With one billion people in developing countries living on less than $1 a day, the alleviation of extreme poverty remains high on the policy agenda of the international community. Despite the progress made in poverty reduction in some regions of the world over the past two decades, reaching the Millennium Development Goal (MDG) of halving poverty by 2015 remains out of reach for most developing countries—with the notable exception of east and south Asia—based on current trends.[1] Sub-Saharan Africa, in particular, faces daunting challenges, with the incidence of poverty having risen in recent decades. Many middle-income countries also need to reduce unemployment and improve the lack of economic opportunity for large sections of their populations, to improve standards of living and foster a stable social environment.

It is widely accepted that sustained high rates of economic growth are the key to further progress. While global growth reached 30-year highs in 2004—with sub-Saharan Africa recording its strongest growth performance in nearly a decade—in most countries growth rates remain well below what is needed to meet the MDGs.[2] With considerable progress having been made toward a stable macroeconomic environment—an essential precondition for sustained growth—the challenge has increasingly become how to improve the quality of domestic institutional frameworks (such as stronger property rights, lower corruption, and better governance). For example, as discussed in the April 2003 *World Economic Outlook*, if institutions in Africa could be improved to the level in developing Asia, African per capita GDP might be expected to almost double over the long term (Figures 3.1 and 3.2).

If higher growth depends importantly on better institutions, the key question must be how those better institutions can be built. To date, partly reflecting the weakness of the data on institutions, the economic literature on this topic is very limited. This chapter aims to review some of the central issues involved, with the hope that it will stimulate further debate and research on this important issue, focusing on the following questions.

- How have institutions changed in the past 30 years?
- What are the main factors that have driven these institutional changes?
- What has been the role of the external environment—and external institutional mechanisms—in helping strengthen institutions in individual countries?

The chapter is organized as follows. Following a brief theoretical discussion of the factors that might be expected to affect institutional change, the chapter reviews the history of institutional developments, with a particular focus on the experience of the past 30 years, using a newly constructed database of "institutional transitions." This is followed by an econometric analysis of the factors determining institutions and institutional transitions, and a more detailed look at the role of three external factors—external anchors, aid, and transparency. The final section concludes.

[1]See Chen and Ravallion (2004) for poverty estimates and UN Millennium Project (2005), Table 9, for projections.

[2]Sub-Saharan Africa would require a weighted average growth rate per capita of 5 percent a year during 2005–15, while the average growth rate during 1990–2004 has been 0.2 percent (See IMF and World Bank, 2005, pp. 4–7, and the April 2005 *World Economic Outlook*).

Figure 3.1. Institutions and Income per Capita: Impact of Raising Regional Institutional Quality
(Percent change)

Substantial gains in income per capita could materialize if developing economies improved their institutional quality. For example, the April 2003 *World Economic Outlook* estimated that if the institutional quality in sub-Saharan Africa rose to the level of developing Asia, income per capita would, in the long run, increase by about 85 percent.
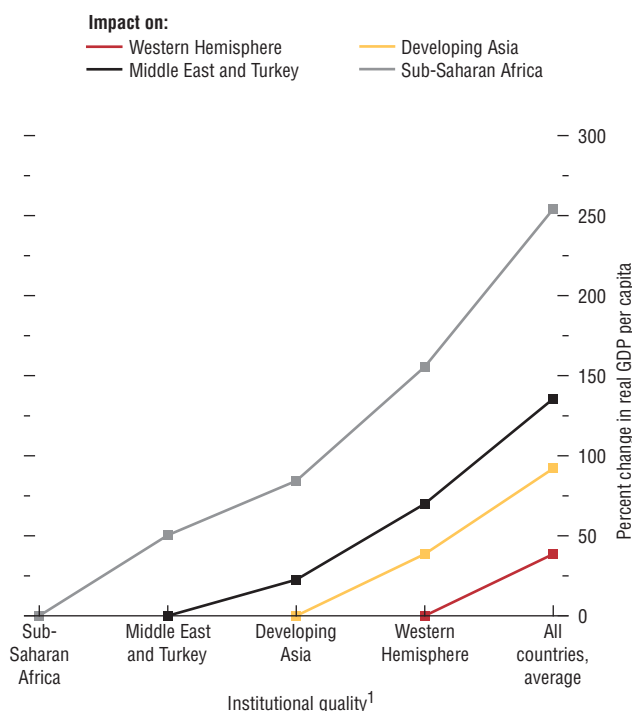
Source: IMF, *World Economic Outlook* (April 2003).
[1] Measured by Kaufmann, Kraay, and Zoido-Lobaton's (1999) aggregate governance indicator. See Appendix 3.1 for details. This figure is not to scale: in particular, the horizontal axis does not accurately capture differences in the quality of institutions. See Figure 3.2 for the actual institutional scores.

The Role of Institutions

In the broadest terms, institutions can be defined as the set of formal rules—and informal conventions—that provide the framework for human interaction and shape the incentives of members of society.[3] From an economic perspective, good institutions ensure two desirable outcomes: that there is relatively equal access to economic opportunity (a "level playing field"), and that those who provide labor and capital are appropriately rewarded and their property rights are protected (see, for example, Acemoglu and Johnson, 2003). At the outset, it is important to note that many different institutional forms—depending, for example, on a country's history or culture—can produce good institutional outcomes (Box 3.1). Correspondingly, the emphasis of this chapter will be very much on institutional outcomes[4] and the circumstances under which these may change.

Economic institutions are, of course, closely related to political institutions. Political institutions shape the incentives of the political executive and determine the distribution of political power, which includes the ability to shape economic institutions and the distribution of resources. In turn, economic institutions, by determining the relative affluence of various groups of society, also help shape political institutions. As groups grow wealthier, they can use their economic power to influence political institutions in their favor. This suggests two broad conclusions.

- Good economic institutions are most likely to flourish in a "rent-free" environment,[5] in which small groups are not able to take advantage of—for example—a monopoly position in

[3]See North (1991).

[4]These outcomes are measured using a number of available indices on broad economic institutions, as described in Appendix 3.1.

[5]Rent-seeking is defined as the pursuit of uncompensated value from other economic agents, in contrast with profit-seeking, where entities seek to create value through mutually beneficial economic activity. See Krueger (1974) for the first coinage of the term and its relationship to trade restrictions.

a particular industry or activity, or privileged access to natural resources.

- Good economic institutions are likely to be accompanied by good political institutions. If political power is broadly shared and subject to checks and balances, there is much less risk that those with political power will take advantage of their position to extract rents themselves.

Since a country's institutions are the result of a complex interaction of economic and political factors, as well as its history and culture, they are likely to be quite persistent. Changing institutions can be a slow and difficult process, requiring both significant domestic political will and more fundamental measures to reduce the opportunity and incentives for particular groups to capture economic rents. Indeed, if the underlying causes of institutional weaknesses are not addressed, reform efforts may well have little effect on institutional outcomes, with changes in one institution simply being offset by changes in another (the so-called "see-saw" effect—see Acemoglu and others, 2003). This does not mean, however, that institutional outcomes are immutable. Indeed, as the chapter will illustrate, over the past 30 years, significant—and sometimes quite rapid—institutional improvements have occurred across a broad range of countries (Figure 3.3). Such changes have been the consequence of specific events (such as the end of colonialism or the collapse of communism), specific policies addressing institutional weaknesses, and also the broader economic and social environment, helping reshape the economic incentives of society. As the next section will show, all these factors have been important in shaping institutional changes in countries.

When Do Institutions Change?

A review of the historical experience provides useful insights into the paths that countries have taken in building their institutions and what the main determinants of institutional change have been. Against this backdrop, a more detailed examination of the past three decades—a period

Figure 3.2. Developing Economies: Recent Developments in Institutional Quality by Region[1]

Over the past decade, institutional quality has, on average, improved in central and eastern Europe and Latin America. Institutional quality in sub-Saharan Africa and the CIS continues to be significantly below the institutional quality in other regions.
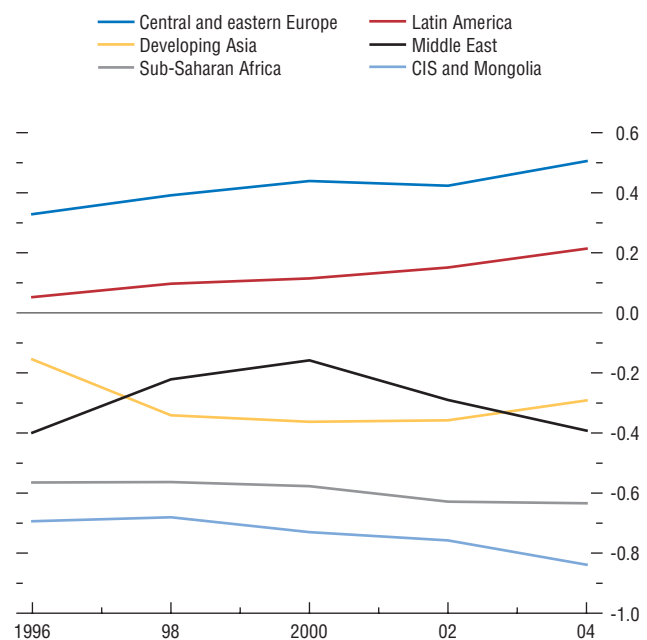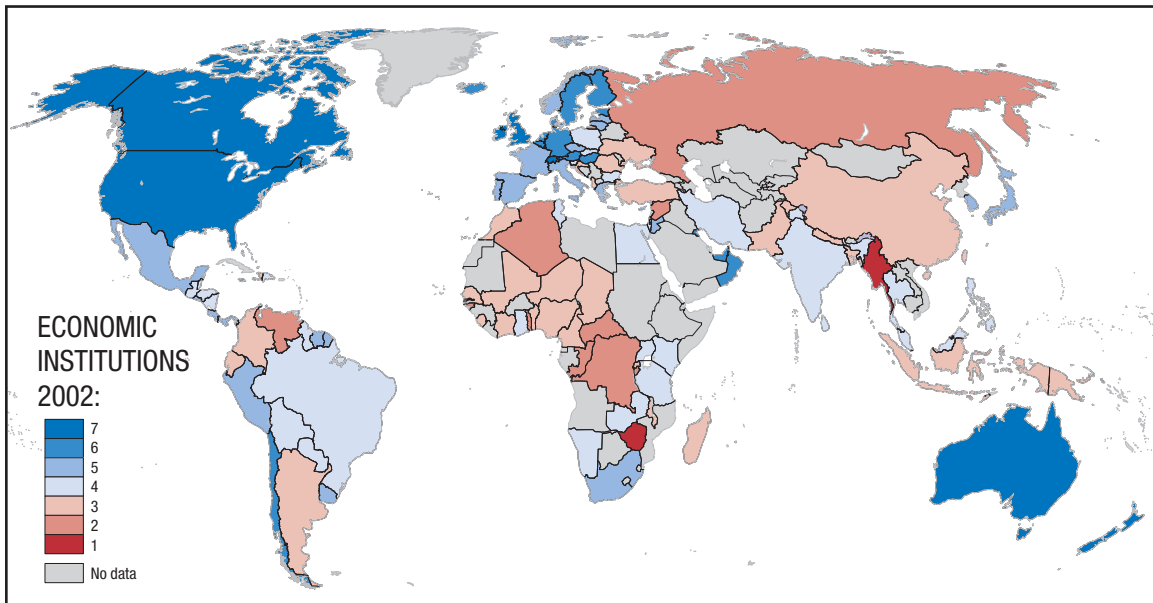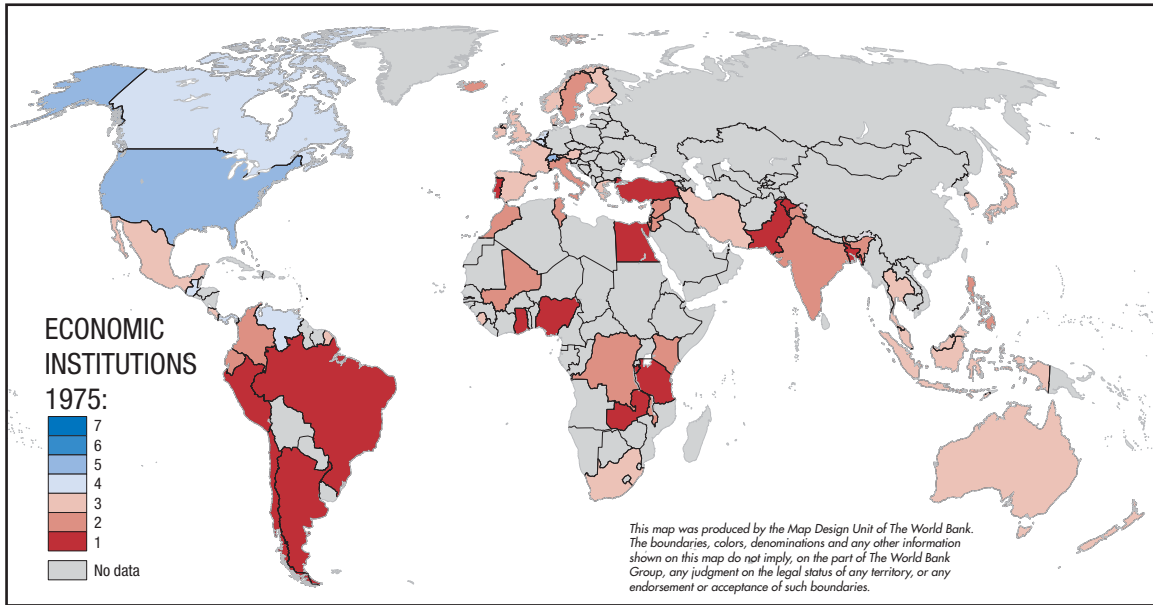

Sources: Kaufmann, Kraay, and Mastruzzi (2005); and IMF staff calculations.
[1]Regional scores were calculated as simple averages. Institutional quality is measured by Kaufmann, Kraay, and Mastruzzi's (2005) aggregate governance index. For more information, see Appendix 3.1. The regional classification of countries is based on the current *World Economic Outlook* regional groupings.

