This overall effort is in part aimed at preparing countries for eventual access (progressively) to external capital. NEPAD also supports national policies that promote competitiveness and output diversification. It calls on regional institutions to facilitate policy harmonization and macroeconomic convergence, and on industrial countries to open up their markets to Africa's exports.

Note: The main authors of this box are Anupam Basu and Delphin Rwegasira.

NEPAD's continent-wide development strategy will in practice have to be translated at the national level, taking into account each country's specific needs and circumstances. An important instrument already existing for this purpose is the country-driven Poverty Reduction Strategy Paper (PRSP). In each country, the PRSP is prepared with the participation of representatives of civil society groups, the private sector, and the international donor community. The paper outlines a country's profile of poverty, sets out targets for poverty reduction (including the progress expected in meeting Millennium Development Goals), presents sectoral expenditures and overall resource constraints in a consistent medium-term expenditure framework, and facilitates the mobilization and coordination of external financing.

In the sphere of political governance, beyond conflict resolution, NEPAD further calls for enhanced capacity and stronger institutions in administrative and civil service structures, parliamentary oversight, participatory decision making, judicial services, and anti-corruption mechanisms. Institutional development and reform are envisaged at both national and regional levels, with the latter focusing on the requisite legal instruments, conventions, and protocols with the African Union. With respect to economic and corporate governance, capacity and institution building is to concentrate on establishing "best practices." In these and related aspects, African countries would accordingly strengthen or establish national institutions as well as draw on the expertise of regional organizations—African Development Bank (AfDB), the Economic Commission for Africa (ECA), and African Regional Technical Assistance Centers (AFRITACs)—and international institutions (including the IMF and World Bank).

A key institutional initiative within NEPAD will be the African Peer Review Mechanism (APRM). The primary objective of the APRM is to enable African countries to learn from one another and create a shared vision on effective strategies for social and economic development. Such a vision would be vital in enhancing inter-

national partnerships and attracting domestic and foreign investment. In this regard, NEPAD is developing criteria and indicators for measuring country performance in political and economic governance. In November 2002, 12 countries<sup>1</sup> formally indicated their commitments to accede to the APRM, and since then a few more have given verbal commitment to follow suit.

Although the peer review process will have to remain clearly under African ownership, development partners have offered the cooperation of the OECD with relevant African institutions, notably the ECA, through the sharing of information and experience as well as assistance for developing the necessary expertise. Furthermore, NEPAD has proposed that a system be established for African countries and their external development partners to review from time to time development effectiveness and related aid management issues. The institutional framework for such joint reviews, which were broadly endorsed by OECD ministers, is being explored by the ECA and the OECD.

The NEPAD initiative is clearly still evolving. There has been progress in some areas, including the partial articulation of the APRM and the positive response of partners through the G-8 Africa Action Plan. Much remains to be done, however, to turn the vision into reality. The various aspects of the initiative need to be firmly integrated into national policies, drawing on wider participation by elements of society and clear commitments to institutional and other reforms. Stronger national policy frameworks should also attract actions by bilateral and multilateral institutions in the critical areas of resource transfer (including debt reduction), policy dialogue, and capacity development. A combination of supportive domestic policies and external official assistance would provide a springboard for much-needed inflows of foreign direct investment.

<sup>1</sup>The countries are Algeria, Congo (Republic of), Egypt, Ethiopia, Gabon, Ghana, Mali, Mauritius, Mozambique, Nigeria, Rwanda, and South Africa.

**Box 3.4. Institutional Development: The Role of the IMF**

Weak institutions impede growth and undermine the implementation of sound macroeconomic policies. IMF-supported programs, therefore, often include measures designed to address institutional weaknesses, reduce opportunities for corruption and other forms of rent-seeking, and promote good governance more generally.<sup>1</sup> The IMF's involvement is generally aimed at increasing the transparency of government activities, the effectiveness of public resource management, and the stability and transparency of the environment in which the public sector operates. The IMF also seeks to strengthen governance of the financial sector, including through the Financial Sector Assessment Programs (FSAPs): these are undertaken in conjunction with the World Bank, and include technical assistance to improve supervisory capacity and central bank and banking legislation. In addition, IMF-supported programs often incorporate institutional measures designed more specifically to safeguard the resources provided by the IMF.

Some of the impetus for the attention to institutional development in IMF programs came from the IMF's involvement in low-income countries, through the concessional financing facilities established in the 1980s (the Structural Adjustment Facility and its successor, the Enhanced Structural Adjustment Facility). A second factor was the breakup of the Soviet Union in the early 1990s, when the IMF became heavily involved in assisting 15 new member countries in which key government institutions did not exist and in which a range of new governance problems soon emerged. This experience, together with increasing evidence of the importance of good institutions for growth and macroeconomic stability, led the IMF to become increasingly involved in governance issues.

