

Grist and the Mill for the Lessons of the 1990s

THE ECONOMIC CHANGES OF THE 1990s conformed to no theories. In this chapter we review the lessons that can be drawn from the economic events of the decade, and also the new ideas, theories, and issues that were born of those events and of efforts to order and understand them. To be sure, facts and ideas so clearly affect one another that it is difficult to separate them cleanly: what constitutes the relevant “facts” is determined by ideas, while new ideas are often the result of attempts to grapple with the facts. Nevertheless, distinctions are helpful to organize the discussion, so section 1 reviews the facts about developing countries’ economic performance that form grist for the mill of lessons, and section 2 discusses the ideas that came on to the development agenda in the 1990s.

1. Events of the 1990s: Disappointments and Pleasant Surprises

Perhaps the most important experiences of the 1990s are those that defied not just forecasts but conditional forecasts. Lessons, pleasant and unpleasant alike, emerge from unexpected occurrences.¹

Assessing whether outcomes are surprising requires a model that implicitly or explicitly links causes with outcomes. Thoughtful people continually update their working mental models in response to events,² and this continuous learning

makes the empirical sources of lessons very difficult to isolate in retrospect. Hence this chapter attempts to measure the events of the 1990s against the conventional wisdom of the mainstream of development economists. To pin down that elusive concept we choose the specific expression of the *zeitgeist* as the World Bank’s 1991 *World Development Report* (*WDR 1991*). So, had someone known in 1990 the direction and magnitude of the changes in politics, policy, and institutional reform, and known how the global economic environment unfolded in the 1990s, and had they used roughly the same model of market-friendly development as the *WDR 1991*, which of the economic outcomes of the 1990s would they *not* have predicted?

On this basis, the 1990s produced five disappointments and three pleasant surprises. The five disappointments are:

- The length, depth, and variance across countries of the output loss in the transition from planned to market economies in the former Soviet Union (FSU) and Eastern European countries.
- The severity and intensity of the international and domestic financial crises that rolled through East Asia.
- Argentina’s financial and economic implosion after the collapse of its currency convertibility regime.
- The weakness of the response of growth to reform, especially in Latin America, and the unpopularity of many of the reforms.

- The continued stagnation in Sub-Saharan Africa, the paucity of success cases there, and the apparent wilting of optimism around the “African Renaissance.”
- The resilience of the world economy to stresses.

Five Disappointments

1. Output Losses during the Transition in the FSU and Eastern Europe

Everyone knew that the transition from a communist, centrally planned economy to a capitalist economy of one type or another would be neither smooth nor easy. Anticipation that adjustment costs would cause output to fall and then to rise led to

The three pleasant surprises are:

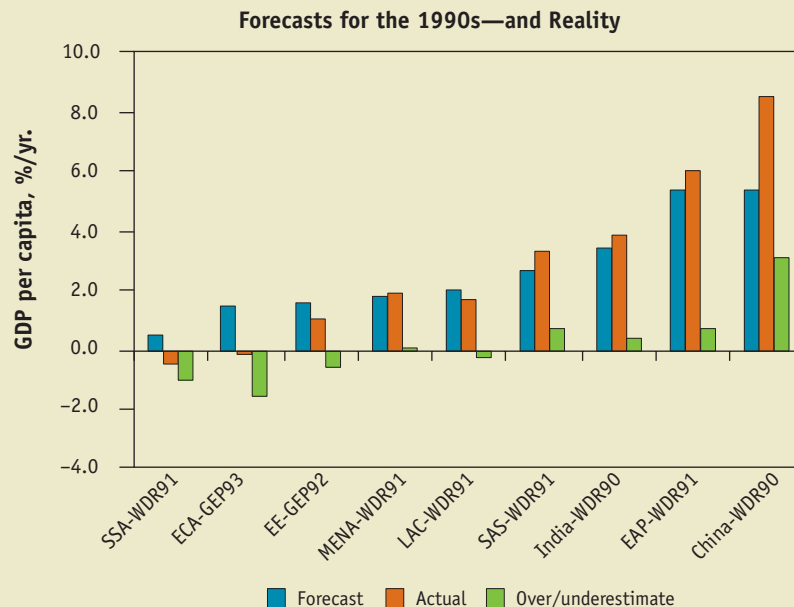
- Bright spots of sustained rapid growth, especially in China, India, and Vietnam, throughout the decade (box 2.1).
- The strong progress in noneconomic indicators of well-being in spite of low growth in some cases.

BOX 2.1

Per Capita Growth in the 1990s: Forecast and Actual

The figure below compares actual per capita gross domestic product (GDP) growth in the 1990s with the forecasts either offered in the *WDR 1991* or made in the early 1990s. The forecasts correctly predicted the rough direction—that Africa would grow slowly and East Asia fast—but made mistakes in exactly the regions one would expect. Growth was over-

estimated for Sub-Saharan Africa, Latin America and the Caribbean, Eastern Europe (excluding the former Soviet Union), and Eastern Europe and Central Asia (including the former Soviet Union), and underestimated for India (and South Asia) and China (and East Asia). The Middle East and North Africa, a region about which *WDR 1991* said little, grew at almost exactly the pace forecast.



Note: SSA: Sub-Saharan Africa; ECA: Eastern Europe and Central Asia; EE: Eastern Europe (excluding Russian Federation); MENA: Middle East and North Africa; LAC: Latin America and Caribbean; SAS: South Asia; EAP: East Asia and Pacific.

the expectation of some “transformational recession” (Kornai 2000c), but the depth and duration of the recession were hard to forecast.

In fact, the depth of the contraction in transition countries is striking. At the trough, their GDP per capita (unweighted) was a mere 42 percent of its pretransition peak (figure 2.1). The contractions in individual countries ranged from 20 percent in some countries to about the average in the Russian Federation and to more than 60 percent in Ukraine.³

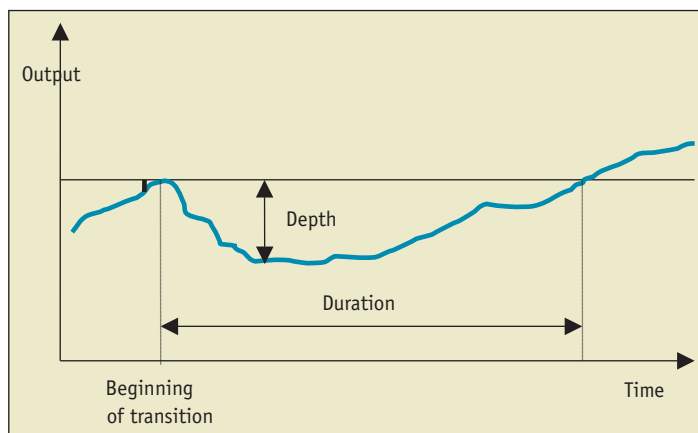
Data through 2002 show that for most of the FSU/Eastern European countries, the transition has lasted more than a decade, and that for many it will last much longer.⁴ While some countries (for example Poland, Hungary) now have output greater than their pretransition levels, on *average* the Eastern European/FSU countries are only at 84 percent of their pretransition output. For example, even if Ukraine managed to grow steadily at 5 percent a year, starting in 2002, it would take until 2017 to regain its previous peak—implying a transformational recession of more than a quarter of a century at best.

A few historical and contemporary reference points provide useful perspective to the fall in output and the length of the transition:

- In OECD-country recessions, the typical peak-to-trough fall in GDP since 1950 has been only 2.3 percent.
- In Indonesia, the worst-hit of the countries that were affected by the 1997 Asian crisis, GDP per capita fell by 17 percent, and regained its previous level four years after the onset of the crisis.
- In the United States during the Great Depression, output per capita fell by 31 percent, and recovered to its precrisis level in 10 years.
- While the data are obviously somewhat uncertain, the output fall from pre–World War II peak (1938) to postwar trough was 51 percent in (West) Germany and 45 percent in Japan; both of these countries regained their 1938 level of output by 1953—eight years after the end of the conflict.

FIGURE 2.1

Depth and Duration of the Transformational Recession: Eastern European and Former Soviet Union Countries



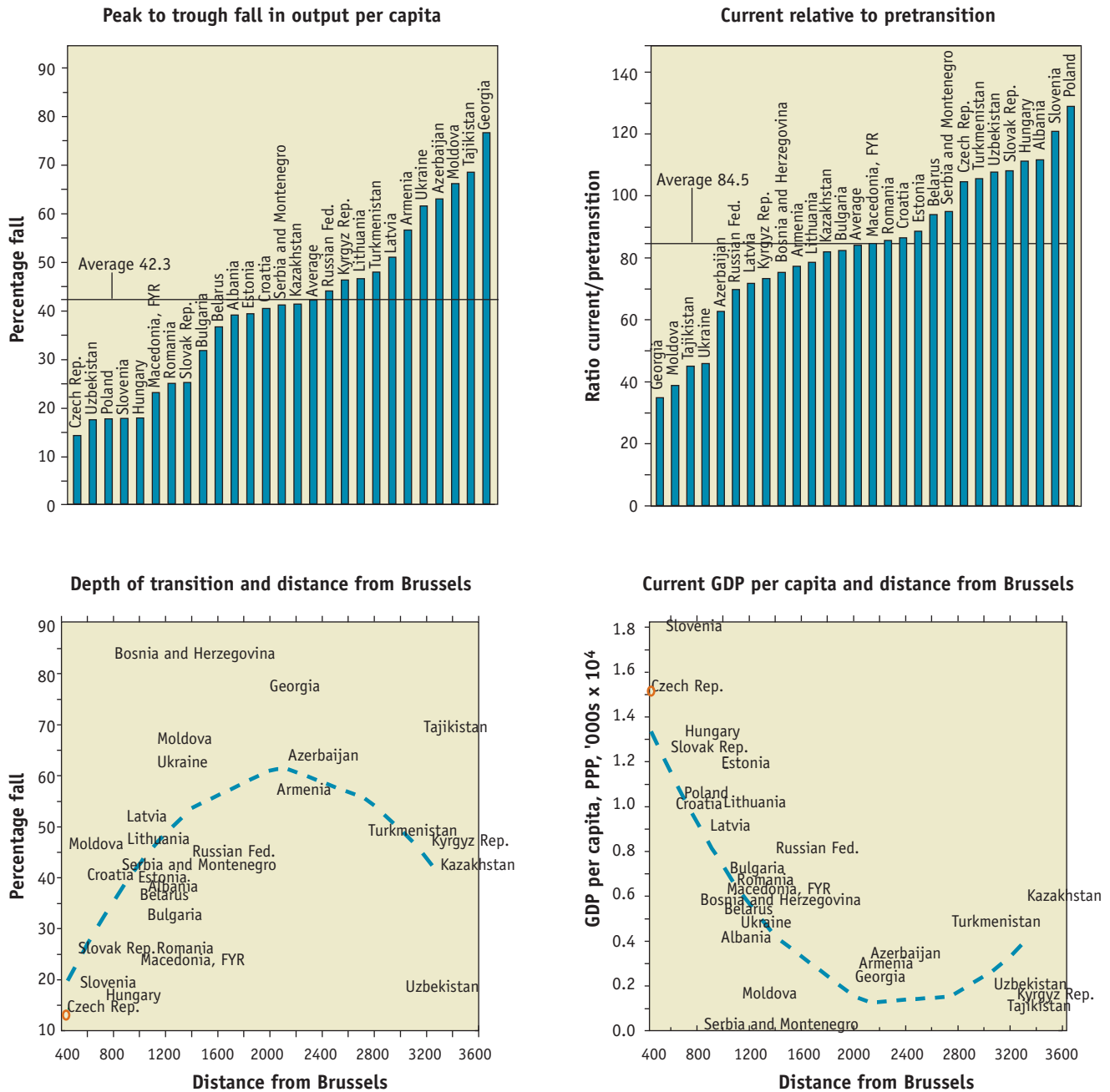
Source: Author’s own elaboration (for illustration purposes only).