Figure 3.3. Evolution of Economic Institutions[1]

Economic institutions as measured by Gwartney and Lawson's Economic Freedom Index have improved across the world over the past three decades. However, sub-Saharan Africa and many other—mostly low-income—countries continue to have low institutional scores.

IBRD 34140

ECONOMIC INSTITUTIONS 1975:

7
6
5
4
3
2
1
No data

This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

ECONOMIC INSTITUTIONS 2002:

7
6
5
4
3
2
1
No data

SEPTEMBER 2005

Sources: Gwartney and Lawson (2004); and IMF staff calculations.
[1] The measure of economic institutions is based on Gwartney and Lawson's Economic Freedom Index. Scores for individual countries were rescaled to the range from 1 to 7 with higher scores reflecting better institutional quality. See Appendix 3.1 for further details.

Box 3.1. Developing Institutions to Reflect Local Conditions: The Example of Ownership Transformation in China Versus Central and Eastern Europe

As discussed in the main text of this chapter, institutional reforms are only successful if they durably change incentive structures in the economy. This implies that the reforms need to be well grounded in the local environment and take into consideration the specific constraints that influence the speed of reform and the particular form that the institutions can take. For example, the processes of ownership transformation in China and the central and eastern European countries (CEECs) differed substantially, yet both effectively transformed incentives to create an environment conducive to fast growth. In many CEECs, economies rapidly moved from state to private ownership during the first half of the 1990s using a variety of privatization methods. These transformed firms as well as new private firms went on to become the drivers of growth. By contrast, during the initial phase of China's transition, most new firms were neither private firms nor state-owned enterprises, but collectively owned enterprises with significant ownership and managerial involvement by the local governments. The most important of these collectives were "township-village enterprises"—an indigenous Chinese institutional form.[1] This box discusses how the two different approaches to reform in China and CEECs were consistent with the countries' initial conditions and constraints.

Role of Initial Conditions

Different initial conditions strongly influenced the approach to ownership transformation in China and CEECs. The Chinese economy was largely agricultural through the 1970s,[2] and the agricultural reforms of 1978 generated rapid improvements in productivity and output.[3] Against the backdrop of strong growth, policymakers could take a considered approach with the design of reforms in other sectors.[4] Moreover, a large pool of surplus labor helped boost the growth impact of the Chinese incremental reforms (see the October 2000 *World Economic Outlook*). In contrast, the CEECs faced more complex initial conditions: most output and employment was concentrated in the industrial sector. The collapse of central planning led to output losses and unemployment, creating a difficult political environment for the new democratic governments that came to power across the region. Rapid privatization was often a political mandate, and the only option to avoid a transformation trap.

During its transformation, China was initially seen to maintain little protection of private property rights (see, for example, Qian, 2003). Local government involvement in the township-village enterprises provided an effective substitute for the perceived weaknesses in the protection of private ownership. The township-village enterprise ownership structure may also have helped alleviate some of the consequences of China's underdeveloped financial markets, as local governments assessed

Note: The main author of this box is Martin Sommer.

[1]The share of township-village enterprises in total employment rose from 7 percent in 1978 (identified in the main text as the beginning year of economic transition) to 19 percent in 1995 (*China Statistical Yearbook*, 2004). In 1995, the township-village enterprises contributed about 25 percent of industrial output—an increase from 15 percent in 1985 (*China Statistical Yearbook*, 1996).

[2]According to the *China Statistical Yearbook* (2004), the agricultural sector generated about 70 percent of total employment in 1978.

[3]Because the agricultural sector had been heavily repressed, freeing it up had immediate payoffs (World Bank, 1996). Between 1981 and 1984, agriculture grew on average by 10 percent a year, largely because the shift to family farming improved incentives. Sachs and Woo (1997) point out that agricultural productivity soared after 1978 though productivity growth decelerated sharply in the mid-1980s as the initial growth impulse faded away.

[4]Besides township-village enterprises, other examples of the Chinese experimental approach are the Household Responsibility System of Land Leaseholds and the Special Economic Zones.

Box 3.1 *(concluded)*

the risks of start-up businesses under their control and served as guarantors of loans to individual township-village enterprises (Naughton, 1994).

In many CEECs, economic reforms followed dramatic changes in the political regime. Given the failures of the centrally planned model, the attitude toward the concepts of market economy and private ownership was enthusiastic and, despite initial difficulties, the rule of law has gradually improved owing to new legislation and court reform. The proximity of, and the prospect of membership in, the European Union also encouraged the CEECs to adopt standardized ownership forms (see the October 2000 *World Economic Outlook* for a detailed discussion of transition in the CEECs). Complete private ownership could thus develop from the very onset of reforms.[5]

Role of Different Stakeholders in Society

The Chinese reform of ownership structures created pro-growth incentives while being consistent with the interests of the main stakeholders. Local governments considered township-village enterprises as an opportunity to obtain additional fiscal revenue to augment the provision of public goods such as maintaining order, building roads, and providing water and irrigation systems (Qian, 2003). The central government also benefited by being able to avoid large transfers and redistributions at the local level. Township-village enterprises provided stronger pro-growth momentum than existing state-owned enterprises because local officials had incentives to maximize profits of township-village enterprises (Oi, 1995). Township-village enterprises also faced less restrictive labor market conditions

and did not need to provide extensive social services like housing and pension to their workers.[6] In fact, some township-village enterprises were de facto private enterprises registered as township-village enterprises (Sachs and Woo, 1997). In contrast, in the CEECs, there was an expectation in the aftermath of political changes that a rapid change in the corporate ownership would help correct for the past inefficiencies. Since transition was socially costly, policymakers often used mass privatization and other schemes to share some benefits of transition with the population, using asset transfers to partially compensate for lost incomes and employment.

Evolution of Ownership Forms in China

Clearly, the success of township-village enterprises was conditional on other parts of the reform package—gradual liberalization of prices and production, anonymity of business transactions—which reduced the risk of expropriation—and fiscal federalism (Qian, 2003). However, the growth of township-village enterprises slowed down in the 1990s with further liberalization and opening of the Chinese economy. Concerns about underemployment led to a steady liberalization of the rules governing the formation of township-village enterprises. The township-village enterprises also started moving toward standard ownership forms, facilitated by their spontaneous corporatization into shareholding cooperatives or transformation into privately owned and even joint-venture companies. Sachs and Woo (1997) attribute this process to the economic success of coastal township-village enterprises needing to hire migrant labor while the existing mem-

[5]However, the actual process of ownership transformation was often complicated by the lack of capital, weaknesses in the banking system, inefficient courts and legal system—conducive to phenomena such as asset stripping—and other impediments.

[6]Township-village enterprises operated with generally hard budget constraints (local governments, though, provided some subsides and gave preferential tax treatment). Social safety nets generally extended only to the state sector—about 20 percent of the population (World Bank, 1996), although some township-village enterprises provided social insurance.

bers of the township-village enterprises were hesitant to share dividends with the new township-village enterprise workers. The process of ownership transformation was further supported by the practical difficulties faced by outsiders in investing in township-village enterprises. The increased openness of the Chinese economy also created the need for more transparent private-property institutions. Finally, the perceived protection of private ownership strengthened over time and some privately owned companies chose to register as standard corporations rather than as township-village enterprises.

Concluding Remarks

The experience of China and the CEECs provide several general lessons. First, the initial conditions matter and, therefore, reform strategies need to be country specific. Second, successful institutional transitions create pro-growth incentives without making the key stakeholders worse off, and any organic reform needs to be compatible with the interests of stakeholders in society. Finally, the optimal design of specific institutions may change over time: given the local specifics, China benefited from the township-village enterprise as a transitional institution toward full-fledged private ownership.

of significant changes in institutions—using a newly constructed database of institutional transitions, yields valuable clues to the specific factors that have facilitated significant changes in institutions in the recent past.

Some General Trends in Institutional Change from the Beginning of the Nineteenth Century

Over the past two centuries, both political and economic institutions have undergone profound changes, although the pace and character of these changes has varied by country. In general, countries broadly followed either a good or a bad institutional path and rarely managed to change paths in the absence of significant changes in the environment. Those with better institutions strengthened them organically over time and reaped the benefits of substantial growth. Countries of western Europe and the United States and other newly settled lands such as Canada, Australia, and New Zealand exemplified the experience typical of this group. Those with weaker institutions found themselves in a trap where poor institutions and lagging economic performance continued to reinforce each other. This was the pattern in many countries of eastern Europe and Latin America, in China and Russia, and in the colonies of Africa and Asia.

Japan is a rare example of a country initially on a weaker path that managed to put itself on a dramatically better institutional path.

The divergent paths taken by countries can in many instances be explained by the onset and interaction of two revolutionary processes. One was the industrial revolution, defined by the availability of radically new production possibilities based on industrial technology and the application of science. The other was the constitutional revolution, whereby political power was subject to constraints and power holders were made accountable, at least to some subset of the population. The restraint—or even overthrow—of the monarchies in the Netherlands, France, the Hapsburg Empire, and the United Kingdom were prominent examples of the establishment of such constitutionalism in Europe, while the American Revolution set the stage for constitutionalism in an independent United States.

Countries that experienced the constitutional revolution before the industrial revolution embarked on a virtuous circle of investment, economic growth, and further beneficial institutional changes. With political influence already somewhat widespread and the power of the state sufficiently constrained, the industrial revolution created wide access to the opportunities from industrialization. Underpinned by relatively

secure property rights, the broadly level playing field allowed entry and competition into profitable activities, with rent-seeking kept within bounds. Where the industrial revolution arrived before the advent of constitutionalism, existing political elites wielding relatively unconstrained power were able to create institutions that restricted entry and maintained weak property rights, organizing the economy to maximize the extraction of rents. This institutional mechanism created its own inertia, driven by the competition among various groups to appropriate these rents.

Economies where sectors that lent themselves easily to rent extraction—such as commodities—were large, and where openness to trade was limited, were relatively slow in establishing constitutionalism. The local political leadership or colonial powers could more easily appropriate rents, with the advent of the industrial revolution merely serving to deepen the already existing institutional structures. In contrast, constitutionalism appears often to have emerged relatively early in nations where relatively "rent-proof" sectors emerged leading to the empowerment of new economic classes, such as merchants who grew powerful with the spread of international trade.

An interesting example relates to China's early adoption of "modern" institutions, including private ownership of land, a high degree of specialization and labor mobility, and well-functioning product and labor markets—underpinned by a meritocratic bureaucracy and a common written language—creating incentives for technological innovation and growth that propelled it to its position as the richest economy in the world and a prominent trading power from the second century B.C. to the fourteenth century A.D. (see Chao, 1986; Lin, 1995; and Needham, 1954–97). However, China's abrupt retreat from international trade in the middle of the fifteenth century and its return to an agrarian base, just as European countries began to expand trade (see, for example,

Maddison, 2003, and Pomeranz, 2000), played an important role in determining the path of institutional change over the next five centuries.

Not all major changes in institutions, however, followed the dynamic triggered by sequencing of constitutionalism and the industrial revolution. The Meiji Restoration of Japan in the 1860s underpinned a rapid modernization of institutions, against the threat of external competition; Turkey modernized its economic institutions in the 1920s for similar reasons. In other cases, apparently large changes in governments and formal institutions had little impact on outcomes—the so-called Iron Law of Oligarchy.[6] For example, the Bolivian Revolution of 1952, the Mexican Revolution of 1910, and the establishment of the Brazilian Republic of 1889 all appear to have changed the underlying institutional outcomes relatively little. This suggests that efforts to change institutions durably and positively are unlikely to succeed unless the fundamental factors that determine economic incentives are durably altered.

Experience of the Past 30 Years

Despite the tendency for institutional persistence, the evidence of the past 30 years suggests that rapid institutional change is possible, helping raise living standards more than was previously thought possible. Several profound changes since the 1950s appear to have significantly improved the potential for institutional improvements. First, the collapse of colonial empires altered an institutional system geared toward the systematic extraction of rents and removed one major beneficiary of that system. Second, rapid technological improvements increased the opportunities for industrialization across a range of sectors and away from rent-intensive sectors. Third, globalization afforded hitherto-unavailable economic opportunities against the backdrop of declining transportation and communication costs. Finally, the fall of

[6]See Michels (1911).

Table 3.1. Frequency of Institutional Transitions[1]

		Political Transitions by Region and Decade[2]						
Decades	Africa	Central and Eastern Europe	CIS and Mongolia	Developing Asia	Middle East	Latin America	Newly Industrialized Asian Economies	Total
1960s	0	0	0	0	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
1970s	0	0	0	1	0	3	0	4
	(0.00)	(0.00)	(0.00)	(0.54)	(0.00)	(1.30)	(0.00)	(0.38)
1980s	0	1	0	1	0	8	2	12
	(0.00)	(0.63)	(0.00)	(0.52)	(0.00)	(3.48)	(5.00)	(0.89)
1990s	18	12	4	2	1	8	0	45
	(3.77)	(7.74)	(3.08)	(1.00)	(0.78)	(3.48)	(0.00)	(3.23)
2000s	1	2	1	1	0	0	1	6
	(0.53)	(3.33)	(1.92)	(1.25)	(0.00)	(0.00)	(5.56)	(1.11)
All years	19	15	5	5	1	19	3	67
	(1.00)	(2.16)	(0.87)	(0.61)	(0.18)	(1.89)	(1.70)	(1.17)

		Economic Transitions by Region and Decade[2]						
Decades	Africa	Central and Eastern Europe	CIS and Mongolia	Developing Asia	Middle East	Latin America	Newly Industrialized Asian Economies	Total
1970s	0	0	0	1	0	1	0	2
	(0.00)	(0.00)	(0.00)	(1.23)	(0.00)	(0.87)	(0.00)	(0.45)
1980s	3	0	0	2	3	1	1	10
	(0.97)	(0.00)	(0.00)	(1.48)	(4.00)	(0.40)	(2.50)	(1.13)
1990s	10	8	1	3	2	12	1	37
	(3.03)	(6.35)	(5.00)	(2.14)	(2.50)	(4.80)	(2.50)	(3.75)
2000s	2	8	2	0	0	4	0	16
	(1.01)	(8.33)	(11.11)	(0.00)	(0.00)	(2.67)	(0.00)	(2.59)
All years	15	16	3	6	5	18	2	65
	(1.53)	(4.75)	(4.41)	(1.33)	(2.15)	(2.35)	(1.39)	(2.18)

Sources: Marshall and Jaggers (2003); Gwartney and Lawson (2004); and IMF staff calculations.
[1]For each cell, upper number denotes the number of transitions occurring in that region and decade. Numbers in parentheses denote the corresponding annual probability of a transition. See Appendix 3.1 for further details.
[2]In some country cases, transitions cannot be identified owing to limited availability of data.

communism in the late 1980s and early 1990s radically altered the governance structures in many formerly communist nations, taking away another major source of institutional persistence (see Figure 3.3).