As a result, by the late 1990s, about two-thirds of all IMF-supported programs included some

conditionality that would contribute to good governance, either directly or by improving economic management more generally. Examples include policies to reduce rent-seeking opportunities, for instance by liberalizing trade, exchange rates, prices, or credit allocation. For example, programs in Bulgaria and Indonesia included measures to stem losses in state-owned enterprises to improve credit allocation in the economy. Other programs hinged on steps to strengthen revenue administration (e.g., Bolivia and Cameroon) and expenditure management (e.g., Azerbaijan and Côte d'Ivoire). The IMF's financing for Indonesia and Mali required reforming or dismantling state monopolies. In some instances, such as in Cambodia and Kenya, programs have had to address large-scale corruption that has important macroeconomic implications.

In response to some episodes involving alleged misuse of IMF resources and the misreporting of information, in 2000 the IMF introduced safeguards assessments of central banks in countries receiving IMF financing. The purpose of these assessments is to ensure that the central bank's control, accounting, reporting, and auditing systems are adequate to ensure the integrity of operations. In cases in which these assessments uncover serious deficiencies, these are addressed through conditionality.

The IMF's involvement in governance issues is not limited to program conditionality, however. In the context of its surveillance over member countries, the IMF provides advice on governance issues when they are of macroeconomic relevance. Reports on countries' observance of international standards and codes (ROSCs)—including those related to fiscal transparency, transparency in monetary and financial policy, data quality, financial sector soundness, and best practices in accounting and financial management—help identify institutional weaknesses. While participation in a ROSC is voluntary, many countries are electing to do so; ROSCs provide information that can be useful both in the context of surveillance and in designing an IMF-supported program.

Note: The main author of this box is Timothy Lane.

<sup>1</sup>See IMF (2001b).

The IMF also provides technical assistance that helps countries strengthen their institutional capacity in various ways. Such support includes, for instance, assistance designed to address budget preparation and approval procedures, tax administration, accounting and auditing, central bank operations, and official statistics.

The IMF's role in institutional issues has resulted in some tensions, however. A controversy emerged over whether the expansion of structural conditionality in general, including that related to governance issues, was effective, or whether the IMF's involvement in countries' internal decision-making processes had become too pervasive and was proving counterproductive. These concerns were reflected in the IMF's 2000–02 conditionality review, culminating in new guidelines on conditionality issued in September 2002. These guidelines emphasize the need for parsimony in the application of conditionality, to focus on measures that are critical to a program's macroeconomic objectives. The move to streamline IMF conditionality

is accompanied by strengthened collaboration with the World Bank, which also applies conditionality to institutional measures that are within its areas of responsibility (see IMF, 2001a, 2001c, and 2002).

A key motivating factor in the new guidelines is the increasing awareness that a program is likely to be successfully implemented only if the authorities are strongly behind it. It is often particularly difficult to establish ownership for institutional reforms that affect the interests of powerful individuals and groups. It may be especially challenging to build ownership for reforms aimed at tackling corruption in cases where corruption is pervasive among policy-makers—precisely where such reforms are most needed. This points to the need for the IMF to be selective in providing support, withholding financing from policy programs that are unlikely to achieve their objectives. For instance, the IMF withheld financing for Kenya during 1997–2000, in the wake of a scandal involving irregular payments under an export compensation scheme.

may not be possible—and indeed, as discussed below, may not be desirable—to draw general conclusions and “reform rules” from such experiences.

What the two points above *do* imply is that institutional design and reform are likely to have important country-specific components (and sometimes time-specific ones as well). In particular, North (1990) and others have emphasized that institutional arrangements and reform strategies that appear to have worked well in one country are unlikely to perform as effectively if transplanted to another, at least without adaptation and innovation to suit local circumstances. For example, the particular institutional arrangements used to protect property rights and uphold the rule of law in China are in part an outgrowth of broader economic and political developments in that country, and may not be

readily adopted elsewhere. Similarly, the concept of international “best practice” is unlikely to be meaningful when applied to detailed specifications of institutional forms.

### What Can Policy Do to Spur Institutional Reform?

That being said, there is a role for policies in fostering institutional development—development that will in turn promote policy sustainability and economic growth. Several mechanisms—some general, others more specific—have been stressed in the literature as being useful in promoting institutional improvement.