Not even the most pessimistic observers in 1990 foresaw that the *typical* transition recession would be substantially larger than the Great Depression in the United States and that the time taken to recover would be more than twice as long as for the defeated countries after World War II.

A further surprise is the enormous variation in the depth and length of the transition across countries. A substantial part of this variation can be attributed to the speed and depth of policy reform (see, for example, World Bank 2002c) or suitability for capitalism. Almost no one is surprised that the transitional recession was shallow and short in the Czech Republic, Hungary, or Poland, all of which had the advantages of a more European heritage—and hence eligible for early discussion of accession to the European Union—and being “good reformers.” More surprising is an apparent U-shaped relationship between countries’ proximity to Europe and the depth and duration of the transition (Mukand and Rodrik 2002). Conditions were much worse in Georgia and Ukraine than in more distant parts of the former Soviet Union such as Uzbekistan, Kyrgyz Republic, and Turkmenistan (figure 2.2).

FIGURE 2.2

Depth of the Recession, Ratio of Current to Pretransition Output, and Relationship with Distance from Brussels



Source: Mukand and Rodrik 2002; European Bank for Reconstruction and Development 2003.

2. East Asian Financial Crisis

The 1990s saw a string of financial crises in which the exchange rate, banking system, and internal and external debt interacted in ways that sharply depressed output—with adverse effects on wages, poverty, jobs, and living standards—and caused large losses in the banking system. Macroeconomists, bank restructuring experts, and the emerging-market private traders rolled from crisis to crisis—notably in Mexico during 1994–95; the Republic of Korea, Thailand, and Indonesia during 1997–98; Russia and Brazil in 1998; and Turkey in 2000—to the most recent and perhaps most worrisome of all, Argentina during 2001–02.

It is worthwhile to discard any presumption that all of these crises teach the same lesson, or that they necessarily teach new ones. There are two reasons why.

First, that there *were* financial crises in the 1990s cannot count as a surprise. Every decade of the 20th century has seen a financial crisis in at least some major countries. Crises have been more common in the period of floating exchange rates (since the early 1970s) than previously (Eichengreen 2002). But the boom-and-bust cycle of exuberant capital inflows followed by sharp curtailments of lending was a continuing, not a new, phenomenon in the 1990s.

Second, some of the crises of the 1990s reinforce old lessons. The links between financial crises and banking sector crises reinforced lessons from the 1980s, in which a number of financial crises in Latin America led to large banking losses (Caprio and Honohan 2001); the 1990s' financial crises required large shares of GDP to reestablish sound banks. Turkey's crisis, as does that in the Southern Cone in the 1980s, teaches the dangers of exchange-rate-based stabilization programs with inflation inertia and open capital accounts. Arguably, the Russian crisis teaches the old lesson that if one loses control of the fiscal situation, sooner or later the economy will spiral out of control. And, except for its speed and intensity, the Mexican crisis of 1994 was not fundamentally surprising.

By contrast, however, the crisis in East Asia *was* a surprise. Even by June 1997 no one had predicted

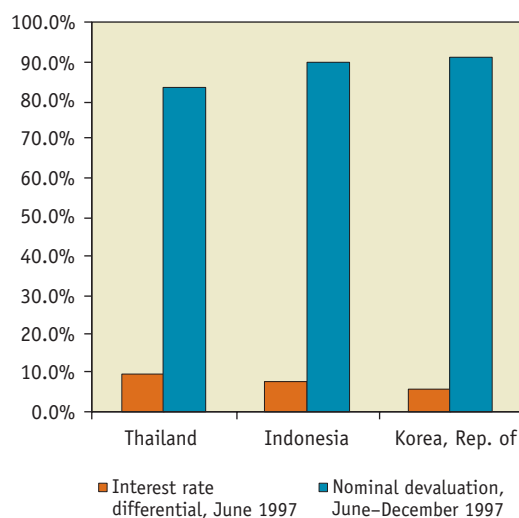
it. One way of illustrating its wholly unexpected magnitude, and the speed with which it came on, is to compare the nominal interest-rate differentials, between borrowing in local currency and in U.S. dollars, with the realized depreciations (figure 2.3).

Even as late as June 1997, the interest rate differential was less than 10 percentage points. Yet between June and December 1997 the currencies of all three countries depreciated by more than 80 percent. To be sure, uncovered interest parity often fails as a predictor of exchange rates. But the magnitude of the difference and the fact that private sector actors were making huge, unhedged transactions at these interest rate differentials emphasizes that the world's financial markets, and not just complacent government bureaucracies or hidebound multilateral institutions or academics, were caught unawares.

The crisis in East Asian countries was surprising because it did not share the characteristics of many previous exchange rate crises: slow growth or declining output, large and growing public sector

FIGURE 23

Interest Rate Differentials Did Not Predict the Magnitude of the Impending Devaluation of Three East Asian Currencies



Source: Staff calculation from *World Development Indicators 2003* and *International Financial Statistics 2003*.

fiscal imbalances, large public sector indebtedness, or obvious substantial and persistent overvaluation of the currency. Even with the benefit of hindsight, economists had a hard time creating empirical models that predicted it (Radelet and Sachs 1998) and even observers who argue that the crisis was driven by “fundamentals” concede that its timing and intensity were not anticipated.

3. Collapse of the Convertibility Regime in Argentina

Economically, the decade known as the 1990s could be said to end with the Argentina crisis of 2001. This crisis deserves special mention as a surprise because Argentina had provided the clearest and, for the better part of the 1990s, most successful example of a trend to reinforce macroeconomic stability by reducing the discretion of the government through legal and institutional changes. The exchange rate arrangements that made the *peso* convertible at a fixed rate were made part of the legal environment (and a part that was especially difficult to alter) and changes were made in the operation of the central bank to make the convertibility immutable. As part of a package of reforms, the convertibility plan was enormously successful at eliminating Argentina’s hyperinflation and, for a period, in restoring economic growth.

It is no surprise that the demise of the convertibility plan was messy politically (the president resigned before the end of his term), or economically, since the demise had been made very costly by design. What is surprising is the demise itself. First, the plan’s initial successes had suggested that longevity was possible. The plan succeeded in reducing rapid inflation and initiating a boom in the early 1990s, and it weathered the “Tequila” aftershocks of the Mexican crisis reasonably well. Second, the plan was popular domestically and praised internationally during nearly all of the 1990s, and everyone knew that ending it would be costly.⁵

4. Lack of Rapid Growth, Particularly in Latin America

Hopes were high that the so-called lost decade of the 1980s in Latin America would be followed by

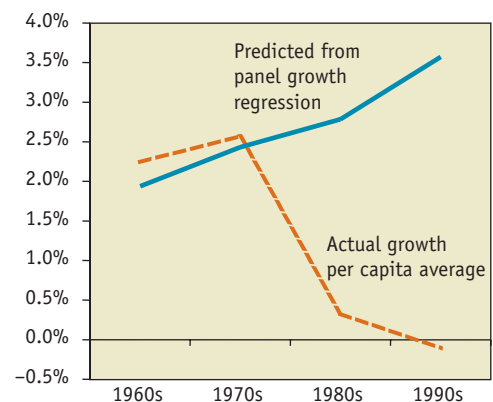
the “found decade” of the 1990s. Surely the substantial and painful first-generation economic reforms—macroeconomic stabilization, fiscal austerity, trade liberalization, privatization—would pay off with rapid growth and poverty reduction. Today, the general perception is that the growth payoff has been smaller than expected (figure 2.4).

An index of economic reform (Lora 2001a) suggests that during the 1990s the economic climate improved substantially for nearly every country in the region. Not only did the regionwide mean improve, but the variance among countries declined as well (figure 2.5). This index suggests that policies were better in nearly *every* country in Latin America in 1999 than they were in Chile in 1985.

Growth in GDP per capita did not reflect these improvements in policy. In the early 1990s it appeared that the policy changes were finally paying off, but by 1995 the Mexican crisis had a dampening effect on the region. Then when another recovery seemed to be in the making, the international financial crises and their repercussions pushed per capita growth rates to about zero, where they have fluctuated since 1998.