To look at recent institutional transitions more concretely, IMF staff conducted an analysis identifying the key episodes in the transition of economic institutions covering developing countries since 1970 (see Appendix 3.1 for the list of transitions by country and Table 3.1 for the summary by region). Institutional transitions were identified using publicly available databases of

institutions augmented by information from country desks where possible.[7] Transitions were defined based on three key criteria:

- Transitions led to at least a minimum level of institutional quality, corresponding approximately to the middle of the range of possible institutional scores (for political transitions, 0 on the Polity score, which ranges from −10 to +10; for economic transitions, 4 points on the Cato Economic Freedom score, which ranges from 1 to 10);
- Transitions involved a significant increase in institutional quality (for political transitions,

[7]The specific transition episodes identified using the Cato Institute Economic Freedom and Polity indices have been augmented by IMF staff estimates when the external databases were incomplete or generated results incongruous with the general consensus.

Figure 3.4. Developing Economies: Impact of Economic Transitions on Output Growth, Private Investment, and Productivity Growth[1]
(Economic transition at time t*)*

Institutional transitions lead to substantial improvements in GDP growth, private investment, and productivity growth.
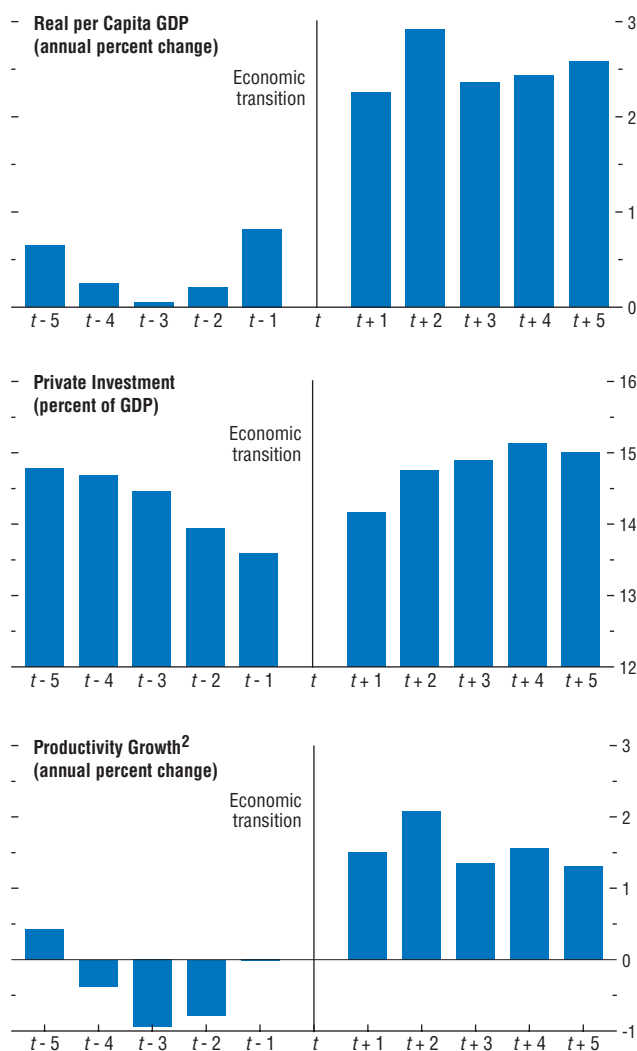
Sources: Gwartney and Lawson (2004); Klenow and Rodriguez-Clare (2004); Penn World Table Version 6.1; World Bank, *World Development Indicators* (2005); and IMF staff calculations.
[1]Only the countries that experienced institutional transition during 1970–2004 are included in the sample. All variables are expressed as three-year moving averages. See Appendix 3.1 for further details.
[2]Total factor productivity growth.

4 points on the Polity Score—that is, two-thirds of the standard deviation; for economic transitions, 1 point on the Cato Economic Freedom score—that is, 1 standard deviation);

• Transitions were durable and not subsequently reversed (in cases of successive positive transitions, only the first was recorded).

Given the element of subjectivity associated with any measure of institutions, the precise timing of an economic transition is inevitably subject to some uncertainty. Nonetheless, the analysis identified a relatively large number of economic transitions (65), although the levels of economic institutions achieved at the end of the identified transitions varied by country. In some cases they approached advanced country levels, but in others they only achieved improvements relative to their own past. However, they do appear, in general, to be associated with a clear structural break in economic performance: the identified economic transitions are associated with a subsequent 2 percentage point increase in GDP growth (Figure 3.4).[8] The volume of private sector investment improved durably but by a relatively modest amount, suggesting that the quality of investment improved substantially with transition, supported by the evidence on trends in total factor productivity in pre- and post-transition periods. These aggregate results are relatively robust to the precise year of transition identified for individual countries.

The analysis of recent transitions suggests that economic transitions were often, but not always, preceded by political transitions (Figures

[8]Of course, growth transitions do not always follow institutional transitions. A study of 43 developing countries with initially weak institutions found that institutions improved after the initial surge in growth rates in those countries that managed to sustain the growth episode (Johnson, Ostry, and Subramanian, 2005). Interestingly, the explanatory factors that helped sustain the growth surges are found to be consistent with those associated with institutional transitions (explained in the section of this chapter on "What Changes Institutions?"), suggesting they may have both a direct initial impact on growth and an indirect one by subsequently improving institutions.

3.5 and 3.6).[9] The former communist economies of central and eastern Europe comprised nearly one-third of all identified transitions, given the widespread political transitions that generally led to substantial improvements in property rights, allowing greater access to economic opportunity and improving the incentives of the population to invest capital and labor in productive activities. Economic transitions in the early 1990s were followed by relatively rapid changes in institutions in countries such as the Czech Republic, Hungary, and Poland, but somewhat more slowly in the Baltics, which had been under more direct control during communist times, and where European Union (EU) accession prospects provided a powerful additional incentive for economic transformation. Accession prospects also helped transform economic institutions in eastern European economies like Bulgaria and Romania late in the 1990s, relatively long after political transition compared with their western neighbors. Most countries of the Commonwealth of Independent States (CIS) were generally slower to transition in terms of economic institutions, even when large changes in political institutions took place relatively early. Transitions to more representative political systems across many countries in Africa after the end of the Cold War also led to significant changes in economic institutions in some countries.

In Latin America, too, political transitions generally preceded economic transitions, but they often followed major economic crises. In Argentina, political transition began with the introduction of a democratic government in late 1983, and economic transition began in the early 1990s after an outburst of hyperinflation and a long history of macroeconomic instability. In Brazil, democratic elections were called in 1985, and the introduction of the *real* plan in 1994 paved the way for deeper reforms in the late 1990s. In many other smaller countries too,

[9]See Giavazzi and Tabellini (2004) for the relationship between political and economic liberalizations.

## Figure 3.5. Number of Institutional Transitions by Region[1]

(Size of bubble represents the number of transitions over five-year intervals)

Looking at the past three decades, most political and economic transitions took place after 1989. Rapid political transitions were often associated with the end of the Cold War. The economic transitions were more evenly spread across the 1990s and 2000s.

Political Transitions[2]
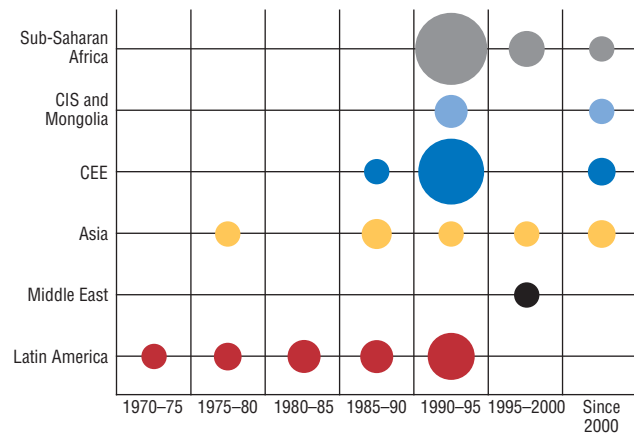
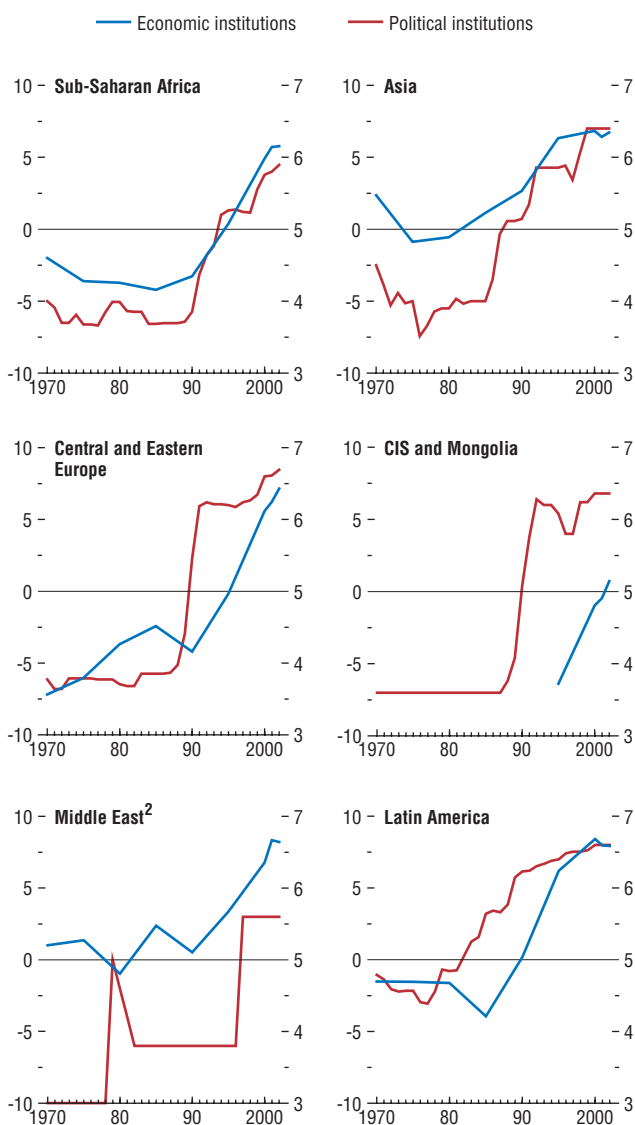
Economic Transitions[2]
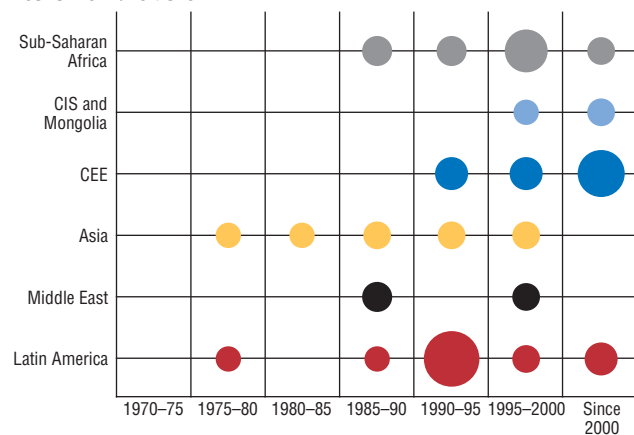
Sources: Gwartney and Lawson (2004); Marshall and Jaggers (2003); and IMF staff calculations.
[1]Only developing economies are included except for Asia, which also includes any transitions in the newly industrialized economies. For a more detailed discussion of the identification of institutional transitions and the list of countries included in each region, see Appendix 3.1.
[2]In some countries, transitions cannot be identified owing to the limited availability of data.

Figure 3.6. Institutional Transitions by Region[1]
(Right scale for economic institutions; left scale for political institutions)

On average, political transitions have accompanied or preceded improvements in economic institutions.

— Economic institutions   — Political institutions

Sub-Saharan Africa

Asia

Central and Eastern Europe

CIS and Mongolia

Middle East[2]

Latin America

Sources: Gwartney and Lawson (2004); Marshall and Jaggers (2003); and IMF staff calculations.
[1]Scores represent average institutional quality in the countries that recorded a favorable institutional transition. Economic and political transitions are considered separately. Political institutional quality is measured by Marshall and Jaggers' (2003) Polity index. Economic institutional quality is measured by Gwartney and Lawson's (2004) Economic Freedom index. For a more detailed discussion of the identification of institutional transitions and the list of countries included in each region, see Appendix 3.1.
[2]The sample of political transitions in the Middle East consists only of I.R. of Iran.

economic transition began after democratic governments came into office. By contrast, in Chile, the military government that came to power in 1973 initiated changes in economic institutions following years of weak economic policies. In Mexico, the electoral reforms of 1993 broadly coincided with changes in economic institutions related to the signing of the North American Free Trade Agreement (NAFTA), central bank independence, and membership of the OECD.

Many Asian countries did not witness dramatic changes in political institutions ahead of improvements in economic institutions. Economic transitions in Asia were in two broad phases, with the newly industrialized economies (NIEs) (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China) prominent in the first phase of transition in the 1960s, characterized by rapid industrialization and integration with the global economy. The second phase included China in the late 1970s, where agrarian reform that resulted in an improved growth performance was followed by institutional reforms related to the industrial sector (see Box 3.1). This phase also included Indonesia, Malaysia, and Thailand and some smaller countries. Spurred by the visible success of some economies in the region, transformation of economic institutions was subsequently also undertaken in India and several other countries.