- *Competition and trade openness.* A number of studies have found that strengthening competition, including through trade openness, tends to be conducive to institutional improve-

ment.<sup>26</sup> In particular, opening up markets may help to weaken vested interests and reduce rents derived from prevailing economic and institutional arrangements, and may lead to demands for institutions more suited to an increasingly varied, complex, and possibly risky range of transactions.

- *Information and transparency.* There is also some evidence that a free and widely read press, particularly if largely under private rather than public control, may help reduce corruption and increase government effectiveness.<sup>27</sup> Press freedom may, for example, complement and enhance the transparency of public decisions and hence reduce the scope for institutional failure. More generally, transparency—including through adoption of internationally recognized standards for the release of information—may contribute to improvements in efficiency and in policies: as noted by Fischer (2002), “transparency is important not only because it provides more information to the markets, but even more because it puts constraints on what policymakers can do.”
- *External anchors.* In some more specific contexts, external incentives, constraints, and agreements also appear to have contributed to institutional change. More general use of such mechanisms may provide a way forward for at least some countries and regions, helping to break through domestic impediments to reform. Several examples can be cited. Institutional improvements in central and eastern Europe over the past decade may be partly attributable to the European Union accession process (as discussed in Box 3.2).<sup>28</sup> Similarly, membership requirements for the

World Trade Organization may have contributed to recent reform efforts in China and elsewhere, and there is some indication that participation in NAFTA has helped build stronger institutions in Mexico.<sup>29</sup> Collective commitments and peer pressure are the key mechanisms to be used in the New Partnership for Africa’s Development (NEPAD), focusing on institutional development among sub-Saharan African countries (Box 3.3). And loans from the international financial organizations are generally accompanied by conditions and often technical assistance for borrowers to strengthen institutions in such areas as macroeconomic policies, the financial system, and corporate governance (Box 3.4).

An overriding requirement, however, is the need for domestic ownership of and commitment to reforms, including those directed at strengthening institutions. In a context where institutional improvement is clearly important, but where the details of institutional design and reform may be largely specific to the country itself, the issue of ownership becomes central to the sustainability of reforms and their impact on economic performance. Empirical evidence regarding the importance of ownership (particularly in the context of IMF lending programs) is presented in Boughton and Mourmouras (2002), together with measures that may strengthen this influence. Underscoring the country-specificity of institutional reforms, these measures include increasing the flexibility in program design, emphasizing outcomes rather than detailed policy actions, and ensuring that key participants in the reform process are fully empowered. Thus, while open-

<sup>26</sup>For the role of domestic competition (or lack of such), see, for example, Ades and Di Tella (1999), Djankov and others (2001), and the World Bank’s *World Development Report* (2002). For the positive spillovers from trade openness, including on institutions, see Berg and Krueger (2003) and references therein; also see Islam and Montenegro (2002) and Wei (2000).

<sup>27</sup>See, for example, the recent summary of the evidence in Blumkin and Gradstein (2002). Sen (1995) provides an important comparison between India and China in terms of the impact of transparency on the relative incidence of poverty and famine. Besley and Burgess (2000) find that, in India, government responsiveness to crises is more effective in states where newspaper circulation is highest.

<sup>28</sup>See also the discussion of transition economies in the September 2000 *World Economic Outlook*.

<sup>29</sup>See the World Bank’s *World Development Report* (2002), and the discussion in Box 3.2.

ness, transparency, and external anchors may all play supportive roles, there is unlikely to be a substitute for strong domestic leadership in the key institutional reforms needed for sustained improvements in economic performance.

### Appendix 3.1. Do Institutions Drive Economic Performance?<sup>30</sup>

This appendix provides further details on the modeling strategy, the data, and the evidence regarding the role of institutions on economic performance.

#### Modeling Strategy

To examine the relative importance of institutions as a determinant of economic performance, a simple econometric framework is adopted. The model regresses the macroeconomic outcome for country  $i$  on a measure of its institutions, a measure (or set of measures) of macroeconomic policy, and a set of exogenous variables. It takes the following form:

$$X_i = a + b[\text{Institutions}] + c[\text{Policy}] + d[Z] + u \quad (1)$$

$$\text{Institutions} = f[Z] + e, \quad (2)$$

where  $X_i$  is the macroeconomic outcome of interest; *Institutions* is a measure of institutional development; *Policy* represents measures of macroeconomic policies; and  $Z$  is a set of exogenous control variables, including geographic variables capturing a country's basic endowments.