FIGURE 2.4

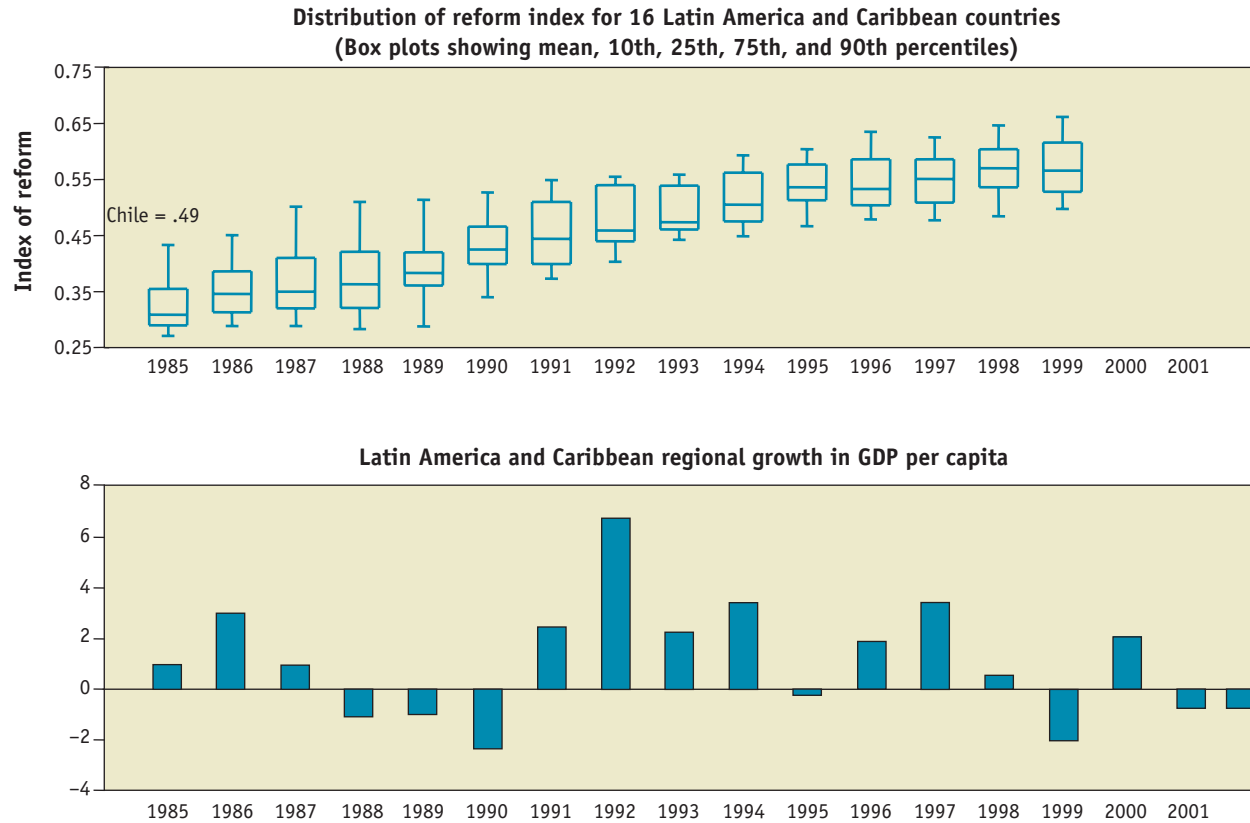
Growth Was Much Slower in the 1980s and 1990s than Predicted by Empirical Models That Linked Growth to Policy Reform



Source: Easterly 2002.

FIGURE 2.5

Although Nearly Every Country in Latin America and the Caribbean Has Pursued Economic Reform, Growth Has Been Slow



Source: Lora (2001a) for data on reform; *WDI 2003* for growth.

Loayza, Fajnzylber, and Calderon (2002) assess with depth and care the extent to which the growth outcomes in Latin America are a surprise. The authors do regressions that relate growth to transitional convergence and cyclical reversion, structural policies and institutions, stabilization policies, and external conditions. They find that the growth rate changes between any two decades can be attributed to changes in policy outcomes across the two periods, but that the effect is very small.

As shown in column 2 of table 2.1, the authors find that the coefficients on all of the classes of variables (excepting the institutional indicators) have the expected signs and statistical significance. Their

analysis suggests, for instance, that because of the increase in secondary enrollment rates between the 1980s and 1990s, growth should have increased by 0.7 percent per year⁶. All other variables are similarly calculated.

The results thus raise two striking points. First, they do not measure up to expectations about the effectiveness of policy reform. For instance, for Brazil they suggest that the impact of all structural and stabilization policies (except for education) was to slow the country's growth rate during the 1990s by 0.34 percent per year. Most Brazilian policy makers, if not most Brazilians, would probably be surprised to learn that the policy environment in

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TABLE 2.1

Growth Regressions and “Policy” Impacts, with Two Country Examples

		Estimates (coeff, t-stat)	Contributions to growth (% per year) of the various growth correlates—calculated as the difference across the two decades in the variable times the regression coefficient			
			Brazil		Bolivia	
			1990s vs. 1980s	1990s vs. 1970s	1990s vs. 1980s	1990s vs. 1970s
Cyclical and convergence	Initial GDP per capita	-.018 (3.80)	0.03	-0.68	0.11	0.13
	Cyclical recovery	-.227 (8.52)	0.89	-0.31	-0.02	-0.58
	Growth rate of TOT	.072 (4.98)	0.27	0.24	-0.12	0.04
Structural and “institutions”	Log “policies” (secondary enrollment)	.017 (6.7)	0.7	1.21	0.11	0.47
	Log (private domestic credit/GDP)	.0066 (4.28)	0.13	0.07	0.81	0.87
	Log (SATI/GDP)	.0096 (3.14)	0.41	0.37	0.33	0.28
	Log (government consumption/GDP)	-.015 (3.18)	-0.72	-0.91	-0.26	-0.28
	Log (main telephone lines/capita)	.0071 (2.71)	0.36	0.87	0.36	0.39
	PC ICRG indicators	-.0012 (.68)			—	
Stabilization “policies”	Log (100+inflation rate)	-.0048 (1.89)	0.14	-0.51	0.88	0.04
	Std. dev. output gap	-.277 (3.76)	0.14	0.24	0.08	-0.06
	RER overvaluation	-.0061 (3.90)	-0.13	-0.02	0.17	0.19
	Systemic banking crisis	-.029 (7.42)	-0.67	-0.96	0.58	0
Unexplained period effects		-0.48	-1.72	-0.48	-1.72	
			<i>Contribution to shifts in growth</i>			
Structural policies			.88	1.61	1.35	1.73
Stabilization policies			-0.52	-1.25	1.71	0.17
Total policies			0.36	0.36	3.06	1.9
Total policies less education			-0.34	-0.85	2.95	1.43
Projected <i>change</i> in growth			1	-2.12	2.54	-0.23
Actual <i>change</i> in growth rate			1.49	-4.68	3.48	-0.14
Actual growth 1990s			1.07	1.07	1.53	1.53
Actual growth 1980s (col. 3, 5)/1970s (col. 4, 6)			-0.42	5.75	-1.95	1.67

Source: Loayza, Fajnzylber, and Calderon 2002, tables II.2, D3, D4.

Note: SATI stands for structurally adjusted trade intensity, and measures openness to trade; PC stands for principal component, which extracts the most salient features of the various governance indicators measured by the ICRG, the International Country Risk Guide (www.icrgonline.co); RER stands for real exchange rate; TOT stands for terms of trade.

the 1990s was (net of education) less conducive to economic growth than in the 1980s.⁷ This unexpected result may partly reflect the fact that actual growth coefficients are in some sense smaller than popularly conceived, or than were reported in “selling” policy reform; after all, the link between policy actions and policy outcomes and growth was often not explicitly quantified. The regression implies that reducing inflation from one standard deviation above the mean to the mean—that is, a reduction in inflation of 60 percentage points, from 80 percent per year to 20 percent per year—would lead growth to increase by 0.2 percent per year (barely a tenth of a cross-national standard deviation in growth rates).⁸ Certainly, no one has ever advocated a stabilization package on the basis of a 0.2 percent per year gain in long-run growth.

Second, this careful econometric analysis of growth emphasizes that slower growth in the 1990s remains a mystery. The growth regressions include “unexplained” period variables that allow growth to be lower, all else being equal. The estimated impact of the period variable for the 1990s versus that for the 1970s is 1.72 percent per year; thus a country with exactly the same policies in the 1990s as in the 1970s would grow 1.72 percent per year more slowly in the 1990s than in the 1970s. The implications can be seen from column 6 of table 2.1, for Bolivia: while policies predict Bolivia’s growth to be 1.9 percent per year *faster* in the 1990s than 1970s, the net predicted growth in the 1990s is actually *slower* by 0.23 percent per year, because the positive impacts of policy are offset by the period effect of 1.72 percent per year (and negative cyclical reversion impacts). Bolivians may well ask, “Wait a second. We did all these stabilization and structural policy changes and grew at 1.53 percent per year in the 1990s, whereas in the bad old 1970s we grew at 1.67 percent per year—¿*qué pasa?*” The answer this empirical analysis gives is that without policy reform, Bolivia’s economy would have contracted—because of a large, unexplained reduction in growth in the 1990s that is common to all countries. This hardly provides a satisfactory resolution to the question of slower growth.

5. Continued Stagnation in Sub-Saharan Africa

The failure to create real engines of growth in Sub-Saharan Africa must count as a disappointment, if not a surprise.⁹ Despite declared good intentions, a historic process of debt relief, continued unprecedented levels of official assistance, pressure for policy reform, promising developments in governance, and a not terribly unfavorable external climate, no widespread and definitive take-off has occurred. Living standards and real incomes have declined precipitously in many countries. No country has achieved sustained growth sufficient to transform its economy and pull its neighbors along. A particular disappointment has been the failure of South Africa and Nigeria—the two largest economies and potential growth engines for their respective regions—to develop into economic powerhouses.

Four Pleasant Surprises

The more positive developments of the 1990s also hold lessons.

