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Annual World Bank Conference on Development Economics Regional

Beyond Transition

Edited by
François Bourguignon and Boris Pleskovic

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About This Book

The Annual World Bank Conference on Development Economics is a forum for discussion and debate of important policy issues facing developing countries. The conferences emphasize the contribution that empirical economic research can make to understanding development processes and to formulating sound development policies. Conference papers are written by researchers in and outside the World Bank. The conference series was started in 1989. Conference papers are reviewed by the editors and are also subject to internal and external peer review. Some papers were revised after the conference, to reflect the comments made by discussants or from the floor, while most discussants' comments were not revised. As a result, discussants' comments may refer to elements of the paper that no longer exist in their original form. Participants' affiliations identified in this volume are as of the time of the conference, January 18–19, 2006.

François Bourguignon and Boris Pleskovic edited this volume. We thank Aehyung Kim for valuable suggestions and Leita Jones, the conference organizer, whose excellent organizational skills helped ensure a successful conference. Editing services were provided by Nancy Morrison, the book was typeset by Datapage Publishing Services, and book production and dissemination were coordinated by the World Bank Office of the Publisher.

Introduction

FRANÇOIS BOURGUIGNON AND BORIS PLESKOVIC

The papers in this volume were presented at the Annual World Bank Conference on Development Economics (ABCDE), held January 18–19, 2006, in St. Petersburg, Russia. The conference series seeks to enhance the flow of ideas among development policy researchers and practitioners around the world and to open the Bank to the views of outside experts who can challenge or expand our knowledge of the theories and empirical evidence of development. Each year the topics selected for the conference represent either new areas of concern or areas that we believe will benefit from a review of existing knowledge, as well as identifying areas for future research.

The topic of the 2006 conference was "Beyond Transition," which encompassed four themes: growth after transition, economic space, governance, and judicial foundations of a market system.

Keynote Addresses

In his keynote address, **François Bourguignon** revisits the evidence on the role of institutions in growth, analyzes how elites influence whether institutions change or persist, and draws conclusions as to how international organizations can support Pareto-improving change. Growth modeling over the past decades has evolved by successively deeming as endogenous those factors that had been considered the ultimate sources of growth in previous models. In the latest permutation, growth depends on exogenous factors as well as accumulation of physical and human capital. Accumulation is determined by policies, which in turn are shaped by institutions. Efforts to define the impact of institutions have commonly been hampered by the dearth of objective indicators of institutional quality, as well as the difficulty of separating the influence of institutions from the influence of policy. Conversely, those studies that do use strong instruments to identify institutional quality do not allow for them to be endogenous to the political economy. What drives the evolution of institutions?

The political economy of institutions, and the influence of elites upon them, can be described in a simple two-sector model, in which an elite group inequitably holds more influence than the rest of the people. Both actors benefit from growth. They actively shape policy in accordance with their self-interest, but institutions set the rules of the game that both actors must follow. Institutions themselves, however, can also be influenced. Elites, while sometimes altruistic and almost never monolithic, will in many cases shape institutions to generate maximum rents, despite suboptimal outcomes for social welfare. When do institutions change, and when do they persist despite an adverse economic equilibrium? Historical evidence suggests that economic structure matters: plantation economies in Latin America and the southern United States long empowered rent-seeking elites and held back the development of equitable institutions, while small-holder farming promoted it early on in the northern United States. Furthermore, whether elites believe that they stand to win or to lose from a reform is important. Initial gradual steps toward liberalization in the Soviet Union met with resistance by the elite, which could be overcome only through deeper political reform. By way of contrast, elites did not resist economic reform in China, and no political reforms ensued. Recent strengthening of democracy in Africa has similarly produced mixed growth results. Institutional reforms are a sovereign function of each polity, and the influence of the international development community is limited, out of necessity. Yet international organizations can assist the process by analyzing prospective gains and losses, suggesting Pareto-dominant bundles, or devising compensation schemes and enforcement mechanisms. Well-negotiated aid conditionality can be a tool for consensus building and a commitment device—if the donor community overcomes its own coordination and time-inconsistency challenges.