While changes in economic institutions were triggered by many different factors, there appear to be a number of underlying similarities in their economic circumstances.

- In many cases, the desire by policymakers to modernize the country through rapid industrialization and exports was a trigger for the subsequent improvement in economic institutions. The early example of east Asia since the 1960s, including Hong Kong SAR, Korea, Singapore, and Taiwan Province of China, captures many of these aspects.
- The transition of economic institutions tends to have a strong regional dimension, as evident from the clustering of transitions in Asia, emerging Europe, and Latin America in distinct time periods (Figure 3.5 and Table 3.1).

- Countries with large natural resource sectors tended to have fewer transitions. Since the performance of exports in these sectors was determined to a large extent by global demand and price conditions, there were relatively few competitive benefits from innovation and investment, making them much more amenable to the expropriation of rents. Furthermore, the dominance of natural resources meant that demand for the better institutions necessary to support growth in other sectors was by definition limited. Chile was a relatively rare counterexample, where economic transition was accompanied by the rapid growth of the mining, agriculture, and fisheries sectors, while in Africa, Botswana and Ghana stand out as natural resource-rich countries that were relatively successful in transforming their institutions.

What Changes Institutions?

Analytical considerations and the recent historical experience suggest that a number of distinct factors are influential in determining the quality of institutions and the transition to improved institutions. These can be broadly grouped into those factors that relate to the availability of economic rents, external factors, and initial conditions. To look at these issues in more detail, IMF staff undertook two econometric exercises. The first exercise examined the determinants of institutional transitions, while the second exercise analyzed what explains levels of institutional quality and their variation among countries.

At the outset, it should be noted that the econometric exercises rely to a considerable extent on relatively new indices, and that—by their nature—data on institutional quality are more subjective than other economic measures. Furthermore, since institutions are closely related to economic performance, endogeneity

of the variables considered may complicate the analysis. To some extent, this has been addressed by using instrumental variables and multiple sources when available, but residual endogeneity issues could remain a concern, particularly for the second exercise. The analysis of institutional transitions is broadly consistent with information available from IMF country desks, further validating the use of available indices. Finally, a comparison of various indices of institutions—although limited by country and time coverage—suggests that the indices are broadly correlated and contain similar qualitative information. Appendix 3.1 contains a detailed description of the data and econometric techniques employed. Overall, the empirical exercises do provide some useful insights into the main factors driving institutions.

Institutional Transitions

From the perspective of what policies can do to improve institutions, it is of interest to analyze those developing countries that have experienced rapid institutional transitions. The IMF staff's exercise identified a large number of significant economic and political transitions, with the year of the beginning of transition reported in Appendix 3.1. For each region and each decade, Table 3.1 summarizes the number of transition episodes, as well as the frequency of transitions in a region.[10]

Are institutional transitions frequent or rare? The exercise identified political transitions in 68 countries, and economic transitions in 65 countries.[11] At a broad level, a country would have had about a 20 percent chance of experiencing an institutional transition in any given decade. To undertake a more in-depth analysis, a probit model was estimated linking the probability of an institutional transition to the country's level of openness, accountability, education, natural resources, developments in

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[10]Since the identification of transitions is primarily based on applying a filter to aggregate measures of institutional quality, the results presented in Appendix 3.1 may not be fully comprehensive.

[11]Political and economic data are available for 138 and 103 developing countries, respectively.

Table 3.2. Institutional Transitions: Probit Estimates[1]

Variables	Transitions in Economic Freedom[2]
Openness	6.20**
Press freedom	4.47**
Catch-up to neighbors	10.16**
Schooling	7.30**
Aid	−5.97**
Fuel exports	+
Initial income	−11.88**

Sources: Barro and Lee (2000); Freedom House (2005); Gwartney and Lawson (2004); Penn World Table Version 6.1; Wacziarg and Welch (2003); World Bank (2005); IMF (2004a); and IMF staff calculations.

[1]One and two asterisks denote statistical significance at the 10 percent and 5 percent level, respectively. Coefficients indicate the impact of a one-standard-deviation change in the independent variable on the percentage probability of a transition.

[2]Measure of Economic Freedom from Gwartney and Lawson (2004).

Figure 3.7. Openness and Economic Transitions[1]

Economic transitions take place more often in open economies.
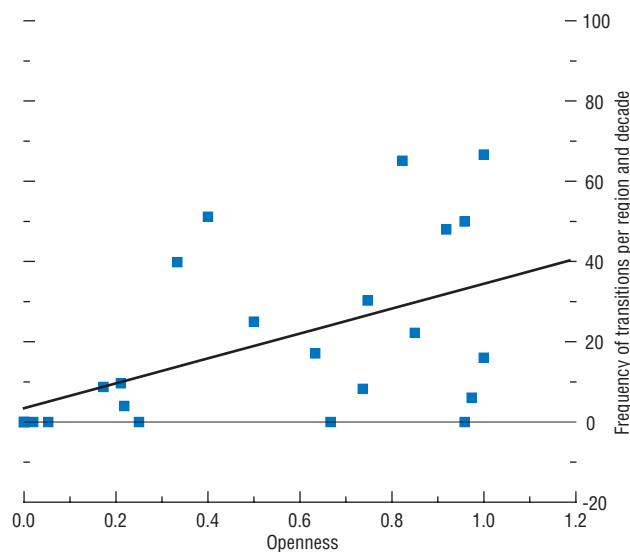
Sources: Gwartney and Lawson (2004); Wacziarg and Welch (2003); and IMF staff calculations.

[1]Frequency of transitions is calculated as the ratio of the number of regional transitions and the regional sample size, converted into percent. In the figure, each point corresponds to the frequency of transitions and the average openness in a region over a decade from 1970–2004.

neighboring countries, foreign aid, and other potential explanatory factors (see Table 3.2). Several conclusions are relatively robust to various specifications (see Appendix 3.1 for details).

- *Trade openness is significantly associated with a greater likelihood of institutional transitions* (Figure 3.7). Indeed, a move from complete autarky to full liberalization is associated with about a 15 percentage point increase in the probability of transition. This is consistent with the hypothesis that greater openness allows for a greater role of export sectors that are rent-proof and require innovation, and creates momentum for positive institutional changes. In addition, increased import penetration reduces the ability of domestic producers to sustain monopolistic rents, which impede institutional improvement.[12]

- *Transitions are also more likely in countries with high levels of press freedom, which is a broad indicator of the accountability of political institutions in a country.* Greater accountability of political insti-

[12]Theoretical and empirical links between openness and institutional development are developed in Rajan and Zingales (2003a, 2003b). Also, as noted in Appendix 3.1, the institutional indices used in the analyses exclude any components associated with trade openness, to ensure that any results on openness are not a statistical artifact.

Table 3.3. Institutional Quality: Panel and Cross-Sectional IV Estimates[1]

| | Panel | Cross-Section | Governance indicators | |
| | | | | |
Variables	Economic freedom[2]	Economic freedom[2]	Aggregate governance index[3]	Corruption subindex[4]
Openness	+	0.34**	0.30**	0.31**
Accountability[5]	+	0.22*	0.42**	0.38**
Initial income	0.98**	0.26**	0.35**	0.43**
Fuel exports	−0.14**	−0.13**	−	−
Aid	−	−	0.14*	0.19**
Regional institutional quality	0.24**	−	−	−
Schooling	−	0.19*	+	+

Sources: Barro and Lee (2000); Freedom House (2005); Gwartney and Lawson (2004); Kaufmann, Kraay, and Mastruzzi (2005); Heritage Foundation (2005); Penn World Table Version 6.1; Wacziarg and Welch (2003); World Bank (2005); IMF (2004a); and IMF staff calculations.

[1]One and two asterisks denote statistical significance at the 10 percent and 5 percent level, respectively. All coefficients are standardized. Country fixed effects and a time trend were included in the panel specification. For more information on the independent variables, data, and methodology, see Appendix 3.1.

[2]Measure of economic freedom from Gwartney and Lawson (2004) for panel, and from Heritage Foundation (2005) for cross-section.

[3]Average of five institutional quality measures from Kaufmann, Kraay, and Mastruzzi (2005); see text for details.

[4]Measure of corruption from Kaufmann, Kraay, and Mastruzzi (2005).

[5]Accountability is measured as Freedom House's (2005) press freedom in the panel and Kaufmann, Kraay, and Mastruzzi's (2005) voice and accountability index in the cross-section.

tutions is associated with policies and institutional reforms that are beneficial for the broader economy, with the political leadership answerable to a broad cross-section of the population, which favorably aligns the incentives of the leadership with that of the whole economy.

- *Countries are also more likely to experience institutional improvements if their neighbors have higher institutional quality.* This is consistent with the view that a strong regional effect is present for institutional transitions—economic transitions are more likely to happen in clusters of countries within a region around the same time. This is reflective of both the direct impact on institutional improvements in countries that are close competitors and the demonstration effects of regional success stories.

- *The probability of economic transitions is also higher for higher levels of education.* This is consistent with the notion that more educated populations are more effective participants in broader decision making.

- *In contrast, aid levels in the probit estimates appear to have a negative impact on the probability of transition to a higher institutional level.* This may, of course, reflect the fact that countries receiving higher aid flows are those that suffer from a broader set of disadvantageous initial condi-

tions, impeding their likelihood of experiencing an institutional transition. A more detailed discussion of the impact of aid is contained in the section of this chapter on "Institutions and the External Environment."

In addition, higher initial per capita income has a negative impact on the probability of transitions, consistent with the observation that countries with a higher per capita income in the sample typically already had a high level of institutions at the beginning of the sample period. Somewhat surprisingly, the impact of fuel exports is not found to be statistically significant in affecting the probability of transition in economic institutions.

Levels of Institutional Quality

To examine further the role of various determinants of institutional quality, the second exercise looked at the determinants of broad institutional quality in a sample of 90 advanced and developing countries over the period 1970–2004, using both cross-sectional and panel regressions (Table 3.3). The main results of this analysis are broadly consistent with, but not identical to, the conclusions of the previous probit regressions. The regressions estimated the relationship between

Figure 3.8. Institutional Quality Relative to the Group of Advanced Countries[1]
(Economic institutions on right scale; others on left scale)

In the countries that experienced institutional transition, institutional improvements (relative to the group of advanced countries) tend to be associated with a high degree of openness, education, and press freedom.

— Economic institutions[2]   — Press freedom
— Education   — Openness
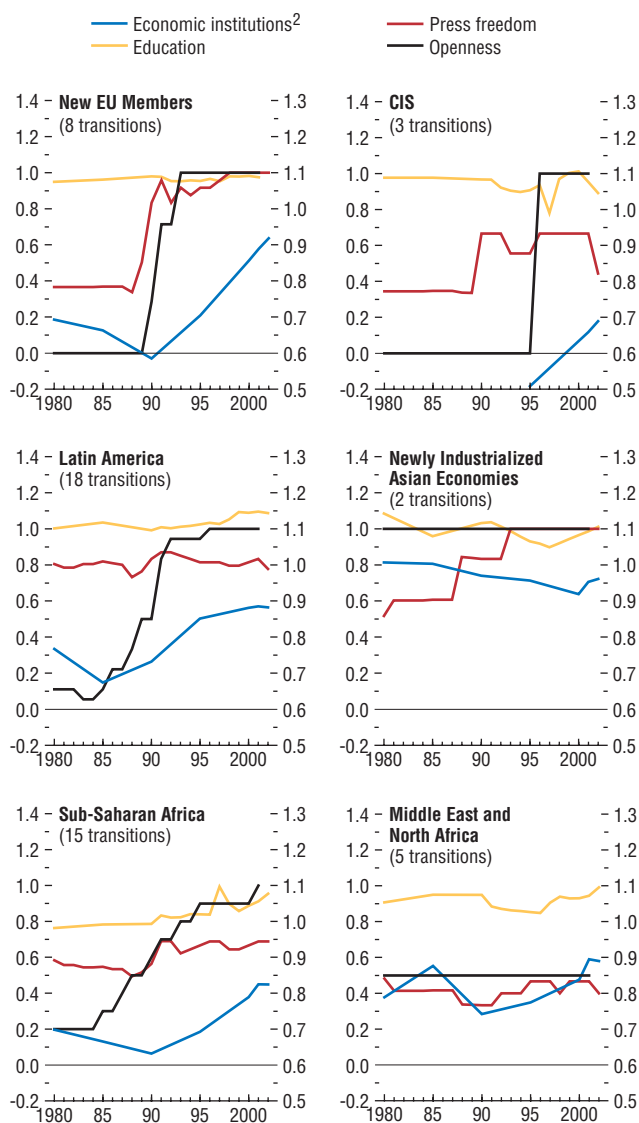
Sources: Freedom House (2005); Gwartney and Lawson (2004); Wacziarg and Welch (2003); World Bank, *World Development Indicators* (2005); and IMF staff calculations.
[1]Only the countries that experienced an economic transition during 1970–2004 are included. In some countries, transitions cannot be identified owing to the limited availability of data. Regional scores were calculated as simple averages of data. In this figure, economic freedom, press freedom, and education (primary school enrollment) are expressed as a ratio of the regional score to the average score of advanced countries. Openness is not normalized.
[2]Economic institutional quality is measured by Gwartney and Lawson's (2004) Economic Freedom index. For more information, see Appendix 3.1.

institutional outcomes and several factors, including openness, education, and accountability (see Figure 3.8).[13]

- *Openness is robustly associated with greater institutional quality* (Figure 3.9). The estimates suggest that if a typical developing economy were to increase its openness to the levels prevalent in a typical advanced economy, this would be associated with roughly a one-fourth reduction in the "institutional gap" between the two countries (see also Rodrik, Subramanian, and Trebbi, 2004, and Wei, 2000).

- *Greater accountability of the political executive is associated with higher institutional quality.* This is particularly evident in the cross-section, for which better measures of accountability are available.