The parameters that we are interested in identifying are  $b$  and  $c$ , the effects of institutions and macroeconomic policy on economic performance. The simplest strategy would be to estimate equation (1) using ordinary least squares. Institutions are endogenous, however, and the policy variables may be as well. Therefore, the

model is estimated by two-stage least squares, using a set of instruments (discussed below) that are correlated with the endogenous regressors and orthogonal to the disturbances.

#### Data

The description of the data used in the analysis and their key features, including regional differences, are highlighted below.

#### Measures of Economic Performance

The empirical analysis focuses on three measures of economic performance:

- *economic development* is measured as the logarithm of real per capita GDP in 1995;
- *growth* is measured as the average growth rate of per capita GDP over the period 1960–1998 (reflecting the availability of reliable data); and
- *volatility of growth* (“volatility”) is measured as the standard deviation of the growth rate of per capita GDP over the period 1960–98.

#### Measures of Institutions

Recent empirical analyses have typically considered three relatively newly developed and broad measures of institutions.

- An *aggregate governance* index, which is the average of the six Kaufmann, Kraay, and Zoido-Lobaton measures of institutional development.<sup>31</sup> The underlying measures are defined as follows: (1) *voice and accountability*—the extent to which citizens can choose their government, political rights, civil liberties, and independent press; (2) *political stability and absence of violence*—the likelihood that the government will be overthrown by unconstitutional or violent means; (3) *government effectiveness*—the quality of public service delivery and competence of the civil service,

<sup>30</sup>The main author of this appendix is Hali Edison.

<sup>31</sup>Most of the analysis focuses on the equally weighted average of the six measures given by Kaufmann, Kraay, and Zoido-Lobaton (1999a). The findings are confirmed with each of the six underlying measures taken separately. The indicators used in the analysis are based on data for 1997 and 1998. The method used to calculate each index gives it approximately a unit normal distribution and a range from –2.5 to 2.5. For details see <http://www.worldbank.org/wbi/governance>.

including the degree of its politicization; (4) *regulatory burden*—the relative absence of government controls on goods markets, banking system, and international trade; (5) *rule of law*—the protection of persons and property against violence or theft, independent and effective judges, contract enforcement; and (6) *freedom from graft*—absence of use of public power for private gain or corruption. The method used to calculate each subindex gives it approximately a unit normal distribution, with an increase always meaning better quality of institutions.<sup>32</sup>

- A measure of *property rights*, indicating the degree of protection that private property receives.<sup>33</sup> Each country is rated on a scale of one to five, with a higher score indicating greater property rights.<sup>34</sup>
- A variable measuring the “*constraint on the executive*,” reflecting institutional and other limits placed on presidents and other political leaders. A society in which elites and politicians are effectively constrained is expected to experience less infighting between various groups to take control of the state, and to pursue more sustainable policies. The variable has a scale from one to seven, with a higher score indicating more constraints.<sup>35</sup>

<sup>32</sup>These measures are based on an unobserved components model that aggregates over 300 indicators, ranging from ratings by country experts to survey results. Some of the components that comprise the index include policy factors. More important, given the subjective nature of the underlying polls and surveys, it is possible that the respondents’ answers to questions on institutions are influenced by their perception of policies. Nevertheless, this is the best set of institutional measures.

<sup>33</sup>The data are drawn from the Heritage Foundation’s Index of Economic Freedom for the year 1997, and are in fact incorporated into the Kaufmann, Kraay, and Zoido-Lobaton indicator. Thus, the two measures are not totally independent. However, this measure has been used extensively elsewhere in the literature and included as a robustness check. See <http://www.heritage.org/research/features/index>.

<sup>34</sup>The score is based, broadly, on the degree of legal protection of private property, the extent to which the government protects and enforces laws that protect private property.

<sup>35</sup>For more details, see the description in Gurr and Marshall (2000) of the Polity IV dataset. Also see <http://www.cidcm.umd.edu/inscr/polity>.

<sup>36</sup>This measure was originally calculated by Dollar (1992) and has been updated by Easterly and Levine (2003). The measure is calculated as an index where 100 signifies no under- or overvaluation and the higher the number the more the overvaluation. Typically, extreme overvaluation reflects a situation where the government has kept the exchange rate constant in the face of high domestic inflation.

<sup>37</sup>The index measures the fraction of years during 1960–98 that the economy has been open; it is measured on a (0, 1) scale. A country is considered open if it satisfies all of the following criteria: (1) nontariff barriers cover less than 40 percent of trade; (2) average tariff rates are less than 40 percent; (3) the black market premium was less than 20 percent during the 1970s and 1980s; (4) the economy is not socialist; and (5) the government does not control major exports through marketing boards.