Anders Åslund and Nazgul Jenish argues that in the first decade of postcommunist transition, the more radical and comprehensive the market economic reform was, the earlier a country returned to economic growth and the more vigorous its growth. Central Europe took the lead. However, since 2000 annual growth among the Commonwealth of Independent State (CIS) countries has been more than 4 percentage points higher than the Central European countries. A regression analysis for 20 postcommunist countries shows with strong significance that a reduction of public expenditures has most effectively stimulated economic growth, while oil exports are also as positive and significant as expected. The distance from the European Union (EU) is also positive and significant: that is, the further from the EU, the higher the economic growth. The effect of corruption is negative for growth but only marginally significant. Neither the laggard effect nor investment reveals any significant effect. Depressingly, the CIS countries that have generated impressive economic growth are largely authoritarian. In effect, the CIS countries have adopted the highly successful East Asian growth model lock, stock, and barrel, while the less dynamic Central European countries have adopted the EU model, which has not been conducive to high economic growth. Åslund concludes that, at least among postcommunist countries, high public expenditures and taxes are not conducive to economic growth. Not surprisingly, liberal economic policy or greater economic freedom does not seem to promote economic growth. Thus, more emphasis should be given to the need to reduce public expenditures to boost economic growth.

Gur Ofer discusses the introduction of modern economics to Russia and Israel. After briefly describing the successful record of the New Economics School (NES) in Moscow, Ofer mentions that to a large extent, NES was modeled after the experience of introducing modern economics in Israel in the late 1940s. This is his reason for reviewing the Israeli experience in greater detail. The author describes how Don Patinkin single-handedly established modern economics in Israel, building on three pillars: (1) sending a group of students for PhD studies in the West; (2) developing curricula and lecture notes for new courses; and (3) establishing infrastructure for the study and research in the Israeli economy. The essence of Patinkin's economics, following the University of Chicago tradition, was the analytical positivistic version of neoclassical economics, which replaced both the old continental version of institutional economics as well as Marxist political economics. The method of teaching was to solve problem sets ahead of the discussion in class, which was a contradiction of the continental method of reading lectures. The U.S. pattern of combining teaching and research was also transferred to Israel, and Patinkin initiated the establishment of a research center devoted to the Israeli economy. Ofer further describes the evolution of the success story of economics in Israel in terms of achievements, quality, openness to the world, and a near optimal balance between theory and policy. There are many parallels—but also differences—between Israel's experience and that of Russia; indeed Israel served as a guide and inspiration for NES. Like Israel in the past, Russia needs modern economics and can gain from it even more than established market economies. Ofer further argues that, like Israel, Russia is in a potential position to compete successfully and move ahead of some of the countries in Western Europe that are moving rather slowly to advance modern economics. Russia, with the help of NES and other new institutions of higher education in economics, can provide important contributions to Russia's emerging market economy and also the advance of economics theory, in general and especially in the fields of institutional economics, political economy, and transition.

Yegor Gaidar addresses the interaction of political and economic transition in Russia. He notes that serious, positive economic reforms, such as property rights and reduced taxation, were carried out in Russia, but by the year 2000 a reversal on the democratic front had occurred. It is often argued in the literature that first economic ground should be established for democratic development, and only then should the movement toward democracy be followed. Gaidar claims that this explanation is too simplistic and that the process should be analyzed from a historical perspective. He then discusses the main features of a socialist economic and political system. His main argument about the disintegration of socialism and of the Soviet Union is that socialism was an unstable economic system built on the basis of the authorities' willingness to employ violence. In the final decades of the Soviet Union, the ability to use violence was eroded and undermined by the evolution and development of a society that became more literate and educated. Gaidar also notes that the inefficient socialist model of industrialization and agriculture made the country dependent on the prices of raw materials, such as oil and natural gas, which fluctuated uncontrollably on a long-term basis. Gaidar concludes that the basis for the collapse of the Soviet Union was a political and economic structure that was not stable internally and that was

based on violence and later on importation of agricultural and other industrial products. As the level of development increased, it undermined the ability of the authorities to use unlimited violence. This was coupled with a crisis in agriculture, noncompetitive industry, and falling oil prices. According to Gaidar, this is the real reason for the catastrophic development of the Soviet Union.

Growth After Transition: Is Rising Inequality Inevitable?