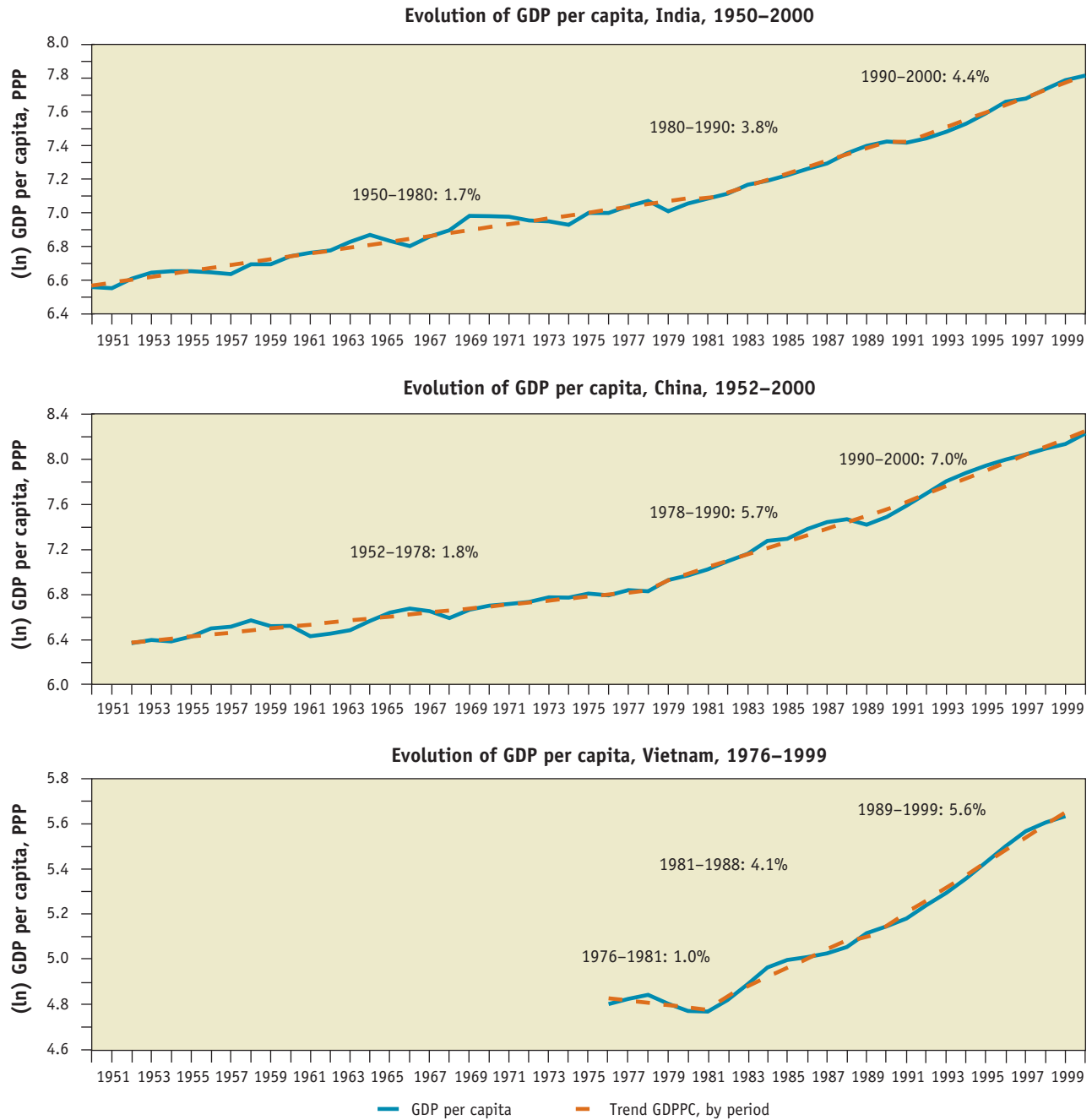
1. Sustained Rapid Growth in China, India, Vietnam, and Several Other Countries

The adoption of market-oriented and globalizing reforms paid off in extraordinarily rapid growth and rapid poverty reduction in the 1990s in formerly socialist and planned economies of Asia, including India and China, which together account for 40 percent of the developing world’s population (figures 2.6 and 2.7).

The methodological details of the measurement of poverty generate substantial disagreement,¹⁰ but there is no question that China, India, and Vietnam have drastically reduced destitution (consumption-expenditure poverty based on the dollar-a-day standard) and poverty (measured using national standards). Headcount poverty at the international standard of roughly US\$1 per day has been halved in a single decade. In Vietnam, 30 percent of the population has moved out of absolute poverty (defined using a national standard) since 1993—a historic accomplishment.

FIGURE 2.6

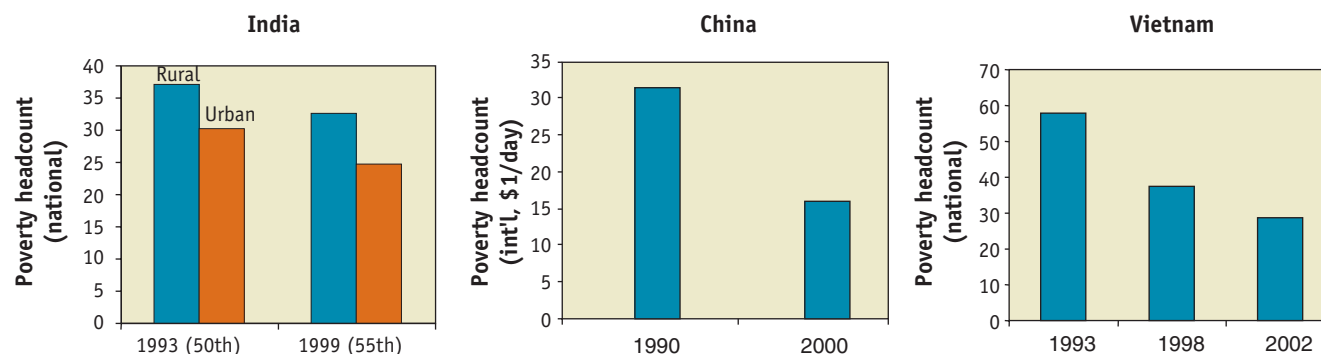
Accelerating Growth in China, India, and Vietnam



Note: PPP stands for purchasing power parity, GDPPC stands for GDP per capita.

Source: Author's calculations from Aten, Heston, and Summers (2001).

FIGURE 2.7

Poverty Reduction Was Rapid in India, China, and Vietnam in the 1990s

Source: World Development Indicators 2003.

The successes of these three countries during the 1990s are particularly important because they preclude any facile reaction to the experiences of the former Soviet and Eastern European countries and Latin America. If one believes that market-friendly and globalizing policies will increase growth, then perhaps the three Asian countries represent the expected rule, and the others represent the exception. There is much to be said for this view, but there are three senses in which the Asian countries may not match the conventional wisdom.

First, the reforms these countries undertook in the 1990s were pursued in a gradual, piecemeal, and, many would argue, heterodox fashion. China dramatically reduced the fraction of production supplied by state-owned enterprises, but much less by privatizing existing assets than by allowing the entry of new firms. Especially in the early stages, the new firms were not private enterprises in the usual sense but township and village enterprises. And though India undertook trade reform, it did so in a very gradual way: though its average tariffs fell dramatically, it retained some of the highest tariffs in the world.

Second, while they were near the top of the charts on growth performance, these countries were far from perfect in their policies and institutions during the 1990s. Table 2.2 ranks the three countries on four indicators of the quality of gov-

ernance that are often thought to be important for growth. On all four indicators these countries ranked either near the middle of the range of countries or in the bottom half. For example, while China ranked 3rd in the world in growth, it was only 63rd in the world in control of corruption (by these measures).

Third, after growth in all three countries accelerated in the 1980s, it slowed down in the late 1980s and many observers thought that the growth spurt had had its day. But it then took off again, even more rapidly, in the 1990s (see figure 2.6 above).

Despite the vagaries of the world economy, several other countries experienced take-offs and realized substantial and sustained economic growth in the 1990s. New performers included Chile, with annual GDP growth of 6.4 percent; the Dominican

TABLE 2.2

Despite Their Rapid Growth, China, Vietnam, and India Rank Low on Many Measures of Institutional Quality

Country	Government effectiveness	Rule of law	Control of corruption	Regulatory quality	Growth
China	58	103	63	94	3
Vietnam	80	107	105	135	4
India	79	73	86	101	14
Out of:	180	164	151	180	136

Source: Kaufmann, Kraay, and Mastruzzi 2003.

Republic (6.0); Poland (4.5); Bangladesh (4.9); Sri Lanka (5.1); and Uganda (6.8).

2. Improvements in Social Indicators despite Economic Stagnation and/or Crisis

Social indicators—particularly basic education and child health—have continued to improve, often in spite of a lack of substantial progress in economic output and in spite of stagnant or falling wages.

Particularly in a number of Latin American countries, enrollment and grade attainment rates improved significantly in the 1990s. Brazil took just 10 years to raise the enrollment rate of the poorest 20 percent of children from 75 to 94 percent (figure 2.8). This progress was the result of a thoroughgoing educational reform that changed the flow of fiscal funds and responsibilities among the center, states, and municipalities. The surprise is that the reform was implemented successfully in a difficult economic environment.

In many instances, negative social impacts of crises were avoided. During Indonesia's deep and

dramatic economic crisis, enrollment in both primary and secondary school fell only modestly in the first year and then quickly regained or exceeded precrisis peaks. A recent study tracking the same households over time found that enrollment rates for children aged 7–15 were higher in 2000 than in 1997, before the crisis—and substantially higher for the poor (Strauss et al. 2004). The crisis was accompanied by aggressive efforts to mitigate the impacts with social safety net programs in education, health, nutrition, and employment (Suryahadi, Sumarto, and Pritchett 2003). The relatively small impact on key social indicators of even a large economic crisis is a pleasant surprise—as many observers had doubted that such mitigating responses were politically or administratively feasible or could be of any economic consequence.

3. Resilience of the World Economic Environment

The biggest misjudgment that I can remember making... was the sense of profound pessimism about Russian economic reform that I had in the fall of 1998, and... if you had said that by 2003, they would be issuing Eurobonds at 300 basis points spreads, I would have thought that it was absolute madness.

—Lawrence Summers, “Speaking from Experience,” lecture at the World Bank, February 2, 2004

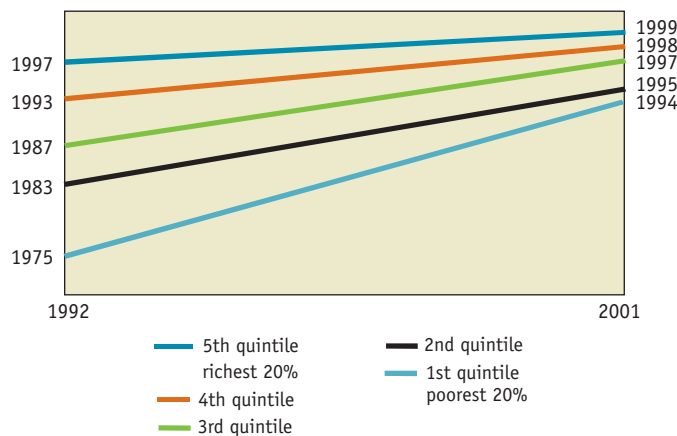
While the volatility of capital flows in international capital markets made policy management difficult and imposed large costs, the international economy in the 1990s proved robust to a number of negative shocks (see chapter 3).