### Policy Measures

A number of macroeconomic policy measures have been considered in the literature to investigate the importance of policies in explaining cross-country differences in economic performance. Following this literature, measures used in the current analysis include:

- *Inflation*, aimed at capturing the consistency of monetary policy. This is measured as the average of the logarithm of inflation rates over the last four decades (that is, the same period as covered by the growth and volatility data).
- *Exchange rate overvaluation*, intended to reflect a poor mix of macroeconomic policies and associated macroeconomic imbalances. This is based on purchasing-power-parity comparisons, using the Summers-Heston measure capturing the average degree of overvaluation from 1960–98.<sup>36</sup>
- *Trade openness*, used to indicate the degree of goods market integration. This is measured as the fraction of years from 1960 to 1998 that the country does not interfere with foreign trade, as compiled by Sachs and Warner (1995a).<sup>37</sup>
- *Government size*, aimed at proxying for “irresponsible” fiscal policy. It is measured as the

average size of government expenditure as a ratio to GDP.

- *Financial development*, used to indicate the depth of the domestic financial market. It is measured as the ratio of private credit to GDP.
- *Capital account openness*, intended to indicate the degree of financial market integration. This reflects the proportion of years in which a country has had restrictions on its capital account.<sup>38</sup>

### Additional Variables

An additional set of explanatory variables is often used either as part of the standard framework or to test for the robustness of the results, and several of these terms are also included in the current analysis. In the development literature, for example, additional terms include religion and the origin of the legal system, both of which tend to control for possible differences in property rights and the role of the state. In the growth literature, additional explanatory variables include initial income and initial education to control for the convergence effect. In the volatility literature, initial income is also included because it has been shown that poorer countries tend to be buffeted by more shocks and hence suffer substantially more volatility (see Acemoglu and Zilibotti, 1997).

In the analysis of economic development, there is a voluminous literature that places geography at the center of the story. To consider the role of geography, several different measures of endowments are considered.

- *Latitude*: countries that are closer to the equator tend to have more tropical climates

that may hinder production. This is measured as the absolute value of the country's latitude.

- *Landlocked*: being landlocked may reduce a country's ability to access large economic markets, hinder its ability to exploit economies of scale, and tend to lower its production efficiency. This term is measured as a dummy variable that takes the value of zero if the country has coastal territory on the world's oceans, and one otherwise.
- *Settler mortality*: this captures the disease environment of the country and provides information on the type of colonies that were established. It is measured as the logarithm of annualized deaths per thousand among European soldiers.<sup>39</sup>

Some of these geographic variables have been used as instruments for the institutional variable. Other instruments were also used to take into account the extent of western European influence. This list includes:

- *ethnolinguistic diversity*: the probability that two randomly selected individuals from a country are from different ethnolinguistic groups;<sup>40</sup>
- *European languages* (two variables): the fraction of a country's population speaking one of five primary western European languages (including English) as a mother tongue, and the fraction speaking English as a mother tongue;<sup>41</sup> and
- *legal origins*: a set of dummy variables that capture a country's legal origin (British, French, or German).<sup>42</sup>

### Highlights of the data

The background empirical work uses a sample of 94 countries, of which 25 are classi-

<sup>38</sup>Although there are many alternative measures for capital account openness (see, for example, Edison, Klein, Ricci, and Sløk, 2002), we use this measure as it has wide coverage and has been used extensively in the debate about the impact of capital account liberalization on growth. These data come from the IMF's various issues of the *Annual Report on Exchange Arrangements and Exchange Restrictions*.

<sup>39</sup>Acemoglu, Johnson, and Robinson (2001a) compile these data. They argue that settler mortality provides information on whether initial endowments tended to favor the creation of "extractive colonies" or "settler colonies" (see Box 3.1).

<sup>40</sup>It has been predicted that as ethnolinguistic diversity rises, countries tend to have weaker institutions.

<sup>41</sup>Following Hall and Jones, we allow English and other languages to have separate impacts.

<sup>42</sup>There is a growing body of analysis that argues that the legal tradition implanted by European colonists profoundly shapes national approaches to property rights protection.