Pradeep Mitra and Ruslan Yemtsov examine inequality in the transition economies of Eastern Europe and the former Soviet Union. Their paper decomposes changes in inequality, which has generally been increasing in the transition economies of Eastern Europe and the former Soviet Union, both by income source and socioeconomic group, with a view to understanding the determinants of inequality and assessing how it might evolve in the future. The paper's empirical analysis relies on a set of inequality statistics which, unlike "official" data, are consistent and comparable across countries and are based on primary records from household surveys recently put together for the World Bank 2005 study "Growth, Poverty, and Inequality in Eastern Europe and the Former Soviet Union: 1998–2003." The increase in inequality in transition, as predicted by a number of theoretical models, in practice differed substantially across countries, with the size and speed of its evolution depending on the relative importance of its key determinants: that is, changes in the wage distribution, employment, entrepreneurial incomes, and social safety nets. Its evolution was also influenced by policy. This diversity of outcomes is exemplified on the one hand for Central Europe by Poland, where the increase in inequality has been steady but gradual and reflects, among other things, larger changes in employment and compensating adjustments in social safety nets, and on the other, for the Commonwealth of Independent States by Russia, where an explosive overshooting of inequality peaked in the mid-1990s before being moderated through the extinguishing of wage arrears during its recovery after 1998. Mitra and Yemtsov argue that the process of transition to a market economy is not complete and that further evolution of inequality will depend on (1) transition-related factors—such as the evolution of the education premium, and a bias in the investment climate against new private sector firms, which are important vehicles of job creation—and (2) the regional impediments to mobility of goods and labor, as well as other factors, such as technological change and globalization. The paper also contrasts key features of inequality in Russia in the context of other transition economies with trends in inequality observed in China, where rapid economic growth has been accompanied by a steep increase in inequality. The authors argue that China's experience is to a large extent a developmental phenomenon rather than a transition-related one, deriving from the rural-urban divide, and thus is of limited relevance for predicting changes in inequality in Russia.

Guillermo Perry and Marcelo Olarreaga examine Latin America's trade liberalization in the late 1980s and early 1990s. They argue that the liberalization was accompanied in some countries by increases in skill premiums, wage and income inequality, and even

in poverty: results unexpected by many. These phenomena were mainly the result of four factors. First, most Latin American countries are rich in natural resources (which in general are complementary with capital and skills), and are more capital abundant than other developing countries with large pools of unskilled labor, such as China and India, that were integrating into the world economy while Latin America liberalized. Second, dynamic effects of trade led to new goods being produced in the region through outsourcing, and to an acceleration of skill-biased technical change and Schumpeterian creative destruction, resulting in an increase in demand for skills in most industries. Third, initial conditions and contemporary events make predictions based on a simple factor abundance model difficult to generalize. Fourth, the impact that trade reform had on imperfectly functioning labor markets—such as potential transitions in and out of unemployment, informality, and income volatility— is likely to affect and sometimes change the direction of the impact of trade reforms on income inequality and poverty. Finally, the paper concludes that the effect of trade on poverty (and income inequality) depends on complementary policies being implemented. The impact of trade on poverty reduction can be significantly enhanced (and the effects on inequality mitigated) by policies that increase the provision and access to skills and other productive assets to the poor.

Economic Space

Kiran Gajwani, Ravi Kanbur, and Xiaobo Zhang compare the evolution of spatial inequality in China and India. In the second half of the last century, both India and China underwent major transitions and moved to more liberalized economies. The paper relates the observed patterns in regional inequality to major events during this period. Because of China's institutional barriers to migration, regional inequality is much higher than in India. Also, China's decentralization and opening up to globalization are closely related to the observed regional inequality—particularly the inland-coastal disparity—since the reform period. With openness, the rates of returns to labor—particularly skilled labor in the coastal areas—change, as well as for land. On the other hand, from the Green Revolution to the period of economic liberalization in India, the evolution of regional comparative advantage has shifted from the quality of land to the level of human capital as India integrates with the international market. Therefore, India's states have become clustered into two clubs: more educated and less educated ones. The empirical findings are also relevant to the ongoing debate on globalization's effects on regional inequality in developing countries. Convergence or divergence of a nation's economy is dependent upon not only its domestic polices but also on its openness. The authors' results show that openness has led to changes and increases in regional inequality by providing more favorable conditions for growth for coastal and better-educated regions. The implications for policy are a need to pay careful attention to those regions that are less able to take advantage of gains from openness. In China, this refers to inland regions, while in India this means less-educated regions.