- *A higher initial per capita income is also associated with stronger institutions.*[14] This is consistent with the hypothesis that institutional reforms are easier to implement in countries that are more wealthy to begin with (see the April 2003 *World Economic Outlook*). For instance, richer countries can pay higher salaries to civil servants. Certain other explanatory factors are less robust to the choice of specifications.

- *There is some evidence that greater natural-resource dependence is associated with weaker institutions.* Consistent with the probit estimates, the relationship is both statistically and economically significant in the panel regressions. In the cross-section, however, the relationship is not robust across all specifications—in particular, somewhat surprisingly, to governance and corruption measures—which may partly reflect the presence in the sample of several advanced countries.[15]

[13]As noted, the IMF staff analysis used a range of institutional measures where available. Owing to space constraints, only one set of regression results is reported but it is broadly representative of the results of the exercise.
[14]Residual endogeneity issues may be of special concern in measuring the impact of initial income.
[15]The lack of available data on economic institutions for some significant oil producers, particularly in central Asia, also makes it more difficult to establish unambiguous relationships.

- *The link between foreign aid and institutional quality is less clear.* The association of aid with broad estimates of economic freedom is not robust in the panel and the cross-sectional regressions. However, the cross-sectional regressions show a positive association between aid and governance indicators, although endogeneity issues are a particular concern here. The varying forms of aid make it particularly difficult to establish a strong link between aggregate aid and the quality of institutions. A more detailed discussion on the impact of aid is contained in the following section.
- *The evidence of the benefit from higher institutional quality in neighboring countries is mixed.* While the association is positive in the panel regressions, consistent with the evidence on transitions, it is difficult to disentangle the impact of regional institutional quality in the cross-sectional analysis, given the lack of a time aspect.
- *The evidence on the link between education and institutions is also mixed.* While education is positively linked with improvements in economic institutions in the cross-sectional analysis (Figure 3.9), the relationship in the panel is broadly insignificant, indicating that education may work through other channels, such as by improving accountability.

The IMF staff exercise also examined the impact of more specific policy levers such as fiscal transparency and central bank independence, but could not find any significant association. While this may in part reflect the lack of longer time series for these measures, it is also consistent with the notion that the broader underlying economic and social factors that shape incentives are what matter more for changing the institutional equilibrium. Specific levers are likely to be effective only when the broader underlying incentives are supportive. Analyses focusing on specific levers and corruption outcomes employing micro-level cross-country data (see Box 3.2) suggest that well-designed levers may have significant impacts when broader conditions are supportive.

Figure 3.9. Openness, Education, Accountability, and Quality of Economic Institutions[1]
(Economic institutions on y-axis; x-axis as stated; 1970–2003)

Trade openness, accountability, and, to a lesser degree, educational attainment are associated with institutional quality, even after controlling for other potential determinants of institutions.
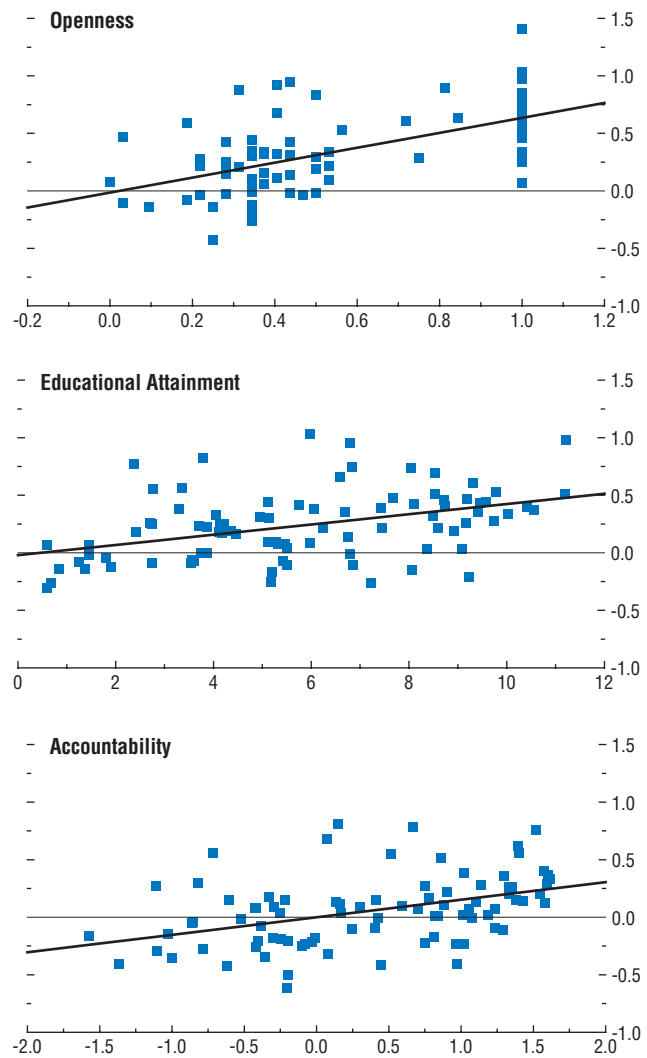
Sources: Barro and Lee (2000); Heritage Foundation (2005); Kaufmann, Kraay, and Mastruzzi (2005); Wacziarg and Welch (2003); and IMF staff calculations.
[1]Institutional quality is measured by Heritage Foundation's Economic Freedom index. The y-axis depicts that portion of the index which is not explained by determinants of institutional quality other than, respectively, openness, educational attainment, and accountability. For more information, see Appendix 3.1.

Box 3.2. The Use of Specific Levers to Reduce Corruption

It is widely accepted that reducing corruption is crucial in helping countries improve their prospects for overall economic development. While empirical studies have shown that factors including colonial heritage, legal traditions, religion, geography, and electoral rules are correlated with levels of corruption, these results provide little guidance in identifying how corruption works or which tools are necessary to address this issue.[1] However, country-specific analyses hold more promise of finding practical policy solutions to the problem of corruption. This box focuses on specific agency-level institutions—such as auditing mechanisms, publicly announced budget and personnel decisions, and merit-based personnel management—and presents new evidence that these are associated with lower corruption in public agencies.[2]

The evidence in this box is based on largely unexplored World Bank Institute (WBI) surveys of public officials in eight Latin American and African countries (Bolivia, Colombia, Guatemala, Guinea, Honduras, Peru, Sierra Leone, and Zambia).[3] These surveys offer three distinct advantages for the study of corruption.

- First, public officials are asked not only to indicate their perceived level of corruption—as is common in cross-country corruption surveys—but also whether specific corruption activities are present in the public agency where they are employed.[4]
- A second advantage of these surveys is that they shed light on different types of corruption corresponding to (1) corruption in public procurement; (2) corruption in budget management; (3) corruption in personnel management; (4) state capture and legal corruption; and (5) administrative corruption. The answers to the questions are used to construct relatively objective indices of corruption and are then combined into a single *overall corruption index.*[5]
- The third advantage of the WBI surveys is that some of the questions assess the presence of specific institutional features that could explain the level of corruption in each public agency.[6] The indicator *audit* is based on several

Note: The main authors of this box are Francesca Recanatini and Alessandro Prati.

[1]See Treisman (2000) for the role of legal traditions in determining corruption; Fisman and Gatti (2002) and Ades and Di Tella (1999) for the role of fiscal decentralization and foreign competition; Persson, Tabellini, and Trebbi (2003) for the role of electoral rules; and Broadman and Recanatini (2002) for the experience of transition countries.

[2]Agency-level institutions such as auditing mechanisms are not the only possible way of reducing corruption. Recent studies have, for example, highlighted the role of public information in reducing financial leakages between central and local governments (Reinikka and Svensson, 2004a, 2004b). Olken (2004) and Kaufmann, Mehrez, and Gurgur (2002) discuss the role of audit, transparency, and voice mechanisms in limiting corruption, and Glaeser and Saks (2004) provide evidence on the role of education.

[3]Over the past five years, the WBI has conducted surveys in about 15 countries to develop a "map" of their institutional strengths and weaknesses. Analysis in this box focuses on a narrower set of eight countries for which comparable data on corruption and

agency-specific institutions are available. The data for the countries analyzed here were collected between 1999 and 2004. Additional information on WBI corruption surveys and data are available via the Internet: http://www.worldbank.org/wbi/governance/capacity-build/d-surveys.html.

[4]Although these corruption evaluations are made by the public officials themselves, Prati, Recanatini, and Tabellini (2005) show that they are significantly positively correlated with the experiences of firms and households that used the services provided by the same public agency. This box focuses on the public officials' surveys because they have more detailed information on the types of corruption, as well as on the institutions that might influence them, than the firms' and households' surveys.

[5]Principal component analysis is used for this aggregation following the approach introduced by Kaufmann, Mehrez, and Gurgur (2002). This approach minimizes respondent bias and measurement error due to individual differences in perceptions.

[6]Using public officials' views on the presence of these institutions has the advantage of providing information on their actual—albeit perceived—role in each public agency as opposed to simply using information on laws and regulations that require them. The latter may, in fact, remain only nominal.

**Dependent Variable: Total Corruption—
OLS Regression**

	Total Corruption
Audit	−0.3580 (−7.19)***
Merit	−0.1180 (−2.91)***
Openness	−0.22 (−3.91)***
Observations	899
R^2	0.89

Note: Country dummies included. Absolute value of *t* statistics in parentheses. One, two, and three asterisks denote statistical significance at the 10, 5, and 1 percent level, respectively.

questions measuring whether decisions on personnel and budget management, as well as procurement, are subject to regular internal or external audits. The indicator *openness* is based on questions enquiring whether the same set of decisions is publicly announced inside and outside the public agency and whether that agency's financial status is regularly disclosed to the public. The indicator *merit* is based on a set of questions referring to whether decisions on personnel management are based on professional experience, merit, performance, and the level of education.

The data indicate that *overall corruption* varies significantly across public agencies within a country, suggesting that corruption has an important within-country variation that cross-country studies neglect, and that countries face

different governance challenges. Corruption in public procurement is the most severe type of corruption in half the sample, while corruption in budget management dominates the list for another three countries. In the presence of such diverse patterns of corruption across and within countries, the key question becomes whether any general conclusion can be drawn on agency-level institutions that might help these countries curb corruption. The first table shows that, indeed, *audit, openness*, and *merit* tend to be associated with lower levels of the overall corruption index. The second table shows that the impact of these agency-level institutions varies across the five types of corruption in a predictable way:[7] audit mechanisms are particularly important in curbing corruption in budget management; merit-based personnel management has its greatest impact on corruption in personnel decisions; and publicly announcing budget and personnel decisions has a particularly strong effect on corruption in budget management.

While these results may be unsurprising, they are intuitively appealing and provide rare

[7]See Prati, Recanatini, and Tabellini (2005) for a detailed discussion of the model specification and the results. The equations for the five corruption-specific indices are estimated with the SUR (Seemingly Unrelated Regression) methodology to take into account the correlation between these indices. Both the OLS and the SUR regressions weight each observation with the number of survey responses on which it is based. The results of the unweighted regressions are very similar.

Comparing Different Types of Corruption: SUR Regression Results

	State Capture and Legal Corruption	Corruption in Personnel	Corruption in Budget Management	Administrative Corruption	Corruption in Public Procurement
Audit	−0.2038 (4.16)***	−0.2285 (4.26)***	−0.4354 (7.15)***	−0.2743 (4.82)***	−0.2796 (5.02)***
Merit	−0.1037 (2.59)***	−0.3550 (8.10)***	−0.1463 (2.94)***	−0.1601 (3.44)***	−0.1117 (2.45)***
Openness	−0.1395 (2.52)**	−0.1017 (1.68)*	−0.3925 (5.71)**	−0.2168 (3.38)***	−0.2130 (3.39)***
No. of observations	909	909	909	909	909

Note: Country dummies included. Absolute value of *t* statistics in parentheses. One, two, and three asterisks denote statistical significance at the 10, 5, and 1 percent level, respectively.

Box 3.2 *(concluded)*

statistical evidence about policies and institutions that can curb corruption in public agencies. They also suggest that different types of corruption require different policy tools. Nonetheless, there are limits to the policy implications that can be drawn from this evidence and further work is needed to hone policy prescriptions for the reform of public agencies. Specifically, the WBI surveys do not reveal

whether some agencies have better agency-level institutions because these are mandated by law or because their managers apply them in earnest. This distinction is of critical importance for policymakers because in the first case they would only need to introduce appropriate legislation and regulations, while in the second case they need to focus on selecting capable managers and making them accountable.

Institutions and the External Environment

The preceding discussion has highlighted the positive role that external factors can play in institutional development. One key factor—an economy's openness—is significant across many dimensions in supporting positive institutional changes. In addition to domestic policies that reduce barriers to trade, multilateral efforts at liberalizing trade under the current Doha Round could be expected to have a strong positive impact on institutional transformation in countries with weak institutions.

This section looks in more detail at three other factors related to the external environment that have a significant influence on an economy's institutional transformation—namely, external anchors, foreign aid, and improved transparency.

External Anchors

External anchors help foster institutional changes in developing countries by providing domestic policymakers with incentives to undertake substantial changes in economic institutions. The following discussion suggests, however, that external anchors are more effec-

tive when they provide a country with clear and tangible benefits from implementing institutional reforms and when they are supported by a credible commitment mechanism.

Accession to the European Union is the classic example of a successful external anchor. Besides the political benefits of closer integration, prospective EU members saw clear benefits from closer integration in terms of market access for goods and prospects for increased foreign investment, in return for adhering to a formal commitment mechanism and implementing a well-defined set of legislation and reforms implied by the EU *acquis communitaire.*[16] This process helped accession candidates rapidly improve their institutional frameworks toward the level of more advanced economies (Figure 3.10).

To partially overcome the limits of geography and shared market traditions, the European Union introduced the EU Neighborhood Program, which could also facilitate some degree of beneficial institutional changes in more distant countries. The benefits of enhanced EU market access and participation in EU-sponsored programs are meant to provide incentives for market-oriented, governance, and other institutional reforms.[17] If successful, this policy could

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[16]The basis for membership eligibility assessments was provided by the Copenhagen Criteria formulated in 1993 (European Union, 1993).