First, the overall global economy allowed for reasonably stable growth in exports from developing countries. This was despite the large risks of a major recession in the OECD (had the cycles of the major economic powers coincided), enormous swings in exchange rates, and large problems in Japan. In the 1990s the annual income growth of

FIGURE 2..8

Enrollment Rates of Children Aged 7–14 in Brazil Rose Substantially for All Income Groups—But Most Dramatically for the Poorest

(Percentage)



Source: “Education in Brazil, 1995–2002.” presentation by Paulo Renato de Souza, former Minister of Education of Brazil.

the high-income countries was 6.8 percent—faster than in either the 1970s or 1980s.

Second, capital flows were resilient. While the volatility of financial flows is a major risk and source of vulnerability, quick recovery of flows in the aftermath of a crisis can smooth the transition path.

Third, in many instances, recoveries from crisis were quite rapid. One of the most frequently mentioned features of globalization is the speed with which money and information can rocket around the globe.¹¹ An examination of the speed of output recovery shows that the cost of financial crisis to the trend growth of output ranged from a minor hiccup (as in Korea) to a long-term deceleration (as in Indonesia). As the impressions of policy makers such as Lawrence Summers illustrate, the quick recovery of economic activity (and lowering of spreads) in Russia counts as a pleasant surprise indeed.

2. A Mill for the Lessons of the 1990s

During the 1990s three interrelated strands of research provided lessons about economic policy. They focused on:

- The theory and empirics of economic growth;
- The role of institutions; and
- The issue of inequality within and across countries.

All three contributed to, deepened, and in some instances changed the ideas emerging from the 1991 *World Development Report*.

Growth Theory, Resurgent, Meets Facts about Development

The 1990s saw the resurgence of economic growth theory. To take stock in a few pages of a theoretical and empirical literature that spans thousands of individual papers, the following discussion groups the lessons into four categories:

- New, stylized facts about the growth process in developing countries;
- The new growth theory itself;
- Findings that emerge from the growth-regression literature; and
- Problems with the empirical growth-regression literature.

New, Stylized Facts of the Growth Process

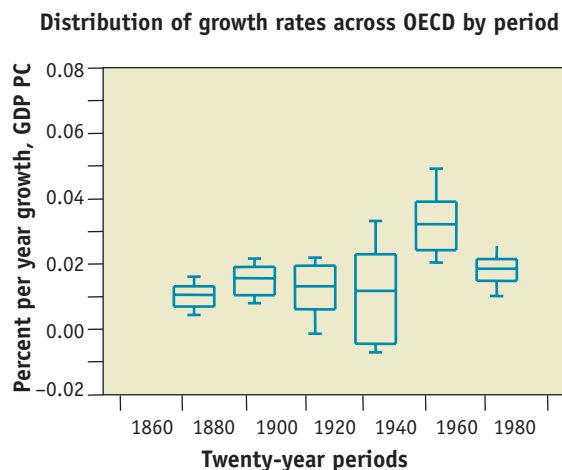
The resurgence of interest in economic growth, combined with increasingly reliable data on GDP in comparable purchasing power units both over time (created by Angus Maddison [2002]) and across countries (from the World Bank and the Penn World Tables project on price comparisons) augmented the attention paid to the basic facts of the growth process. In the 1990s the research emphasized four characteristics of that process.

Growth fact 1: Among the economically most advanced countries, growth has been steady and nearly equal across countries for more than 100 years (except during World War II and subsequent recovery) (figure 2.9). The average annual growth of GDP per capita in these 16 countries was almost exactly the same during 1890–1910 (at 1.5 percent) as it was during 1970–90 (at 1.8 percent). Except for a boom, with growth averaging more than 3 percent, during 1950–70, the growth rate has been very stable. And, except during and just after World War II, growth rates have varied little among the leading countries, with the fastest-growing countries (90th percentile) usually growing only 1–1.5 percent a year faster than the slowest (10th percentile).

Growth fact 2: Over the long historical sweep, the steady growth of the industrialized countries has led to widening gaps between them and the poorer countries (Pritchett 1997). Looking at income inequality among all individuals in the world, figure 2.10 from Bourguignon and Morrison (2002) shows the fraction of the world distribution of income that is due to differences across countries versus the fraction that is due to differences within countries. At the onset of modern economic growth, in the

FIGURE 2.9

Stable Growth in Industrialized Countries



Note: The figure is a box-plot diagram of the growth rates of GDP per capita of 16 industrialized countries for 20-year periods.

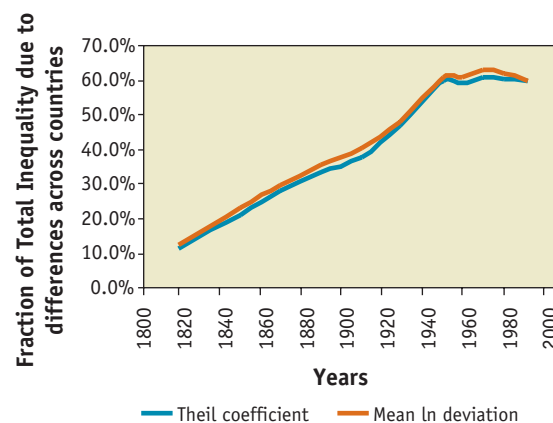
Source: Author's calculations based on data from Maddison (1995).

1820s, only about 10 percent of the inequality was due to differences in average incomes across countries. But between then and roughly 1950, this proportion grew steadily, so that today more than 60 percent of the income inequality in the world is attributable to differences in incomes across countries. Thus in 1820 one's position within the income distribution of one's own country was much the most important factor, but by 1960 the country one lived in was the most important.

Growth fact 3: Growth rates differ enormously among the developing countries. Table 2.3 shows the differences in the growth rate of GDP per capita between the rapid and slow-growing countries during periods of 10 years, 20 years, and for 1960–2000—a period for which data exist for nearly all countries. In any given period the difference between the countries in the 10th percentile and in the 90th percentile of the distribution of growth rate is enormous: 6.5 percentage points for decades, more than 5.5 percentage points for 20-year periods, and 4.5 percentage points for the 40-year period. Simultaneously, some countries are booming, some are growing slowly, some are caught

FIGURE 2.10

Fraction of World Income Inequality Explained by Differences across Countries



Source: Bourguignon and Morrison 2002.

in stagnation or a poverty trap, and some are experiencing sharp declines.

Large and sustained differences in growth rates lead to large differences in material well-being. If a country with a per capita income of US\$1,000 (at

TABLE 2.3

Growth Rates Differ Enormously across Countries over Periods from One Decade to Forty Years

Period	Difference in growth rates in percent per year	
	Range from 10th to 90th percentile	Two standard deviations
1960s	6.03	4.61
1970s	6.96	5.55
1980s	6.81	5.06
1990s	6.07	5.76
Average for decades	6.47	5.25
1960–80	5.41	4.07
1970–90	6.23	4.64
1980–2000	5.59	4.34
Average for two decades	5.74	4.35
1960–2000	4.52	3.83

Source: Author's calculations from Aten, Heston, and Summers (2001).

purchasing power parity) were to accelerate its growth by 5.7 percent a year—raising its position from the 10th to the 90th percentile in the country growth ranking—then, after a 20-year period, its per capita income would be triple what it would have been otherwise. According to every indicator of material well-being—from child mortality to consumption of electricity—countries at triple the level of income are *qualitatively* different places to live (table 2.4).

Growth fact 4: Enormous changes in growth rates occur in nearly every developing country. Three facts emerging from research suggest that countries sustain episodes of growth and make transitions from one growth episode to another. The three facts are a lack of persistence of growth rates over time (Easterly et al. 1993); a large deceleration of growth in the 1980s (Ben-David and Papell 1994); and large changes in countries' growth rates, often around specific episodes of acceleration or deceleration (Hausmann, Pritchett, and Rodrik 2004). While it had long been emphasized that growth was volatile over the business cycle of three to five years, growth rates have now been found highly volatile over the medium run (10 to 20 years).

Unlike most industrial countries, which grow at a remarkably steady pace, growth in most developing countries involves booms, busts, and periods of stagnation alongside periods of rapid growth (figure 2.11). Very few developing countries have been able to sustain growth for longer than two decades.¹² The accelerations and decelerations in growth rates from one period to another are often as large as the differences across countries. Therefore research has focused not only on average growth rates over arbitrary periods (5, 10, 20 years) but also on the initiation of periods of decline and of acceleration. Among the many episodes of rapid growth, some end in busts, some revert to slow growth, and some continue (table 2.5).

For example, Mauritius is an African country that has achieved rapid growth (Subramanian and Roy 2001), but growth in Mauritius has been far from steady. Using the method outlined in Hausmann, Pritchett, and Rodrik (2004) for dating growth episodes, it is shown that Mauritius has had two episodes in which growth accelerated, beginning in 1971 and again in 1983, with growth petering out after the first but continuing after the second (figure 2.12).