Governance

Ernesto Stein and Mariano Tommasi present the institutional determinants of state capabilities in Latin America. They argue that there are some qualities and characteristics of public policies that are (to some extent) independent of grand policy "titles" (such as "public" or "private") and that seem to lie behind their impact on behavior and outcomes. For instance, the performance of a given sector of the economy may be better or worse under either public ownership or private ownership *cum* public regulation, depending on some fundamental state capacities, such as the ability to commit to a policy course, the ability to adjust policies when circumstances change, the ability to enforce and implement policies, and the ability to focus on broad general welfare as opposed to narrow interests. In a nutshell, the main tenet of this research agenda has been to move the discussion away from "universal policy recipes" toward a focus on the determinants of policymaking capabilities, including the ability to reach reasonable degrees of societal consensus as a foundation for the credibility and effectiveness of public policies. In particular, the authors explore the politico-institutional determinants of good public policies by drawing from a framework that predicts that desirable policy characteristics (stability, adaptability, consistency, public regardedness) depend on the behavior of political actors in the policymaking process (PMP). The framework places particular emphasis on the ability of political actors to cooperate over time. The preliminary empirical work has uncovered no simple direct effects of some politico-institutional variables usually emphasized in the previous literature. These variables include characteristics of the electoral system, and legislative and partisan powers of the executive. Further empirical work on a broader data set is necessary in order to identify configurations that tend to produce better policies. One additional feature suggested by their work is that the "institutional blessings" behind high-quality policies and state capacities tend to develop slowly over time and tend to be the result of the ongoing behavior of many relevant political actors. In conclusion, studying the way in which different institutional characteristics are built over time would require theoretically structured comparative country studies that could pay special attention to the interaction between institutions and the specificities of political cleavages and socioeconomic structures behind the economic and social policies implemented in each country at each point in time.

Erik Berglof, Patrick Bolton, Sergei Guriev, and Ekaterina Zhuravskaya discuss corporate governance and bankruptcy policy specific to emerging market economies (EMEs). They argue that lowering the cost of capital for firms in emerging market economies is one of the major tasks of economic development. The authors present key arguments in addressing various policy solutions for this task. First, the solution to the problem of lowering the cost of capital in EMEs is unlikely to resemble corporate governance and bankruptcy reforms in OECD countries. The emerging market economies are characterized by different ownership and capital structures and a different nature and depth of market and government failures. Although many EMEs have already adopted best-designed company and bankruptcy laws, these changes have not yet led to improvements in the cost of capital because of imperfect

enforcement. In some circumstances, the transplantation of OECD laws to an EME may actually be detrimental to a country's financial development, rather than just being ineffective. Second, there is a substantial variation between the EMEs, which implies that there is no "one-size-fits-all" solution. Implementation of reforms will depend crucially on the distribution of political and economic power in each particular country, as well as its cultural and social environments. Thus, instead of suggesting ready solutions, the authors identify key conceptual trade-offs in the areas of corporate governance and bankruptcy that can help inform policy debate about the costs and benefits of specific policy choices. The importance of these costs and benefits for each particular country would depend on its economic and political environment. Third, since the difference in the environment between the EMEs and OECD countries in many instances is much greater than among the emerging market countries, it is possible to draw a few general lessons. One clear message from the paper is that corporate governance, bankruptcy, judicial, and political reforms are highly complementary in EMEs. At the same time, one of the main obstacles to financial development—poor enforcement of law and contracts—arises from weaknesses in political institutions. Improving enforcement requires policy intervention at many different levels, including deep political transformation with fundamental constitutional change, and administrative and regulatory reforms. Since the level of enforcement is necessarily an outcome of political economic game among interest groups, improving enforcement is an immensely difficult task. Under poor contractual and law enforcement, countries seem to be better off when they rely on private mechanisms of investor protection. As debt-financing plays the major role in EMEs and bankruptcy is the crucial mechanism for protecting creditor rights, one cannot consider corporate governance reform without bankruptcy reform. Therefore, the priority of corporate governance and bankruptcy reforms in EMEs should be on protecting property rights of majority claimants.