[17]For a detailed description of the EU Neighborhood Program, see European Union (2005). Agreements have been signed with several countries from eastern Europe, the southern Caucasus, and the Mediterranean coast of the Middle East and Africa.

contribute to improved institutional frameworks even in the countries that may not have EU membership ambitions in the medium term.

To a more limited extent, accession to the World Trade Organization (WTO) has also served the role of an external anchor, catalyzing the process of reducing trade barriers and promoting competition. In return for enhanced market access, WTO accession can entail conditionality with beneficial implications for the quality of local institutions. For example, WTO accession supported China's implementation of significant liberalization reforms, including opening up more sectors for private and foreign investment (see Chae and Han, 2001, and Mallon and Whalley, 2004). The WTO appears to have played a smaller role in some other transition economies, reflecting limited WTO rules governing commodities exports, and in some smaller and poorer countries, given the small size of their domestic markets, which has limited their ability to engage more actively in the reciprocal liberalization process.[18]

Regional trade groups such as NAFTA or the Association of Southeast Asian Nations (ASEAN) have had more limited success in improving local institutions as their membership requirements are less stringent. NAFTA helped to lock in some liberalization measures in Mexico, and potentially contributed to improvement in the rule of law (Capital Markets Consultative Group, 2003) and domestic demands for reform—banks, for example, lobbied for an enhanced regulatory framework (Islam and Montenegro, 2002). ASEAN may have played a role in structural and institutional reform in countries such as Cambodia, Lao PDR, and Vietnam (see the April 2003 *World Economic Outlook*).

Can external anchors play a role in other countries and regions? Many countries with weak institutions tend to be geographically (and in terms of trade) concentrated and distant from potential anchors, limiting the emergence of a strong regional anchoring framework

[18]See Mattoo and Subramanian (2004).

Figure 3.10. Evolution of Institutions in the European Union and in EU Accession Candidates[1]

Institutional frameworks have tended to improve significantly during the process of EU accession: new members and accession candidates have been catching up to the institutional quality of the existing EU members.
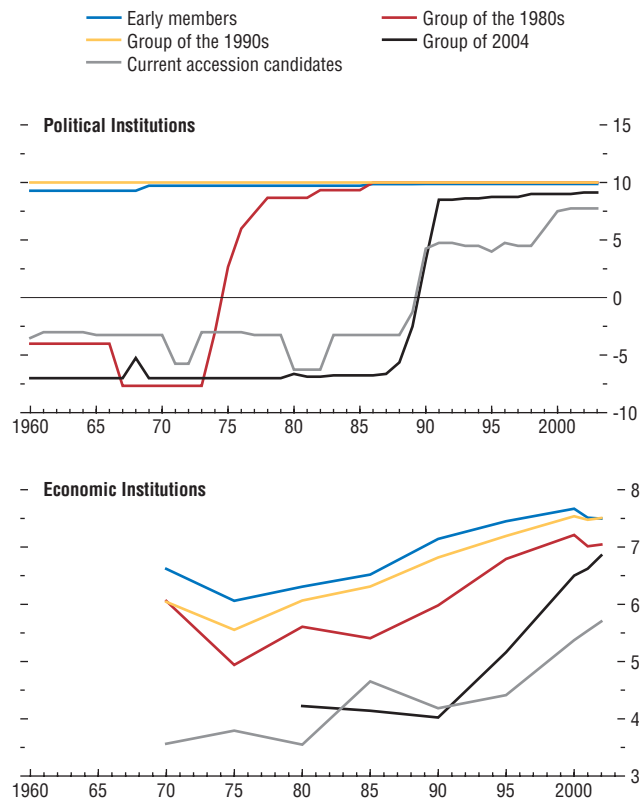
Sources: Gwartney and Lawson (2004); Marshall and Jaggers (2003); and IMF staff calculations.
[1]Regional scores were calculated as simple averages. The composition of the groups is as follows: early members includes Belgium, Denmark, France, Germany, Italy, Ireland, Luxembourg, Netherlands, and the United Kingdom; group of the 1980s includes Greece, Portugal, and Spain; group of the 1990s includes Austria, Finland, and Sweden; group of 2004 includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia (the other two new EU members—Cyprus and Malta—are excluded); finally, the group of current accession candidates includes Bulgaria and Romania (in EU terminology, "acceding countries"), and Croatia and Turkey ("candidate countries"). Political institutional quality is measured by Marshall and Jaggers' (2003) Polity index. Economic institutional quality is measured by Gwartney and Lawson's (2004) Economic Freedom index. For more information, see Appendix 3.1.

that provides incentives and a credible commitment mechanism for countries to undertake deep-seated institutional reforms similar to that of the EU accession countries (see Figure 3.3). Nonetheless, certain policy initiatives hold the prospect of creating potential anchors in the future.

The New Partnership for Africa's Development (NEPAD) constitutes Africa's framework for promoting democracy, stability, economic development—including better governance—and strengthened partnerships with the international community.[19] Through its Peer Review Mechanism, NEPAD could become an important platform for diagnosing institutional weaknesses, formulating policy recommendations, and attracting investment into successfully reforming countries. While NEPAD holds promise as a potentially useful mechanism, the lack of tangible benefits and credible commitment mechanisms creates the risk that any process of institutional development through this mechanism will be slow to gain traction.[20] Strong regional leadership—which has been demonstrated by Algeria, Egypt, Nigeria, Senegal, and South Africa during the process of NEPAD formation—could increase the pace and effectiveness of the peer review process by applying mutual peer pressure.

Looking forward, the role of external anchors in Africa could be made more effective by linking the benefits of trade and investment to a clean bill of institutional health.[21] In this respect, one potential mechanism may be through the creation of a donor country–financed FDI trust fund that makes a commitment to co-finance foreign direct investment projects in return for credible and effective measures to successfully transform institutions. The co-financing would allow risk-sharing with the private sector, generate investment through nondebt flows, and raise investment levels.

Aid and Institutions

There is wide agreement in the international community on the need for substantially increased levels of financial assistance to low-income countries to alleviate poverty and lay the basis for long-run sustained growth.[22] It is also well recognized that governance and "absorptive capacity" more broadly can determine whether financial assistance is well utilized. It is also of interest to ask what aid itself does to institutions.

In principle, aid can affect institutions in a variety of ways.[23] Higher levels of aid can improve the functioning of executive and judicial institutions—including through higher civil service pay—and the quality of economic policies undertaken by countries, especially when accompanied by technical assistance and conditionality targeted toward improving policymaking. More broadly, aid may reduce incentives for rent-seeking by alleviating difficult trade-offs that emerge from resource constraints. Aid, however, can also tax weak institutional capacity through the proliferation of donors and projects.[24] The unpredictability and volatility of aid also increases the stress on budgetary and other sectoral institutions that have to plan expenditures. Furthermore, some types of aid may forestall

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[19]For a detailed description of NEPAD's objectives, see the April 2003 *World Economic Outlook* and NEPAD (2005).

[20]After four years of its existence, NEPAD has not completed any Peer Reviews. Reports on Ghana and Rwanda, including policy recommendations and action plans, are expected to be published later this year.

[21]The America's Growth and Opportunity Act and the Millennium Development Corporation are recent examples containing such an approach.

[22]See UN Millennium Project (2005) and the Commission for Africa Report (2005).

[23]See Knack (2001) and Bräutigam and Knack (2004) for a detailed elaboration of possible factors to consider.

[24]Birdsall (2004) cites the example of Tanzania, which during the period 2000–02 had to manage 1,300 donor-financed projects, involving an estimated 1,000 donor meetings and 2,400 reports to donors each quarter. The government at one point announced a four-month holiday during which it would not accept donor visits. Knack and Rahman (2004) find that recipients experiencing greater donor fragmentation show greater declines in a measure of bureaucratic quality during the period 1982–2001.

policy reform by postponing the inevitable economic consequences of poor policy choices. Sustained aid also has been found to reduce the contribution of the tradable good sector—a key determinant of institutional quality.[25] Aid may also have deleterious effects on long-run institutional development, by reducing the role of tax collection, potentially creating an incentive at the margin to substitute aid for taxation.[26] While in the short run this may not be a problem, in the long run it may impede accountability and the development of economic institutions.[27]

In practice, the empirical evidence on the net effect of aid on institutions is mixed. Regarding aid's effect on corruption for example, while Alesina and Weder (2002) suggest that an increase in aid is associated with an increase in corruption, Tavares (2003) finds this result to be biased by the fact that less corrupt governments generally tend to receive less aid for a variety of reasons not linked to corruption, and correcting for this bias suggests that an increase in aid in fact reduces corruption. More broadly, Knack (2001) finds a significant negative relationship between aid and governance (comprising bureaucratic quality and rule of law, in addition to corruption) for a broad cross-section of countries, while Bräutigam and Knack (2004) find that in Africa, higher aid levels are associated with larger declines in the quality of governance and in tax revenue as a share of GDP, even when corrected for endogeneity issues and controlling for economic decline and political violence. Svensson (2000) finds that aid is associated with higher corruption in countries that are more fragmented and prone to social conflict. In a study of sub-Saharan African countries, Goldsmith (2001) finds that aid is positively associated with one measure of governance relating to political freedom. All these studies are in the

tradition of cross-country growth regressions and may, consequently, be prone to some of the well-known problems of such regressions (Levine and Renelt, 1992; Durlauf, Johnson, and Temple, 2005; and Rodrik, 2005). Using techniques to avoid some of these problems, Rajan and Subramanian (2005) find that the level of unrequited flows—defined as aid and revenues from oil and natural resources—has a negative impact on institutions in countries with poor institutions (see Box 3.3; individually, the effects of aid and natural resource revenues are quantitatively similar, although not statistically robust).[28] This suggests that countries that receive large unrequited flows and that have weak institutions stand most to gain—in terms of maximizing the benefits of such flows—from strengthening their institutions.

Overall, with existing evidence ambiguous, further research is needed to arrive at more definitive conclusions regarding the impact of aid on institutions. That said, given the levels of financial assistance envisaged under the Millennium Report, low-income countries could witness a dramatic increase in the assistance they receive (Figure 3.11). Under plausible assumptions, aid on average would finance about 60 percent of government expenditure in 37 low-income sub-Saharan African countries, with the ratio exceeding 50 percent in 26 countries and more than 75 percent in half of those. Consequently, policymakers should be mindful of the potential effects in individual cases, and seek to ensure both that aid is provided in ways that minimize any adverse risks to domestic institutions, and that the institutional environment in recipient countries is strengthened to make best use of aid inflows. In this context, well-accepted measures that can minimize such risks and increase aid effectiveness assume

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[25]See Arellano and others (2005).

[26]See Azam, Devarajan, and O'Connell (1999); Feyzioglu, Swaroop, and Zhu (1998); and Gupta and others (2004).

[27]On the other hand, Collier (1999) argues that the substitution of aid for taxes can actually be a benefit because it improves the private sector's incentive to work and invest.

[28]The impact of aid can also be expected to depend on the type of aid being considered, as explored in, for example, Gupta and others (2004) and Congressional Budget Office (1997).

Figure 3.11. Aid Dependency Ratios in Sub-Saharan Africa under the Millennium Development Goals[1]

Dependency on aid would increase significantly if the Millennium Development Goals were implemented. The number of countries with ratios of aid to government expenditure exceeding 50 percent would increase from 16 to about 26.

Aid (percent of total government expenditures)
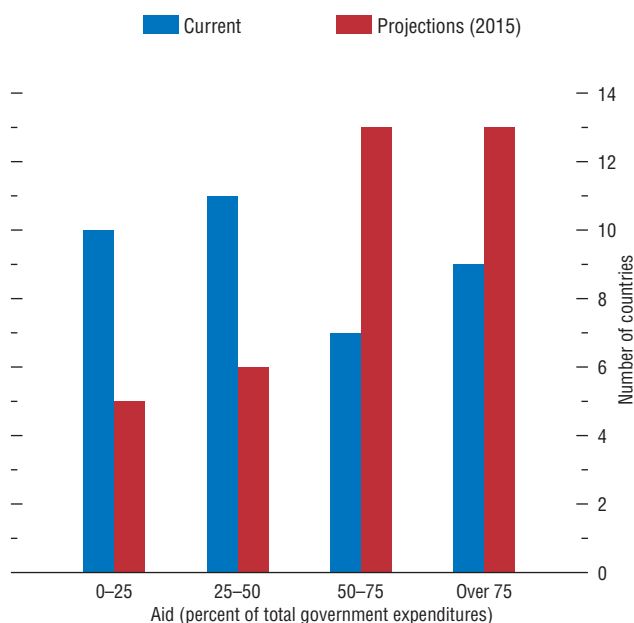
Sources: Moss and Subramanian (2005); World Bank, *World Development Indicators* (2005); and IMF staff estimates.
[1]Current figures refer to 2002 or the latest year for which data are available. Projections are an average over the following six different scenarios for likely aid flows: (1) doubling aid to GDP for all countries; (2) same as (1) except that aid to GDP is tripled for countries in the top two quintiles of the World Bank's CPIA ratings; (3) a 10 percent increase in the ratio of government expenditure to GDP of which 8 percentage points is financed by increased aid; (4) an additional $130 billion in aid distributed equally over all low income countries; (5) an increase in aid per capita of US$70 for all countries; and (6) an increase in government expenditure per capita to $143 for all countries with additional aid financing the increase.

greater importance. Some such measures include the following:

- Safeguards to ensure that long-term accountability of governments to citizens is strengthened despite reduced reliance on taxation;[29]
- Reductions in transaction costs for the recipients of aid through measures such as harmonization of aid delivery and greater use of multilateral channels;[30]
- In the presence of threshold effects, greater selectivity in aid, with priority accorded to countries with strong institutions—envisaged under the U.S. Millennium Challenge Account—and those with a well-formulated strategy to simultaneously improve institutions; and
- For those countries with weak institutions, consideration of alternative modes of aid delivery.[31]

Promoting Transparency

Transparency supports institutional improvements by helping to identify the presence of economic rents in an economy and increasing the penalties for rent extraction. The international community has an important role in promoting transparency in developing countries, for example by recognizing that some unfavorable outcomes such as corruption can be "two-sided." The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions obliges signatory countries—which include all 30 OECD members and 6 nonmembers—to treat the bribery of a foreign public official as a crime on the same

[29]The Commission for Africa proposes, for example, that aid should be conditional on good governance and the government's accountability to citizens.
[30]Recognizing this, the Commission for Africa recommends that aid should be provided in a predictable manner and flexibly over the long term. See also Birdsall (2004).
[31]Easterly (2002) suggests giving aid vouchers directly to people so that they could buy services. Klein and Harford (2005) suggest innovative possibilities for aid delivery, including output-based aid and greater use of the private sector in delivering aid.