TABLE 2.4

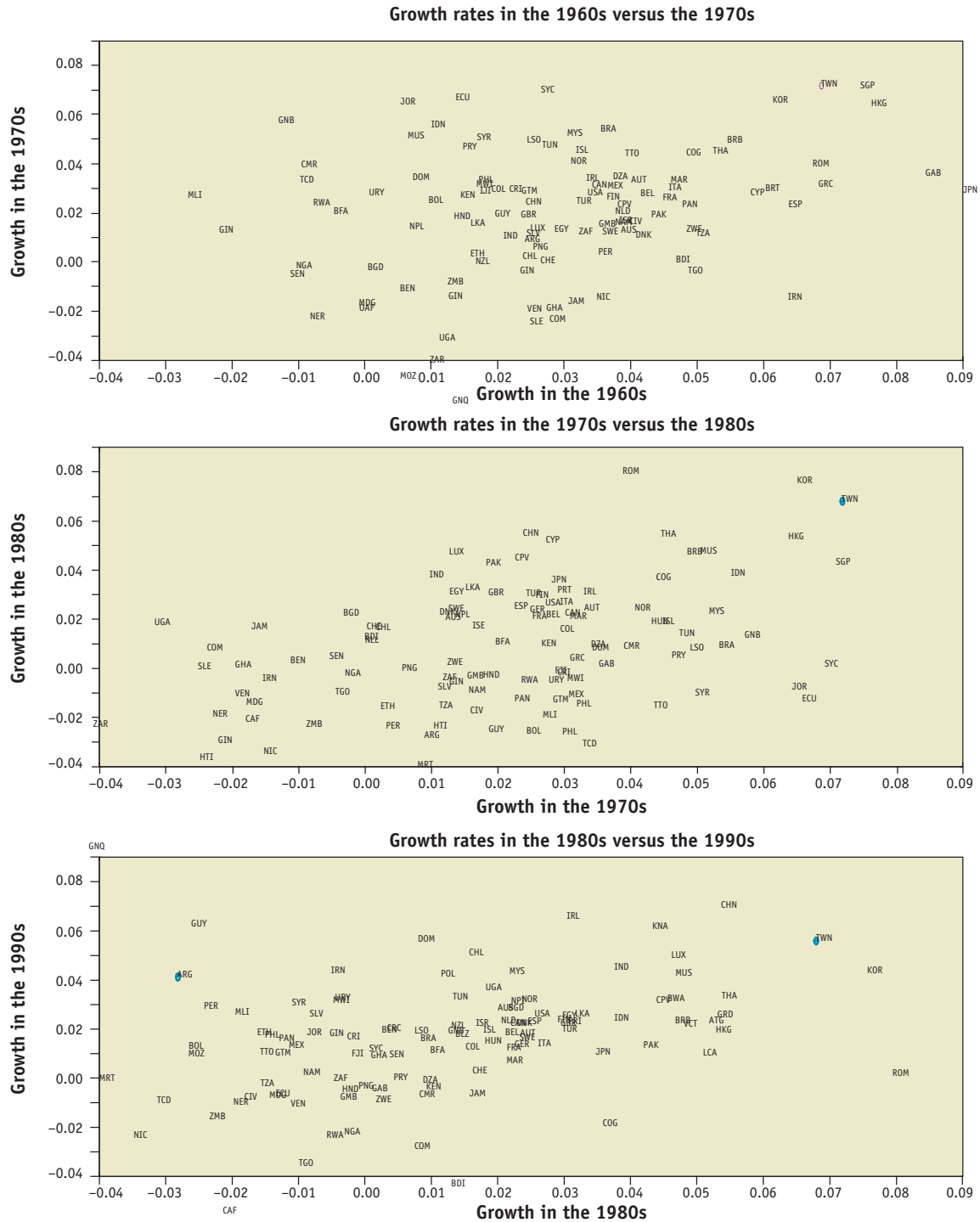
A Growth Rate of 5.7 Percent per Year Higher for 20 Years Would Roughly Triple a Country's Per Capita Income

Country	GDP per capita, \$ purchasing power parity	Under-5 child mortality rate	Primary school completion	Poverty (\$1/day)	Access to improved water	Electricity usage (kWh/capita)
Countries about \$1,000						
Benin	1,020	158	39		50	43
Eritrea	950	111	35		7	
Nepal	1,350	91	65	37.7	44	39
Countries about \$3,000						
Indonesia	2,990	45	91	15.2	62	329
Ecuador	3,130	30	96	20.2	70	611
Sri Lanka	3,390	19	100	6.6	46	227
Countries about \$9,000						
Chile	9,180	12	99	4.2	85	2,011
Malaysia	8,280	8	—		89	2,352

Source: WDI 2003.

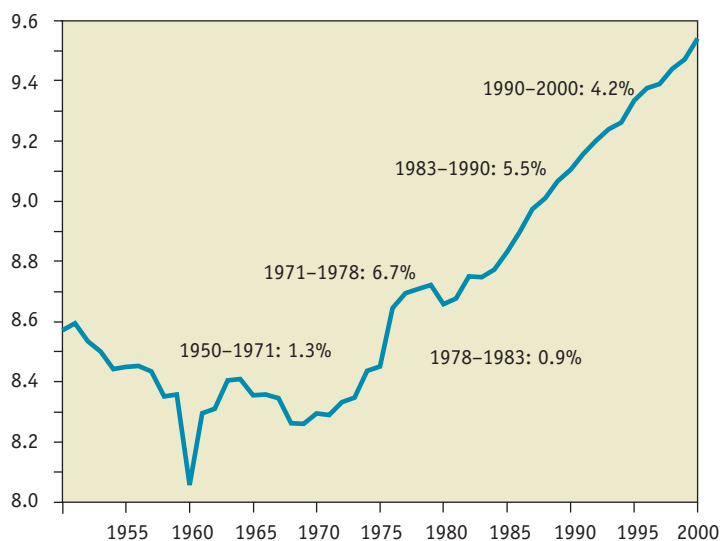
FIGURE 2.11

There Is Some, but Weak, Correlation of Growth Rates across Decades



<Q? Some country codes are outside the charts--okay?>

FIGURE 2.12

Growth Episodes in Mauritius, 1950–2000

Source: Hausmann, Pritchett, and Rodrik 2004.

steady, and it is difficult to make this prediction match the data.¹³ If there are scale effects, either they are very small or they are offset by many other factors working to reduce growth.

Second, since the new growth literature was primarily about the steady-state growth of the richer industrial countries, it focused on the very long run and on incentives for expanding the technological frontier. It is not particularly useful for most developing countries, whose primary interest is in short-to-medium-term growth and technological catch-up. In particular, only a tiny fraction of the observed variation in growth rates over medium to long periods can possibly be explained by differences in the steady-state growth rates of the technological frontier (Bernard and Jensen 1999). Essentially, the steady-state growth of the technological frontier cannot be less than zero for theoretical reasons (the economy would disappear), and it cannot be more than about 1 percent a year (since empirically this is about as high as any long-run estimate of total factor productivity growth in leading countries). This limitation implies that if a country were, by some means, to accomplish a shift from the lowest to the highest

steady-state growth of the technological frontier, its growth would accelerate by only about 1 percentage point a year. Since even at the 40-year horizon, the 10th/90th percentile range of growth rates is 4.5 percentage points a year,¹⁴ differences in the steady-state growth of productivity cannot account for much of the observed variability of growth rates across countries even over a period as long as 40 years.

Empirical Findings from the Growth-Decomposition and Growth-Regression Literature

One of the principal, if unintended, benefits of the new growth theory for development is that it legitimated empirical work into the determinants of economic growth. Indeed, it unleashed a veritable flood of such studies. One branch of the literature decomposed growth into its proximate determinants, and a different branch examined the policy, institutional, and structural correlates of growth, sometimes examining causal channels.

Decompositions into proximate determinants of growth. A substantial amount of empirical research examined the extent to which growth was explained by the measured accumulation of observable factors of production (principally physical capital, labor, and human capital/schooling) versus a residual (Senhadji 2000; Bosworth and Collins 1996, 2003; World Bank 1993; and many others). This literature found that:

- While measured factors, particularly physical capital, are strongly correlated with growth, they explain at most half of the cross-country variance in growth (Easterly and Levine 2003).
- While for many reasons one would have expected faster growth in the developing countries, the growth rate of the residual is puzzlingly low in most of them: negative in many and less than the OECD rate in nearly all (Bosworth and Collins 1996, 2003).
- A large debate about the residual in East Asia concluded that there was no particularly East Asian pattern.¹⁵

The main point to be learned from this literature is that the empirical findings of growth accounting do not have any particular policy implications. The findings did not resolve the question of causality or of the determinants of accumulation. First, the proportion of growth that can be attributed to increases in capital, rather than in productivity, depends on the way one counts the correlated components (Klenow and Rodriguez-Clare 1997). If one attributes to capital all of the increase of growth accounting, then capital accounts for much of growth. By contrast, if one attributes to capital only the component of growth that is due to changes in the capital/output ratio (capital deepening), and attributes the remainder of capital stock growth to increases in productivity, then productivity shifts appear to drive much more of growth.

Second, naming the residual from growth accounting something such as total factor productivity (TFP) has its dangers. Equating the residual with TFP (and particularly then equating TFP with some notion of technological progress) implies that the measurement is correct in every other respect. A good deal of research has emphasized how vulnerable the TFP calculation is to a variety of methodological problems. The functional form and the share assigned to capital affect the results a great deal. And the use of cumulated investments as a proxy for capital, particularly public capital, has no firm theoretical foundation and can create large difficulties in deciding whether to attribute a lack of growth to “low productivity with a large amount of factors” or “low efficacy of investment in creating factors” (Pritchett 2000).

“*Growth*” regressions and the correlates of growth. An enormous literature¹⁶ relies on linear regressions of growth on explanatory factors X and the lagged level of income. Here the explanatory factors included in “ X ”¹⁷ can be characterized as:

- “Policy outcome” or “policy” variables such as inflation, trade shares, or exchange rate overvaluation;
- “Institutional” variables such as the rule of law, governance indicators, or corruption; and

- “Structural” variables such as geographic location.

To summarize the lessons from this literature without getting bogged down in detail, one needs to take a “syndrome” rather than a “symptom” approach to understanding the correlates of growth.¹⁸ The growth regression literature has identified five syndromes that lead to low growth: that is, five phenomena for which the overall weight of the evidence suggests an important relationship, even if it cannot be identified precisely (table 2.6).