**Table 3.4. Selected Summary Statistics<sup>1</sup>**

Variable	All Sample Countries	Advanced Economies	Developing Economies	Sub-Saharan Africa	Developing Asia	Middle East and Turkey	Western Hemisphere
<b>Economic outcomes</b>							
Real GDP per capita <sup>2</sup>	7,416 (10,877)	23,498 (9,108)	1,589 (1,725)	803 (1,239)	1,245 (1,319)	1,549 (779)	2,887 (2,052)
Growth volatility <sup>3</sup>	4.39 (2.05)	2.63 (0.85)	5.03 (1.99)	5.80 (2.13)	3.48 (0.99)	6.13 (2.66)	4.31 (1.18)
Average real growth rate <sup>4</sup>	1.70 (1.63)	2.98 (1.15)	1.23 (1.53)	0.53 (1.66)	2.48 (1.24)	2.27 (0.68)	1.30 (1.10)
<b>Institutional measures</b>							
Aggregate governance <sup>5</sup>	0.13 (0.85)	1.25 (0.35)	-0.28 (0.55)	-0.49 (0.53)	-0.19 (0.40)	-0.29 (0.41)	-0.03 (0.53)
Property rights <sup>6</sup>	3.45 (1.08)	4.64 (0.57)	3.00 (0.86)	2.68 (0.77)	3.40 (0.84)	3.25 (0.96)	3.14 (0.91)
Executive constraint <sup>7</sup>	4.25 (2.09)	6.35 (1.22)	3.47 (1.80)	2.85 (1.67)	4.52 (1.71)	2.84 (1.88)	4.32 (1.56)
<b>Macroeconomic policies</b>							
Trade openness <sup>8</sup>	43.08 (40.21)	92.31 (19.06)	25.24 (29.48)	12.59 (21.86)	40.35 (40.35)	31.79 (39.16)	34.62 (26.57)
Inflation <sup>9</sup>	16.04 (21.59)	6.88 (5.28)	19.36 (24.20)	16.24 (18.28)	9.51 (7.75)	14.00 (9.40)	31.49 (34.85)
Exchange rate <sup>10</sup>	117.29 (42.87)	104.64 (14.15)	121.87 (48.61)	136.61 (40.53)	80.74 (10.26)	116.90 (35.60)	120.99 (64.01)

Sources: Kaufmann, Kraay, and Zoido-Lobaton (1999b); Heritage Foundation (2003); Gurr and Marshall (2000); Sachs and Warner (1995a); Dollar (1992); World Development Indicators, World Bank (2002); and IMF staff estimates.

<sup>1</sup>Values are means with standard deviation across countries in parentheses below each value.

<sup>2</sup>Real GDP per capita in 1995.

<sup>3</sup>Average standard deviation of real GDP per capita growth over 1960–98.

<sup>4</sup>Average annual growth rate of real GDP per capita.

<sup>5</sup>Aggregate institutional quality measure by Kaufmann, Kraay, and Zoido-Lobaton (1999b).

<sup>6</sup>Quality of property rights protection as measured by Heritage Foundation (2003).

<sup>7</sup>Polity IV project measure of constraints on power of national executive.

<sup>8</sup>Percent of years since 1960 that are classified “open” by Sachs and Warner (1995a).

<sup>9</sup>Average inflation over 1960–98, expressed in natural log terms.

<sup>10</sup>Real effective exchange rate overvaluation.

fied as advanced economies and 69 are developing.<sup>43</sup> These countries represent all geographic regions. Summary statistics for the key variables used in this analysis are presented in Table 3.4. As discussed in the main text of this chapter, if the advanced economies are compared with the full sample of developing countries, stronger economic outcomes for

the former are consistently associated with higher quality of both institutions and macroeconomic policies. The pattern is not as consistent across the different developing country regions, although sub-Saharan Africa tends to fare relatively poorly under most measures of economic outcomes, institutions, and policies.

<sup>43</sup>The 25 advanced countries are Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The 69 developing countries are Algeria, Argentina, Bangladesh, Barbados, Bolivia, Botswana, Brazil, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Chile, Colombia, Congo, Costa Rica, Côte d’Ivoire, Democratic Republic of Congo, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Gabon, Ghana, Guatemala, Haiti, Honduras, India, Indonesia, Islamic Republic of Iran, Jamaica, Jordan, Kenya, Madagascar, Malawi, Malaysia, Mauritania, Mauritius, Mexico, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Paraguay, Peru, the Philippines, Rwanda, Senegal, Sierra Leone, South Africa, Sri Lanka, the Syrian Arab Republic, Tanzania, Thailand, The Gambia, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Uruguay, Venezuela, Zambia, Zimbabwe.