Box 3.3. Examining the Impact of Unrequited Transfers on Institutions

The emerging literature has reached ambiguous conclusions on the impact of both aid and natural resource revenues on institutions (see the main text). Since revenues from both aid and natural resources largely accrue to governments but without a corresponding need to tax citizens, it is of interest to ask what similarities there are between these two forms of resources—referred to here as unrequited transfers—in terms of their impact on institutions. To avoid some of the well-known problems of cross-country growth regressions,[1] one technique of estimating the impact of unrequited transfers on institutions is to examine within-country differences in the performance of sectors that are more institution intensive.[2] This method allows for exploiting within-country differential effects (growth differences between institution-intensive industries and non-institution-intensive industries) and a country treatment effect (different aid or resource inflows to a country). It also allows for correcting for country (and industry) effects, which implies that the findings are not as sensitive to particular regression specifications as traditional cross-country regressions.

The estimation strategy runs regressions of the form

$$G_{ij} = K + \zeta_{1\ldots m}{}^{*} CI + \zeta_{m+1\ldots n}{}^{*} II + \zeta_{n+1}{}^{*} S_{ij} + \alpha \, (A_j {}^{*} INS_i) + \varepsilon_{ij},$$

where G_{ij} is the annual average rate of growth of value added of industry i in country j over the 10-year period (1980–90), obtained by normalizing the growth in nominal value added by the GDP deflator; K is a constant; $\zeta_{1\ldots m}$ are the coefficients of the country fixed effects; CI is country indicators; $\zeta_{m+1\ldots n}$ are the coefficients of the industry fixed effects; II is industry indicators; ζ_{n+1} is the coefficient of the initial period share of industry i in total value added in country j (which controls for convergence-type effects); S_{ij} is industry i's share of manufacturing in country j in the initial period; A_j is unrequited transfers to country j; and INS_i is the institution intensity of industry i. The coefficient of interest is α, which captures the interaction between unrequited transfers and an industry's institution intensity. If countries that receive more unrequited transfers see a larger negative impact in industrial sectors that are more institution intensive, the coefficient of α should be negative.

A key challenge is to identify institution-intensive sectors. Blanchard and Kremer (1997) develop a measure for the dependence of a sector on the institutional environment—the measure essentially relies on the extent to which transactions needed for production have to be governed by contracts. The greater the number of such transactions, the more the need for institutions that enforce contracts. Following Blanchard and Kremer (1997) and Levchenko (2004), we compute from an input-output matrix (for 1992) of the United States the Herfindahl index of concentration of purchases for sector i, where

$$c_i = \sum_z (\phi_{iz}),$$

where ϕ_{iz} is the share of input z in the production of i. The higher the index, the fewer are the industries the sector buys from, increasing the possibility of regulating transactions through long-term repeated firm-supplier relationships or vertical integration rather than through explicit governance by the courts or regulatory authorities. For example, in the sample, the electric machinery sector (Herfindahl score of 0.07) is more institution intensive than the food products sector (score of 0.25). In countries with lower

Note: The main author of this box is Arvind Subramanian.

[1]See Levine and Renelt (1992); Durlauf, Johnson, and Temple (2005); and Rodrik (2005).

[2]See Rajan and Subramanian (2005), upon which this box draws, and Rajan and Zingales (1998) for the development of this technique. Institution-intensive sectors are defined as those that are most likely to need better institutions in terms of contract enforcement and the protection of property rights.
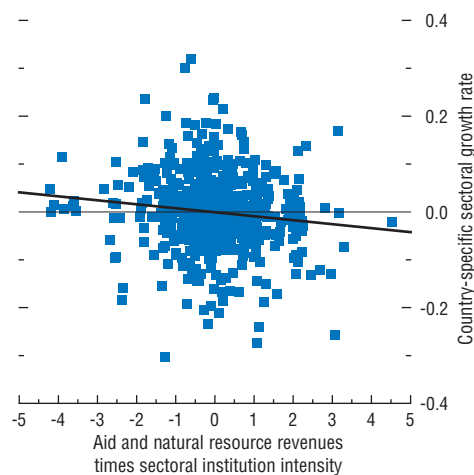
Box 3.3 *(concluded)*

governance capacity, industries that depend on transactions—that is, score lower on the concentration index—are likely to either have to distort their organization structure or transact less, both of which have adverse effects on growth. One potential concern with this measure is whether, since it is derived from industrial country data, it would apply equally well to developing countries. Another concern is that the index measures the sectoral concentration of purchases—not the concentration in terms of firms—which would be a better measure of "outside" or arm's-length transactions. The empirical analysis seeks to address these concerns by validating the use of this measure of institution intensity. If concentration of outside purchases were a valid measure of institution intensity, then countries that have better institutions should see faster growth in industries that are more institution intensive. This is what the analysis shows, not just for developing countries but also in samples that include industrial countries.

The main conclusions of the analysis are the following.

- First, the level of unrequited transfers has a robust negative relationship with institutions (see the figure).[3] This result holds even after controlling for the possible impact of aid and natural resources in relieving the financial constraint faced by selected sectors (individually, the impacts of aid and natural resource revenues are quantatively similar, but not statistically robust).
- Second, the adverse impact of unrequited transfers is only present in countries with

Impact of Unrequited Transfers on Institutions[1]

Source: Rajan and Subramanian (2005).
[1]The *x*-axis depicts the ratio of aid and exports of fuel and minerals to GDP in country *j* times institution intensity of industry *i*. The *y*-axis depicts that portion of the annual average growth rate of industry *i* in country *j* which is not explained by determinants other than the above. The regression includes country and industry fixed effects as well as a convergence term.

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[3]The coefficient on the regression line, which is significant at the 1 percent confidence level, has the following interpretation. Given two countries that are one standard deviation apart in terms of aid and resource rents, and two sectors that are one standard deviation apart in terms of institution intensity, the more institution-intensive sector in the high-rent-receiving country will grow 1 percentage point a year slower than the less institution-intensive sector in the low-rent-receiving country.

weak institutions, and not in countries with stronger institutions. For example, when the sample is divided into countries that were above and below the median value for institutions, the adverse impact of unrequited transfers was significant in the latter and not significant in the former. Moreover, the coefficient for the below-median sample was twice as large as that for the whole sample.

Overall, this analysis reinforces a central message of the main chapter, that in an environment of rapidly increasing aid flows, and in many cases also natural resource revenues, it will be important to consider the potential impact on domestic institutions particularly carefully, and to design delivery mechanisms and accompanying policies in ways that minimize any adverse effects, especially in cases where institutions are already weak.

basis as the bribery of a national public official.[32]

The Extractive Industry Transparency Initiative (EITI), launched by the United Kingdom in 2002, is central to efforts aimed at encouraging governments and companies operating in natural resource–exporting countries to disclose natural resource revenues and payments. EITI is a multi-stakeholder initiative including governments, international organizations, companies, non-governmental organizations (NGOs), investors, and business and industrial organizations, which agree to EITI Principles aimed at improving transparency in the natural resources sector to improve public accountability. The associated EITI criteria include specific measures to implement the principles, such as a work plan toward independent published audits, with support from international financial institutions when required. Some twenty countries have committed to EITI principles and criteria and eight are already in various stages of implementation, including in some cases the publication of reports on revenues and payments conforming to EITI principles.[33] If widely adopted, this initiative could improve the transparency of revenue data and help reduce corruption and misappropriation related to payments by companies to governments and government-linked entities (see the April 2005 *World Economic Outlook* and the U.K. Department for International Development website).[34] A multi-donor EITI Trust Fund administered by the World Bank provides funding and technical assistance to developing country governments in support of their efforts to take EITI

programs forward. More broadly, the IMF and the World Bank are supporting EITI implementation at the country level.

The IMF, the World Bank, and other international agencies also support transparency through, for example, conditionality focused on audits in large government agencies and public companies, and data transparency projects.[35] In Uganda, public expenditure tracking surveys (PETS) helped to increase dramatically the ratio of actual primary education spending to the centrally budgeted allocation (Figure 3.12).[36] The IMF's fiscal transparency code promotes government accountability to its citizens by fostering informed debate about revenues and expenditures. Likewise, its monetary policy and financial policies transparency code can help reduce central bank financing, improve private sector access to credit, and reduce connected lending.[37]

NGOs and trade unions can play a key role in identifying institutional bottlenecks or shaping legislation to support civil society in seeking greater accountability. There are numerous examples of success stories although NGOs, labor unions, and broader civil society are more effective in an environment already characterized by some level of voice and accountability (Figure 3.13).[38]

Conclusions

A country's institutions are shaped by a combination of history, economic structure, political system, and culture. Consequently, institutions tend to be persistent over time. However, as the

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[32]See description on the Internet: http://www.oecd.org under corruption.

[33]Progress updates are accessible via the Internet at http://www.eitransparency.org/countryupdates.htm.

[34]See the Internet: http://www2.dfid.gov.uk/news/files/extractiveindustries.asp.

[35]In its Country Assistance Strategy for 2004–07, the World Bank anchored its entire project portfolio in Indonesia on anticorruption measures.

[36]Prior to the implementation of PETS, most grant allocations were either redirected by various levels of government or were misappropriated (see Ablo and Reinikka, 1998). Subsequently, leakage of per-student grants to schools fell from almost 90 percent to about 20 percent (Reinikka and Smith, 2004). Uganda has adopted the PETS as its standard tool in several other sectors, and the practice has also spread to other countries, including Zambia and Peru.

[37]For a more detailed discussion of the role of the IMF in supporting institutional changes in developing countries, see the April 2003 *World Economic Outlook*.

[38]For example, a small advisory group initiated a "citizen report card" exercise in Bangalore, India, designed to provide feedback to local providers of public services (Public Affairs Center, 2005). This approach was later replicated in other Indian cities and other countries, such as Albania, the Philippines, Ukraine, and Vietnam.

Figure 3.12. Uganda: Leakage of Schooling Grants[1]
(U.S. dollars per student)

After the implementation of public expenditure tracking surveys and publicity campaign, leakage of primary schooling grants fell from almost 90 percent during 1991–95 to 18 percent in 2001.
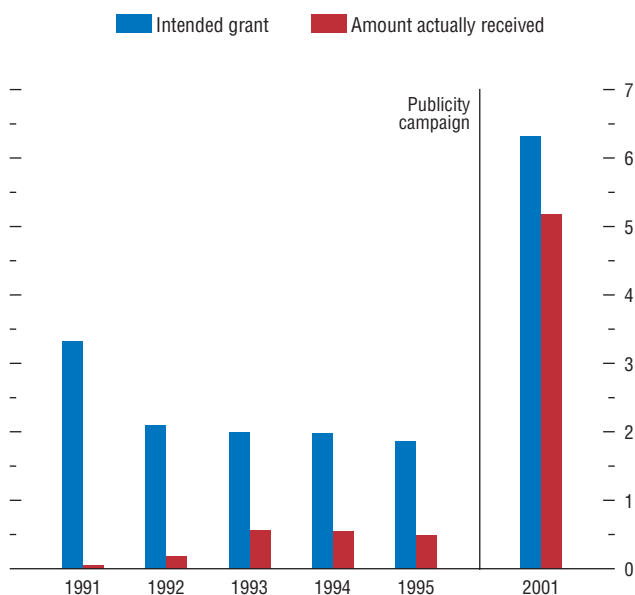
Sources: Ablo and Reinikka (1998); and Reinikka and Smith (2004).
[1] The figures refer to the average capitation grant per student and were converted to U.S. dollars using the average 1991–92 exchange rate.

analysis in this chapter shows, they are not immutable. Over the past 30 years, noticeable institutional improvements have occurred in 65 developing countries, associated—though often with varying lags—with sustained improvements in growth and private investment.

Both theoretical considerations and historical experience suggest that good institutions tend to flourish under two broad circumstances: an economic environment that is not conducive to rent-seeking, and—related to that—the presence of appropriate checks and balances on those wielding political power. Consistent with this, the econometric analysis finds that the transition to good institutions is more likely to occur in countries that are more open, have a greater degree of political accountability, have a higher level of education in the population, and are in the same region as countries with relatively good institutions. Higher aid, on the other hand, could be a hindrance to transitions. Unsurprisingly, many of the factors influencing transitions also appear to support good institutional quality more generally, although given the difficulties associated with identifying the direction of causation in the cross-country analyses, the conclusions are subject to greater uncertainty. Good institutional outcomes appear to be robustly associated with greater economic openness and the degree of accountability of the political executive. Higher initial income is also associated with better institutional quality, and this is also consistent with the observed lower probability of a transition to better institutions—they are likely to be of high quality already. The quality of institutions in neighboring countries, education levels, and the size of the natural resource sector also appear to play a role, but the level of aggregate aid does not appear to be clearly linked to the level of a country's institutions.

Many forms of institutions can deliver good institutional outcomes, and institutional change has to be designed and driven by countries themselves. The analysis in this chapter, however, suggests that external factors can play an important supporting role. Perhaps the strongest and most robust result is that greater openness is associ-

ated with better economic institutions, reinforcing the case for developing countries themselves to undertake ambitious trade liberalization under the Doha Round. Beyond that, however, strong regional leadership and well-designed external anchors can play an important role—underscoring the importance of strengthening existing platforms, such as NEPAD—as can greater transparency, particularly in countries with large natural resource sectors. The evidence on the impact of aid flows is ambiguous, but given the projected large increases in the size of inflows in relation to government expenditures in a number of countries in coming years, and the importance of ensuring that aid is effectively used toward the broader goal of poverty reduction, both donors and individual recipient countries need to think through carefully the potential institutional implications on a case-by-case basis, and seek to structure aid delivery—and accompanying policy measures in other areas—in such a way as to minimize any potential adverse effects in each recipient economy.