In a sense, growth regression results have been unfairly criticized for a lack of robustness when they are able to indicate “syndromes” but not “symptoms.” An example is persistent exchange rate overvaluation, a common and particularly well-documented syndrome of the 1970s. A country that pegged its exchange rate but had domestic inflation in excess of international levels saw its real exchange rate become overvalued. In such a situation its export growth might slow, a current account imbalance might emerge, reserves might be low, the country might restrict imports in order to cope with the shortage of foreign exchange, a black-market premium might develop, and/or the country might pursue ambitious import substitution behind protective barriers to save foreign exchange. The same syndrome and set of symptoms could be set in motion if relative prices fail to respond to a fall in the terms of trade. In the 1990s examples of this syndrome often ended with a large recession (after a period of slow growth) and/or a crisis followed by a substantial devaluation and a stabilization program. If all of these symptoms (slow export growth, import barriers, black-market premium, exchange rate instability, and so forth) were caused by the same underlying syndrome, the data and regressions would not be able to distinguish which particular symptom “caused” the slow growth.¹⁹

Problems with the Empirical Growth-Regression Literature

This is not the place to review the myriad methodological problems of the cross-national growth-

TABLE 2.6

“Syndromes and Symptoms” Summary of the Empirical Growth-Regression Literature

<i>Low growth syndrome</i>	<i>Description of the syndrome</i>	<i>Symptoms</i>	<i>Generalizations that cannot be made based on robust evidence</i>
Governance and institutions	Governments that are not developmental (for example, predatory states, weak states, “captured” states, elite-dominated states) Uncertain property rights	High corruption, ineffective bureaucracy, low rule of law, high risk of expropriation, high transaction costs, political instability Insufficient private investment	Democracy is good (or bad) for growth Authoritarian governments/dictatorships are good (or bad) for growth Need for formal western-style definition and enforcement of property rights
Macroeconomic	Inability to maintain a reliable and stable means of payment internally and externally	High and variable inflation/money supply growth/exchange rate depreciation, high fiscal deficits, persistent episodes of exchange-rate overvaluation, periodic financial crisis, debt-service problems	Reducing inflation will increase growth Reducing a fiscal deficit will increase growth
External policies	Policies that inhibit the ability of goods, ideas, and finance from abroad to contribute to increasing productivity	Low growth of imports/exports, disincentives to existing and new export products, persistent exchange rate overvaluation, “irrationally” distorting trade measures	Free trade will raise growth
Financial sector	Financial sectors that cannot provide credit to private sector investors	Low monetary depth, high penetration of central/state-owned banks, legal systems that do not facilitate contract enforcement.	Immediate financial liberalization is necessary for growth
Bad luck	Geographic location or natural endowment that creates pressures inimical to development	Landlocked, continent indicators, susceptibility to disease conditions, point-source resource dependence	

Source: Author’s own elaboration.

regression literature.²⁰ But from a policy point of view, it is useful to point out three main problems.

First, growth regressions cannot predict turning points. The basic problem is that most indicators of policies, institutions, and structure are much more stable than indicators of growth performance (Eastery 2003a). This leads to two further problems. First, it is very difficult to distinguish causality since, unlike characteristics such as the rule of law or effectiveness of the bureaucracy, growth episodes often have discrete starting dates. Second, a finding that over a period of, say, 30 years the rule of law is on average associated with higher growth does not

give much guidance as to how to initiate and sustain an episode of growth.

Second, in spite of the name, growth regressions are really not about growth but about the *level* of output. One of the puzzles of the growth literature is that even though in a mechanical sense a growth regression explains growth, nearly all of the functional forms used are simply dynamic variants of a model in which *levels* of policy or institutional variables affect *levels* of economic output.²¹

Third, their specification of policies is incorrect.²² Recent empirical research has found that, when a measure of institutional quality is included

in cross-country regressions, the explanatory power of other variables, including all measures of policies, becomes negligible (Acemoglu, Johnson, and Robinson 2001; Rodrik, Subramanian, and Trebbi 2002; Easterly and Levine 2003; IMF 2003e). This reasoning suggests that good institutions matter more for growth than do good policies. From a syndrome viewpoint, it is easy to see that this is not an assertion that “policies don’t matter”—of course they do. Rather the question is whether good policies can be sustained and implemented in the absence of adequate public sector organizations and institutions.

Institutions

Well before the 1990s, Adam Smith and Max Weber from their different perspectives highlighted the role of institutions in the development of a market economy and the formation of a capitalist society. In the 1950s and 1960s, economists writing about development were aware that the challenge faced by a plantation economy, or a dual economy, differed from that faced by a society with no concentration of economic and political power (Rostow 1952, 1960; Adelman and Morris 1965). And Latin American economists of the Structuralist school saw in the legacy of colonialism, embedded in institutions serving the interests of a small landed elite, the source of economic performance inferior to that of the United States or Canada (Prado 1972; Furtado 1963). In turn, their perception formed part of the justification for an activist state: inflation helped to mobilize resources from the wealthy elite who resisted more efficient forms of taxation; the state sponsored investments in manufacturing, particularly in capital-intensive industries, because old economic interests resisted change and the risks inherent in new industrial activities; and price controls did not have serious economic consequences because the concentration of wealth precluded the redeployment of resources in response to changes in demand (Seers 1962).

In Rosenstein-Rodan’s words, the challenge of development has long been how to make sure that

“nature makes a jump” (Rosenstein-Rodan 1984; see also Meier and Seers 1984). Some countries have radically transformed and modernized institutions through revolutionary and authoritarian means (as in Russia in the 1920s, Turkey in the 1930s, and China in the 1950s) or through large-scale nationalization (as in Bolivia and Madagascar in the 1960s, and former Zaire and Sri Lanka in the 1970s). In others, the state has taken on a developmental role—as in Korea, Brazil, Turkey, and India in the 1950s, 1960s, and 1970s—acting as entrepreneur on a large scale and also introducing the incentives needed for import-substituting industrialization.

Import substitution policies, command and control, central planning, “big push,” a coordinating role for the state, balanced growth, linkages, all have a strong economic rationale, which was persuasively put forward in the early development literature (Rosenstein-Rodan 1943; Hirschman 1958; Gerschenkron 1962; Rostow 1962).²³ These big ideas found a particularly receptive environment in the 1950s and 1960s. But though the interventions generally succeeded in igniting growth, they failed to sustain it—a failure that has discredited strategies based on active inducements to industrialization.

This is where “institutions” come into play. For example, the notion of development banks did not become discredited because of some ideological shift that made development banking intrinsically taboo, or some theorist’s discovery that in principle activist policies could not improve on *laissez-faire*. Development banks became discredited because in many instances they did not work in practice: activist policies using discretion, combined with public sector organizations and institutions with weak accountability (including that of states to citizens), produced costs that were just too high.

Thus the lesson of the 1990s is not *that* institutions matter, but rather:

- *How much* they matter;
- How difficult it is to work around their absence or to make transitions in institutions; and
- How difficult it is to improve institutional quality.

In the 1990s it was hoped that the strength of policies could overcome the weaknesses of institutions, and that policies capable of generating economic prosperity would ultimately generate incentives for establishing effective institutions. In response to the costs and perceived inefficacy of interventions where institutions were weak, much of the reform effort of the decade sought to limit governmental discretion in decision making. On balance, the risks of failure were deemed larger than the benefits of allowing discretion to an activist developmental state, and this led to an emphasis on rules that reduced discretion: for example dollarization, fiscal rules, or integration in larger economic unions. However, as discussed below in chapters 8 and 9, it is virtually impossible to eliminate the discretion exercised by the nation state. A better way forward is to look for institutions to control the exercise of discretion rather than for policies or rules to eliminate discretion, which have proved to have a risky downside.

Improving Institutional Quality

In any society, institutions need to perform certain core functions: ensuring the security of people and property, establishing mechanisms for collective decision making, and organizing a state capable of carrying out key government functions. An important realization of the 1990s was that the design of institutions for these core functions can take a broad range of forms. Most of the empirical work on the importance of institutions has focused on the link between institutional performance and economic performance, and almost none examines the link between institutional *design* and performance. Yet it is now broadly acknowledged that merely adopting some other country's laws and formal regulations is no guarantee of producing the same institutional performance, and that different arrangements can lead to equally successful outcomes.

For example, China's arrangements for securing property rights differ from India's, yet both countries offer relative security to investors. In Soeharto's Indonesia, by contrast, the enforcement of one's property rights depended on one's closeness to the

ruling elite. Similarly, financial systems in the United States and European Union have different institutional foundations, but both perform at comparable levels of efficiency. As another example, different democracies perform very differently, showing that the formal institutions of democracy are insufficient to ensure a government's accountability and credibility. While in some countries these institutions have delivered satisfactory outcomes, in others they have not (see chapter 10 below). Within countries, institutions do not function homogeneously: De Soto (forthcoming) has shown that within a country the enforcement of property rights varies across income and social groups, with the least security for the least privileged, and he has documented the ensuing adverse consequences for investment incentives and for incomes.

Fairness and Growth

Another important strain of ideas in the 1990s was a resurgence of interest in inequality and equity. This important concern has many dimensions, but we focus here on the impact of inequality on economic growth and on the interrelationship between inequality and institutions.²⁴

Inequality can affect economic growth through several channels. "Equal societies have more social cohesion, more solidarity, and less stress; they offer their citizens more public goods, more social support, and more social capital" (Deaton 2003a), and hence are more capable of sharing the costs and benefits of improving economic policies—which facilitates forming consensus and decision making. More equality also facilitates agreement on the provision of public goods, such as health, water supply, and waste disposal, that have strong externalities.²⁵

Aghion, Caroli, and Garcia Penalosa (1999) explain the positive impact of equality on growth by reference to market structures and microeconomic incentives. They find that a better distribution of wealth reduces credit constraints, and that greater availability of credit has a significant positive effect on growth. If individuals have limited borrowing capacity, reallocating capital toward the

poorest will increase aggregate productivity. They also find that better distribution of wealth will reduce instability at the individual level and hence at the aggregate level, and consequently will mitigate the impact of instability on aggregate growth.

While there is clear evidence that greater equality augments growth, there is much ignorance on how greater equality can be achieved. A large agenda for deeper research exists on how to achieve greater equality, including investigating the impact of public spending on equity, in both a static (incidence of public spending) and a dynamic sense (changes in individuals' earnings potential).

Inequality and Institutions—A Two-Way Street

Recent literature has emphasized the important links between the distribution of assets in a society and the institutions that emerge. Knowledge about how institutions emerge and are established is still rudimentary, but economic research in the 1990s has provided some insights.