**Table 3.5. GDP Per Capita and Institutions: Regression Results<sup>1</sup>**

	Institutions Only			Policies and Institutions		
Aggregate governance measure <sup>2</sup>	<b>2.09</b>	...	...	<b>2.04</b>	...	...
Property rights <sup>3</sup>	...	<b>1.85</b>	...	...	<b>1.5</b>	...
Constraints on executive power <sup>4</sup>	...	...	<b>1.10</b>	...	...	<b>1.2</b>
Inflation <sup>5</sup>	...	...	...	0.65	0.34	0.91
Trade openness <sup>6</sup>	...	...	...	0.21	0.96	-0.023
Exchange rate overvaluation <sup>7</sup>	...	...	...	-0.0002	0.003	0.004
<i>R</i> <sup>2</sup>	0.73	0.44	0.20	0.74	0.60	0.14
Number of observations	93	91	92	93	91	92

<sup>1</sup>The dependent variable is the logarithm of real GDP per capita in 1995 in U.S. dollars at market rates. The regressions are estimated using two-stage least squares with latitude and ethnolinguistic diversity as instruments.

Bold values signify statistical significance at the 1 percent level.

<sup>2</sup>The aggregate governance measure averages the six subindices reported in Kaufmann, Kraay, and Zoido-Lobaton (1999b). The method used to calculate each subindex gives it approximately a unit normal distribution, with an increase always meaning a better quality of institution.

<sup>3</sup>The property rights measure indicates the degree of legal protection of private property and the extent to which the government enforces such laws. Each country is rated on a scale of 1 to 5, with a higher score indicating greater property rights.

<sup>4</sup>The constraint on the executive reflects institutional and other limits placed on presidents and other political leaders. The measure is compiled by Gurr and Marshall (2000) in the Polity IV project and has a scale from 1 to 7, with a higher score indicating more constraints.

<sup>5</sup>Inflation equals the average annual inflation rate over 1960–98.

<sup>6</sup>Trade openness indicates the degree of goods market integration. It equals the fraction of years the country has been open to trade over 1960–98, following Sachs and Warner (1995a).

<sup>7</sup>Real exchange rate overvaluation shows the average exchange rate misalignment over 1960–98. It is based on purchasing-power-parity comparisons, using the Summers-Heston measure, where 100 signifies parity and higher (lower) numbers indicate over- (under-) valuation, following Dollar (1992).

### What Explains Cross-Country Variations in Economic Development?

The model framework (equations 1 and 2) used to examine cross-country variations in *economic development* is quite parsimonious. This framework allows us to consider competing explanations that have been put forward in the literature—notably, the roles of institutions, geography, and policies. As discussed in the main text, however, Sachs (2003) points out that such relatively simple models may not fully reflect the dynamism and complexity of the economic development process.

Keeping this qualification in mind, our findings in background work conducted for the current chapter are consistent with recent results in much of the literature (particularly Acemoglu and others, 2003; Easterly and Levine, 2003; and Rodrik, Subramanian, and Trebbi, 2002) suggesting that the role of geography in explaining cross-country patterns of income per capita operates predominately through the institutional channel. When this channel is taken into

account, little direct effect of geography on income remains.

What role do institutions play in explaining economic development? Results from a set of regressions of per capita income on various institutional measures are reported in Table 3.5. Each of the regressions treats the institutional index as endogenous and uses geographic variables as instruments. The results show that each of the institutional measures has a statistically significant impact on GDP per capita. These findings mirror those reported in Easterly and Levine (2003) and Rodrik, Subramanian, and Trebbi (2002).

Do macroeconomic policies help explain the current levels of economic development? The right-hand side of Table 3.5 presents two-stage least squares estimates for models in which three macroeconomic policy variables are added to the previous results that used just the institutional measures. In these results, all three measures of institutions remain statistically significant, while the macroeconomic policy terms are not significant.<sup>44</sup> As suggested in the

<sup>44</sup>Additional policy variables, such as government size and capital account openness, were considered in similar regressions but were not found to be statistically significant and hence are not reported.

**Table 3.6. Growth, Institutions, and Policies: Regression Results<sup>1</sup>**

	Excluding Institutions	Including Institutions
Aggregate governance measure <sup>2</sup>	...	<b>0.13</b>
Initial income <sup>3</sup>	<b>-0.009</b>	<b>-0.012</b>
Institution × initial income <sup>4</sup>	...	<b>-0.014</b>
Secondary education <sup>5</sup>	<b>0.0003</b>	0.0002
Exchange rate overvaluation <sup>6</sup>	<b>-0.0001</b>	-0.00005
Financial development <sup>7</sup>	0.02	0.019
<i>R</i> <sup>2</sup>	0.44	0.55
Number of observations	88	88

<sup>1</sup>The dependent variable is growth, which is measured as the average annual growth rate of GDP per capita over 1960–98. The regression is estimated using two-stage least squares in which the endogenous variable in the regression is the aggregate governance measure variable. Latitude, ethnolinguistic diversity, legal origins, the fraction of population that is English speaking, and the fraction of the population speaking one of the major languages of western Europe are used as instruments.