Appendix 3.1. Sample Composition, Data Sources, and Methods

The main author of this appendix is Angela Espiritu.

This appendix provides further details on the sample composition, the data and their sources, and the empirical strategies used in the analyses underlying the chapter.

The sample consists of 105 countries across all regions, representing both advanced and developing economies. Countries are classified according to the current *World Economic Outlook* (WEO) country groupings. In the main text of Chapter III, developing economies also include emerging market economies. The analyses cover the period 1970–2004. The model regresses country-specific measures of institutional outcomes on a set of regressors including explanatory factors suggested by analytical considerations and a set of exogenous controls. The specific data used in the analyses and their sources are outlined below.

Figure 3.13. Accountability and Improvements in Corruption[1]

Over the past decade, the corruption index has improved more significantly in the countries that are characterized by having high voice and accountability.
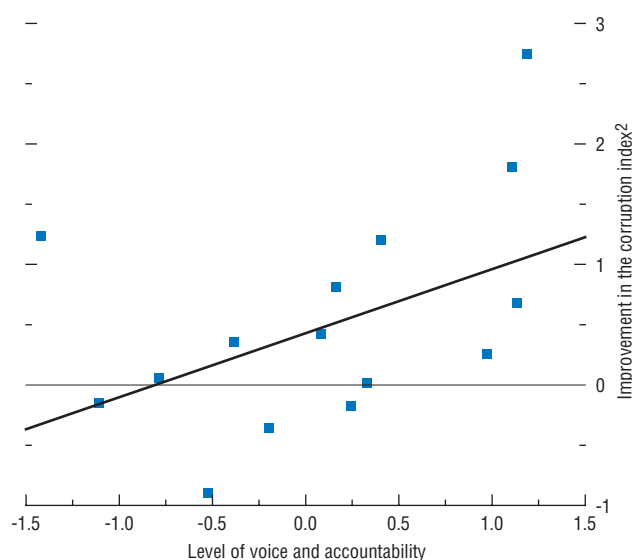
Sources: Kaufmann, Kraay, and Mastruzzi (2005); Transparency International and University of Passau (2004); and IMF staff calculations.
[1]The sample for this figure consists only of the countries where the initial 1995 Transparency International and University of Passau (TI) corruption score is below its mid-range of 5. The level of voice and accountability refers to the average score between 1996 and 2004. For a description of the voice and accountability index, see Appendix 3.1.
[2]The improvement in the TI corruption score refers to the change in the score between 2004 and 1995.

Data and Sources

Measures of Institutional Quality

The measures of institutional quality are as follows.

- Five separate indicators of governance by Kaufmann, Kraay, and Mastruzzi (2005) (KKM):[39] (1) *Corruption*—measures perceptions of corruption, conventionally defined as the exercise of public power for private gain; (2) *Rule of law*—measures the extent to which property rights are protected, and the perceptions on the incidence of crime, the effectiveness of the judiciary, and the enforceability of contracts; (3) *Political stability*—measures perceptions of the likelihood that the government will be overthrown by unconstitutional and/or violent means; (4) *Government effectiveness*—measures the quality of public service, the competence and independence of civil service, and the credibility of the government's policies; and (5) *Regulatory quality*—measures the lack of controls on the goods market, banking system, international trade, and business development. An *aggregate governance index* is also constructed by taking the simple average of the five indicators. Data are available biennially for the period 1996–2004.
- A measure of political risk and a specific indicator of law and order from the International Country Risk Guide Database (ICRG).[40] *Political risk* assesses a country's political stability based on the following components: government stability, socioeconomic conditions, investment profile, internal and external conflict, corruption, military and religion in politics, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. The *law and order* component measures the objectivity of the legal system and the extent to which laws are observed in society. Data are available from 1984 and updated monthly.
- Measures of a country's business environment from the World Bank's *Doing Business Database* (DB).[41] These measures include the cost of starting and closing a business, in terms of time and money, the difficulty of hiring or laying off workers, the requirements and procedures needed to borrow money for business purposes, and the enforceability of contracts. Data are available for 2004.
- The World Bank measures of a country's investment environment from the *Investment Climate Surveys* (IC)[42] database. These measures indicate the over all perception of investors on business constraints, resolution of conflicts, and financial development. Data are available for 2004.
- Measures of *economic freedom* by the Cato Institute and the Heritage Foundation.[43] The Cato Institute index by Gwartney and Lawson (2004) determines a country's degree of economic freedom by looking at five major areas: the size of government, legal structure and security of property rights, access to sound money, freedom to trade internationally, and regulation of credit, labor, and business. Country scores range from 1 (repressed) to 10 (free). Data are available periodically for 1970–2002. The Heritage Foundation (2005) index contains 10 components: trade policy, fiscal burden, government intervention, monetary policy, capital flows and foreign investment, banking and finance, wages and prices, property rights, regulation, and black market. Data are available for 1995–2005.[44]

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[39]For more details on the KKM indicators, see http://www.worldbank.org/wbi/governance.

[40]For more details on the ICRG indicators, see http://www.countrydata.com.

[41]For more details on the DB indices, see http://rru.worldbank.org/DoingBusiness.

[42]For more details on the IC indices, see http://rru.worldbank.org/investmentclimate.

[43]For more details on the Cato Institute's measure of economic freedom, see http://www.freetheworld.com/download.html. For more information on the Heritage Foundation's measure, see http://www.heritage.org/research/features/index/downloads.cfm.

[44]For the regressions, both indices were recalculated without the trade openness component since a measure of openness, further described below, was used as a regressor.

- Measures of political institutional quality from the Polity IV data set by Marshall and Jaggers (2003).[45] The indices employed are (1) *Polity score*—measures how democratic or autocratic a country is; and (2) *Executive constraint*—measures the extent of constraints on the individuals or groups who hold the executive's decision-making powers. Data are available for 1960–2003.

The Cato Institute's Economic Freedom index was used to measure economic institutions in the majority of analyses because it covers a longer time period and in some cases more countries than the other indices. The Cato index is highly correlated with the alternative measures for those subperiods where both are available. For instance, the correlation coefficients between the Cato index and the Heritage Foundation index, the KKM aggregate governance index, and the KKM corruption measure, are 0.82, 0.84, and 0.78, respectively.

Institutional Catalysts

The institutional catalysts are as follows.

- *Trade openness* comes from Wacziarg and Welch (2003)[46] and is based on average tariff rates, average nontariff barriers, the average parallel market premium for foreign exchange, the existence of an export marketing board, and the existence of a communist party in power. The variable is equal to zero prior to liberalization, and unity from the beginning of liberalization.
- Education measures include both primary and secondary enrollment rates from the World Bank's *World Development Indicators* (WDI), and educational attainment from Barro and Lee (2000).[47] *Primary* or *secondary enrollment rates* refers to the ratio of total primary or secondary enrollment to the population in the corresponding age group. Data are available

periodically for 1960–2003. *Educational attainment* is defined as the average years of school of the total population aged 15 and over. Data are available for 1960–2000.

- A measure of accountability of the elites to the broader public from KKM's *voice and accountability* indicator. This index assesses the extent of citizens' participation in the selection of governments, civil liberties, and press freedom. Freedom House's (2005) index measures *press freedom*[48] specifically by looking at the media's legal environment, the political pressures they face, and the extent of society's access to information. Data are available for 1979–2004 for up to 194 countries.
- *External spillovers* are measured by taking the simple and/or weighted average of a country's *regional neighbors'* or *trading partners' institutional quality*. The weights reflect gross domestic product (GDP) when examining regional neighbors, and trade shares when examining trading partners. In the cross-sectional and panel regressions reported in the main text of Chapter III, only the coefficients for the simple average of a country's regional neighbors' institutional quality are shown, while the other measures yield similar results. A *catch-up term* is also derived from these averages by taking the difference of a country's current institutional quality and its neighbors' or trading partners' lagged institutional quality.
- *Natural resource dependence* is measured using an indicator equal to unity if a country's net fuel exports (as reported by WDI) exceed 5 percent of GDP, and equal to zero otherwise.
- *Transparency* from Oxford Analytica[49] offers measures of a country's compliance of international standards and codes, including banking supervision, corporate governance, money laundering, securities regulation, insurance supervision, monetary and fiscal transparency,

[45]For more details on the Polity IV Database, see http://www.cidcm.umd.edu/inscr/polity.
[46]For more details on the openness measure, see http://papers.nber.org/papers/w10152.pdf.
[47]For more details on the educational attainment measure, see http://papers.nber.org/papers/w7911.pdf.
[48]For more information on the press freedom index, see http://www.freedomhouse.org/research/pressurvey.htm.
[49]For more information on Oxford Analytica's indicators, see http://www.oxan.com/cr/projects/standardsandcodes.asp.

accounting and auditing, insolvency regimes, and payment systems. Data are available for 2003.

• The *central bank independence* index is drawn from Arnone and others (2005). Data are available for 1991–92 and for 2004.

Controls

• The variables used are (1) the log of *income per capita* from the Penn World Table Version 6.1 (Heston, Summers, and Aten, 2002); (2) *inequality* as measured by the Gini coefficient from WDI; (3) *military expenditure* from the IMF's *Government Finance Statistics* as measured by defense expenditure as a percent of total government expenditures; and (4) *aid* as a percent of GDP from the IMF's *Balance of Payments Statistics Yearbook.*

Sample Composition, Methods, and Other Comments

Cross-Sectional Analysis

The sample consists of 104 countries for the period average of 1970–2004. Results are reported using, as dependent variables, the KKM aggregate index, the KKM corruption measure, and the Heritage Foundation's measure of economic freedom. These results are broadly representative of the results for other measures of institutional quality. Independent variables included openness, schooling, KKM's voice and accountability index, fiscal transparency, central bank independence, net fuel exports, aid, neighbors' institutional quality, and initial income. The model was estimated using two-stage least squares, employing the initial values of the variables as instruments.

Panel Analysis

Reflecting constraints on the availability of the time-series data, the panel regression analyzes institutional outcomes using the Cato Institute's Economic Freedom index. The data set covers a panel of 93 countries over 1970–2004. The data are averaged over five-year periods, with an average of six observations per country. The set of regressors employed was the same as in the cross section. A fixed-effects linear model was estimated, using the start-period values of the variables as instruments. In this setting, the impact of trade openness is much weaker than in the cross section, as fixed effects absorb much of its explanatory power.

Institutional Transitions

The sample consists of approximately 90 countries over the period 1970–2004. Empirically, for each country the start of a transition, if any, is defined as the first year in which the forward-looking eight-year moving average of the relevant variable is both significantly larger than the backward-looking eight-year moving average and sufficiently high in absolute terms.

Since institutional transitions generally occur over a protracted period, the eight years following the start of a transition are all viewed as part of the same transition episode. Observations following the end of this transition period are dropped. To ensure that the episodes identified are sustained transitions, countries that are identified as having a positive transition but are subsequently followed by a negative transition are excluded. The Polity score by Marshall and Jaggers was used for political transitions, while the Cato Institute's Economic Freedom index was used for economic transitions. For the Polity score, the threshold for change from the backward-looking eight-year moving average to the forward-looking eight-year moving average is 4 points; while the minimum forward-looking moving average score is 0. For the Cato Institute's Economic Freedom index, the threshold for change is 1 point and the minimum level attained is 4 points. The list of transitions identified was reviewed by IMF country desks, and, where appropriate, adjusted. The final list of transitions is presented in Table 3.4.

After identifying the transitions, a dummy variable was set to unity beginning in the year of transition. This variable was then used to run the probit regressions using the same set of regressors as in the cross-sectional and panel specifications, except that, for the neighbors'

Table 3.4. List of Institutional Transitions, 1970–2004[1]

Country	Year of Transition in Economic Institutions	Country	Year of Transition in Economic Institutions
Albania	1993	Lithuania	2000
Argentina	1991	Macedonia, FYR	1994
Bangladesh	1987	Malta	2004
Benin	1992	Mauritius	1985
Bolivia	1985	Mexico	1991
Botswana	1998	Namibia	1995
Brazil	1999	Nicaragua	1994
Bulgaria	1997	Nigeria	2003
Cambodia	1999	Panama	2000
Chile	1976	Paraguay	2004
China	1978	Peru	1993
Costa Rica	1990	Philippines	1994
Croatia	2000	Poland	1990
Czech Republic	1991	Romania	2000
Djibouti	1996	Russia	2000
Dominican Republic	1996	Senegal	1994
Ecuador	2000	Serbia and Montenegro	2001
El Salvador	1994	Sierra Leone	2002
Estonia	1995	Slovak Republic	2000
Georgia	1995	Slovenia	2000
Ghana	1985	South Africa	1996
Guatemala	1994	Sri Lanka	1990
Guinea-Bissau	1994	Syrian Arab Republic	1987
Guyana	1991	Taiwan Province of China	1980
Honduras	2003	Tanzania	1997
Hungary	1995	Togo	1985
Indonesia	1985	Trinidad and Tobago	1993
Iran, I. R. of	1999	Turkey	2001
Jamaica	1993	Uganda	1996
Jordan	1998	Ukraine	2000
Korea	1998	United Arab Emirates	1988
Kuwait	1986	Zambia	1997
Latvia	1999		

Sources: Gwartney and Lawson (2004); and IMF staff calculations.

[1]Some countries experienced significant improvements in political and economic institutions prior to 1970. For example, Korea substantially improved its economic institutions during the 1960s. For more information on the data and methodology used to determine institutional transitions, see Appendix 3.1.

institutional quality, the catch-up term was used instead of just the average. For all regressions in the chapter, both the Cato Institute and Heritage Foundation indices were recalculated without the trade openness component since a measure of openness was used as a regressor.

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