First, economic incentives influence what type of institutions emerge and when. For example, the enforcement of property rights to land will depend on the benefits of enforcement relative to the costs—a ratio that depends on the extent to which other landowners enforce their property rights. In an extractive economy, if all landowners enforce their property rights, the alternatives for laborers decline, and so do their wages, and as a result, rents on land increase. If landowners in general do not enforce their property rights, it is uneconomical for one of them to enforce his or hers: the alternatives for laborers, and hence their wages, will be greater because they can exploit land where property rights are not enforced. Only when this coordination problem is resolved do economic incentives become sufficient for enforcement of property rights (Hoff and Stiglitz 2001).²⁶

Second, the concentration of economic and political power influences the breadth of access to economic and social opportunities. In 1800, Argentina's per capita income was equivalent to that of the United States, whereas Brazil's, Chile's, Mexico's, and Peru's were only 40–50 percent of

that of the United States. Two centuries later, Argentina's per capita income is one-fifth that of the United States, and Brazil's, Mexico's, and Peru's are one-fifth or less, whereas Chile's has remained about the same. The reason for this divergence in economic performance is that the United States, where access to economic, social, and political opportunities was much broader, was able to create a much greater flow of economic opportunities.²⁷ Because population densities were much lower in the United States, there were fewer incentives to establish predatory institutions oriented toward extracting rents for the benefit of a small elite. Except in the United States and Canada, growth in former European colonies has been influenced by the concentration of economic and political power, which has restricted access to economic and social opportunities, created less secure property rights, and influenced the course of development for several centuries.

Some recent illustrations of how inequality influences institutions and economic growth come from India and the United States. In India, in the state of West Bengal, tenancy reform in the late 1970s increased the share of output that tenants could retain, and strengthened tenancy rights; a sharp increase in yields ensued (Banerjee et al. 2001; Banerjee, Gertler, and Ghatak 2002; Hoff 2003). Another instance of concentrated economic and political interests influencing institutions comes from the United States in the early 1900s, when the government decided to regulate matters hitherto left to private parties and the courts. The reason for this shift was a perception that judges and the courts had been so corrupted by powerful economic interests as to be unable to render fair judgments (box 2.2).

Notes

1. Not all unexpected occurrences teach lessons, however. An analogy with earthquakes might help. Earthquakes cannot be predicted; the lessons learned from one are not about better prediction. But the physical and economic damage from an earthquake can be predicted

BOX 2.2**How Money and Power Can Influence Patterns of Institutional Development**

Societies' choice of institutions depends on a variety of contextual variables, including history as embedded in existing institutions, the distribution of economic and political power, and the type of problems these institutions seek to solve. Glaeser and Shleifer (2003) show how money and power subverted the workings of justice in the United States in the late 1800s and early 1990s, leading to the creation of regulatory agencies to handle matters previously resolved by courts.

Before 1900 numerous commercial and other disputes in the United States were resolved through private litigation: "Courts ruled on such matters as corporate liability in industrial accidents, on anti-competitive practices such as railroads' rebates, on safety of foods and medicines, and even on the constitutionality of income tax." Private litigation was the principal way to deal with the socially harmful acts that had been accelerated by the industrial revolution: "Trains were also wild beasts; they roared through the countryside, killing livestock, setting fire to houses and crops, smashing wagons at grade crossings, mangling passen-

gers and freight. Boilers exploded; trains hurtled off tracks; bridges collapsed; locomotives collided in a grinding scream of steel. Railway law and tort law grew up, then, together. In a sense, the two were the same" (Friedman 1985, quoted in Glaeser and Shleifer 2003).

Traditional theories of regulation—justifying regulation on the grounds of market failures—fail to explain this evolution. Glaeser and Shleifer show that a fundamental change made it more efficient for American society to increase its reliance on regulations: "Commercialization and industrialization of the economy in the second half of the 19th century created firms with vast resources. As the scale of enterprise increased, the damage from industrial accidents rose proportionately, as did the incentives to avoid paying damages. The cost of influencing justice, however, did not rise as fast. As a consequence, individuals and small companies were unlikely to prevail against "robber barons.... Woodrow Wilson repeatedly complained about the failure of the courts to stand up to large corporations because, he said, 'The laws of this country do not prevent the strong from crushing the weak.'"

Source: Glaeser and Shleifer 2003.

based on its magnitude, location, and the design and construction of the affected structures. These damage prediction models can be updated in response to events—particularly when they fail badly, in predicting either too much or too little damage.

2. Accused of changing his views, Keynes responded with a famous quip: "When the facts change, I change my mind—what do you do, sir?" (Moggridge 1976, 163–64).
3. While these data on GDP per capita are widely accepted, they are controversial. Many analysts argue that mismeasurement of the value of pretransition output and the undercounting of the new informal sector mean that the fall in output has been less severe than it appears (see, for example, Shleifer and Treisman 2004). Everyone, however, agrees that the recession in most countries was deep, long, and hard. Particularly when taking into account the substantial increases in inequal-

ity during the transition, it seems that the median household is potentially even worse off than the evolution of the mean incomes suggests.

4. See Country Note 5, "Eastern Europe's Transition: Building Institutions."
5. The "precommitments" in the Argentine case were as credible and were fought for as creditably as one could wish. No one could argue that Argentines should have been asked to suffer more to defend the convertibility plan—and fail.
6. However, the regression estimated impact (0.017) times the change on \ln (secondary enrollment) (0.41—this is in natural logs so it is roughly a percentage increase) is that $0.7 = (0.017) * (0.41) * 100$.
7. The general impression (Birdsall 2002) and most indicators of policy change (Lora 2001a) suggest widespread and substantial policy reform in Latin America in general, and in Brazil in particular.

8. That is, mean of $\text{Log}(100+\text{inflation rate})=4.79$, standard deviation is 0.4047. The growth impact of a one standard deviation reduction is $-0.0048 * 0.4047=0.0019$, which corresponds to a reduction from 80 percent to 20 percent inflation.
9. There was hope that with the passing of the first generation of political leaders, their successors could effect a transformation. For instance, President Clinton in 1998 met with five heads of state (Afwerki, Kabila, Kagame, Museveni, and Zenawi) and proclaimed a “new Africa Renaissance sweeping the continent.” Unfortunately, only two months after Clinton’s hopeful declaration all five leaders were at war—mostly with one another.
10. For example, there is an enormous literature on the measurement of poverty in India, with a large number of estimates of poverty rates. The controversy stems from two major sources: (1) the discrepancy between the rate of growth of personal consumption expenditures in the national accounts and that of reported expenditures in household surveys; and (2) changes in the method of the surveys between the 50th and 55th rounds of India’s National Sample Survey (NSS). Here we use the estimates of Deaton (2003), which are based on the NSS, and use a plausible technique to adjust for the changes in the recall period between the rounds.
11. One of the less frequently mentioned is the fickleness that this induced in the opinions bandied about in financial and international institutions. In 1996 the East Asian model was perhaps misunderstood but it was unquestionably sought after; in early 1998 the financial crisis threatening the entire region was cited as proof that the whole East Asian model was misguided and that the economies needed fundamental reform if they were to recover from crisis. By 2000, as Korea sailed out of the crisis, that type of talk ended as abruptly as it had started.
12. See Country Note 2, “Lessons from Countries That Have Sustained Their Growth.”
13. Individual national economies and the world economy are *enormously* larger today than 100 years ago. Take the best possible case, in which the relevant “market size” is just the national economy. The U.S. economy in 1990 was 55 times larger than in 1870, but the growth of per capita GDP was 2.6 percent during 1870–80 and 1.8 percent during 1980–90. Of course, the relevant variable in the models is “market size.” This can be defined to include trade with the rest of the world, so that $\text{Market Size}=\text{Domestic Economy}+\lambda*(\text{Rest of World})$ so that $\lambda=1$ implies all countries face the same market size. But this makes the empirical point about the problem of historically nonaccelerating growth in the leading countries even stronger because (1) with reduced transport costs and lower trade barriers λ has increased, and (2) the rest of the world has grown, so that the true market size growth for the United States could be much higher than the 55-fold increase in U.S. domestic economy.
14. The 2–standard deviation range is 3.8 percentage points a year (table 2.3).
15. Some countries had rapid growth of the residual while others had growth, when correctly measured, at about the OECD level or less.
16. This gained momentum with Barro (1991) and has been reviewed many times, perhaps most notably by Temple (1999).
17. Over and above the proximate determinants of investment in physical or human capital, which may or may not be included depending on how individual authors want to examine channels of causation.
18. A syndrome is an underlying disease process that manifests itself in related symptoms. A doctor might be interested in which of a particular set of symptoms (nausea, fever, pains) best predicts an underlying syndrome or differentially diagnoses one syndrome versus another. She might be interested in the underlying biological causes behind certain syndromes but be equally interested in the impact of a syndrome on the health of the patient, no matter what its etiology.
19. In the absence of some well-developed notion of a syndrome, it is not good practice to criticize the robustness of a variable because its significance level is changed by the addition of another variable. Nor is deciding what are the robust correlates of growth by simply throwing all available variables into a mechanical procedure (Sala-i-Martin 2003). Suppose for instance that one syndrome had only 1 measure (symptom) while another had 10 empirical measures that were sufficiently highly correlated that multicollinearity caused their individual *t*-statistics to fall below some threshold level when included jointly. Then growth regressions with one symptom of each syndrome would give roughly the right answer, while mechanical “horse races” to assess robustness would give the wrong answer.
20. See reviews by Temple (1999); Pritchett (2000).
21. Just as in the Solow model, the growth impact of policy reform is a transitional effect in moving from one level of income to another. Chapter 8 addresses the question of whether the impacts of policy reforms as estimated from aggregate (growth) models are consistent with those from microeconomic studies of gains from reform.
22. Also in chapter 7, this volume returns in depth to a second empirical problem: there are many economic models that do not predict a linear relationship between measures of policy outcomes or a summary statistic of policy actions.

23. The arguments made by the early authors have since been formalized in a number of theoretical papers (Murphy, Shleifer, and Vishny 1989; Hoff and Stiglitz 2001; Rodrik 2000a) that identify the market failures that these interventions addressed and clarify theoretically the economic intuition on which they were based.
24. Focused on economic policy, this study does not address concerns about the inequities in diseases such as AIDS or malaria, nor about access to social services such as education, nor about gender equity, nor about specific social injustices. These may be at least as important as the present topic.
25. See Country Note 3, "Poverty and Inequality: What Have We Learned from the 1990s?"
26. *WDR 2001* provides other examples of how economic incentives affect the emergence of institutions that sustain the functioning of markets and the different coordination or risk-reducing problems they are meant to resolve.
27. Whereas at most 2 percent of the population voted in Argentina, Brazil, or Chile at the end of the 1800s, more than 10 percent voted in the United States, where the participation rate in voting also increased much faster. Three-fourths of the U.S. population owned land, whereas less than a fifth did so in Argentina, and far fewer did in Brazil. Access to education was similarly better distributed in the United States.