Bold values signify statistical significance at the 1 percent level and italics signify significance at the 5 percent level.

<sup>2</sup>The aggregate governance measure averages the six subindices reported in Kaufmann, Kraay, Zoido-Lobaton (1999b). The method used to calculate each subindex gives it approximately a unit normal distribution, with an increase always meaning a better quality of institution.

<sup>3</sup>Log of initial GDP per capita as reported in Heston and Summers (1991) for 1960.

<sup>4</sup>Captures the interaction between initial income and institution.

<sup>5</sup>Secondary education represents the initial level of secondary education.

<sup>6</sup>Real exchange rate overvaluation shows the average exchange rate misalignment over 1960–98. It is based on purchasing-power-parity comparisons, using the Summers-Heston measure, where 100 signifies parity and higher (lower) numbers indicate over-(under-) valuation, following Dollar (1992).

<sup>7</sup>Financial development is the ratio of private credit to GDP following Levine (2002).

main text, however, the empirical framework used here may not be rich enough to examine the underlying role of policies. For example, current levels of development are a result of policies conducted over centuries, whereas our policy measures consider just the past 40 years.

## Growth

Next, we examine the roles of institutions and policies in explaining cross-country variations in *growth*. The same modeling framework employed to examine economic development is used to answer this question. A well-established literature has found that policies matter for growth. As noted in the main text of this chapter, however, some recent contributions in which growth

**Table 3.7. Volatility, Institutions, and Policies: Regression Results<sup>1</sup>**

	General Model	Final Specification
Aggregate governance measure <sup>2</sup>	-2.27	<b>-1.46</b>
Initial income <sup>3</sup>	0.48	...
Real exchange rate overvaluation <sup>4</sup>	<i>0.008</i>	<b>0.0087</b>
Trade openness <sup>5</sup>	0.74	...
Inflation <sup>6</sup>	-0.55	...
<i>R</i> <sup>2</sup>	0.43	0.40
Number of observations	91	91

<sup>1</sup>The dependent variable is volatility, which is measured as the average standard deviation of annual growth rate of GDP per capita over 1960–98. The regression is estimated using two-stage least squares in which the endogenous variable in the regression is the aggregate governance measure variable. Latitude, ethnolinguistic diversity, the fraction of population that is English speaking, and the fraction of the population speaking one of the major languages of western Europe are used as instruments.

Bold values signify statistical significance at the 1 percent level and italics signify significance at the 5 percent level.

<sup>2</sup>The aggregate governance measure averages the six subindices reported in Kaufmann, Kraay, and Zoido-Lobaton (1999b). The method used to calculate each subindex gives it approximately a unit normal distribution, with an increase always meaning a better quality of institution.

<sup>3</sup>Log of initial GDP per capita as reported in Summers and Heston (1991) for 1960.

<sup>4</sup>Real exchange rate overvaluation shows the average exchange rate misalignment over 1960–98. It is based on purchasing power parity comparisons, using the Summers-Heston measure, where 100 signifies parity and higher (lower) numbers indicate over-(under-) valuation, following Dollar (1992).

<sup>5</sup>Trade openness indicates the degree of goods market integration. It equals the fraction of years the country has been open to trade over 1960–98, following Sachs and Warner (1995a).

<sup>6</sup>Inflation equals the average annual inflation rate over 1960–98.

equations are augmented with measures of institutions have found that institutions are the dominant influence, perhaps reflecting the impact of institutions on policy sustainability. Table 3.6 reports results for two growth models, with institutions *excluded* from results on the left and *included* in results on the right. The former model suggests that economic policies—as reflected in the degree of exchange rate overvaluation—do matter for growth. The latter model indicates that institutions play a dominant role in explaining cross-country differences in growth, although macroeconomic policies—as embodied in financial development—are also significant. To reiterate points discussed above and in the main text of this chapter, the modeling strategy and close correlation between some policy variables and measures of institutions

hamper our ability to draw strong inferences regarding the separate contributions of institutions and policies on economic growth.

## Volatility

The results, issues, and conclusions regarding cross-country variations in volatility are quite similar to those surrounding growth. Table 3.7 documents that institutional quality has a significant impact on the volatility of growth. Among the policy variables, the degree of exchange rate overvaluation is also found to be significant.

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