Sergei Guriev and William Megginson examine how privatization has changed the economic landscape since the late 1970s, given that it is one of the major phenomena of recent economic history. Their paper summarizes empirical research on the effect of privatization on the performance of privatized firms and on society. The extant evidence in many developed and developing countries shows that privatization usually results in increased productivity and has positive effects on society. Achieving a positive effect depends, however, on having critical economic institutions in place—in particular, the rule of law, competition, hard budget constraints, high-quality governance, and effective regulation. Guriev and Megginson pay special attention to the cases of Russia and China. In Russia (and some other CIS countries), privatization seems to have produced few benefits for the privatized firms or for society, whereas China has managed to pursue a reform package that, so far, has not included mass privatization of state-owned enterprises and yet has produced very impressive results. The authors argue that in both cases—as well as in other controversial privatization examples, such as Latin America—the outcomes can be explained within the conventional framework once one accounts for an appropriate counterfactual.

Judicial Foundations of a Market System

Matthew C. Stephenson argues that there has been an extraordinary increase in the attention paid to the role that public institutions play in promoting economic development over the last decade. Indeed, the assertion that "institutions matter" has become commonplace, perhaps even cliché. This institutionalist revival in the development community has included a resurgence of interest in the role that legal and judicial institutions play, or ought to play, in promoting material improvements in the quality of life of the world's poor. Academics and policy analysts have sought to better understand the relationship between legal and judicial institutions and economic performance, while the development community has promoted legal and judicial reform projects that range from modest efforts to improve court administration to ambitious attempts to eliminate judicial corruption, promote judicial independence, and craft better, more equitable, and more market-friendly legal systems. The diversity and complexity of the debate about legal and judicial reform, and of the myriad reform projects that have already been undertaken, put comprehensive overview of the field beyond reach. In his presentation, Stephenson first identifies what he sees as basic and recurring problems that bedevil efforts to design and implement effective legal and judicial reform projects. Second, he suggests some conceptual tools that can be used to address these difficulties by describing three particular problems. The first is a straightforward resource constraint problem. Improving the capacity and quality of a judicial system requires material and human resources that are often in short supply in developing economies. The second problem is what one might think of as an incentive compatibility problem. The judiciary's capacity to perform the economic and other functions assigned to it by law-and-development theorists depends in large part on the willingness of affected parties to use the courts to resolve disputes and to abide by judicial decisions, and on the willingness of judges and other legal officers to behave in a manner that is consistent with the requirements of a well-functioning judicial system. But aligning incentives in this way is often difficult. The third problem is an institutional version of the General Theory of the Second Best: When a legal system is suboptimal in more than one respect, improving the law or the courts along one dimension may not improve overall institutional performance, and may even worsen it. Understanding this principle is important to understanding—and attempting to avoid—the pitfalls associated with the necessarily incremental and partial nature of virtually all efforts at legal and judicial reform.

    James H. Anderson and Cheryl W. Gray argue that the judicial systems in the transition countries of Central and Eastern Europe, the Balkans, and the former Soviet Union are under heightened scrutiny these days, 17 years after transition began. In Central and Eastern Europe, the European Union is exerting strong pressure on new members and candidate countries to root out corruption and improve the functioning of their judiciaries. Further east, judicial systems in Russia and other countries in the former Soviet Union have been increasingly in the spotlight due to high-profile roles in controversial cases, such as the Yukos case in Russia

and the dispute surrounding the presidential elections in Ukraine. As economic reforms mature and these countries become increasingly interconnected with the outside world, the need for good governance and the constraints imposed by weak judicial systems are rising in visibility and importance. A recent World Bank report by Anderson, Bernstein, and Gray (2005), *Judicial Systems in Transition Economies: Assessing the Past, Looking to the Future*, reviewed the experience of transition countries with judicial reform since 1990 and drew on numerous data sources to compile a snapshot of the state of their judiciaries in the first few years of the twenty-first century. Anderson and Gray's paper updates that report by incorporating the findings of a large survey of enterprises throughout the region undertaken in spring 2005, the third EBRD–World Bank Business Environment and Enterprise Performance Survey, or BEEPS, and going into further detail on the judicial reform programs underway in transition countries. Anderson and Gray examine three broad questions: (1) the kinds of judicial reforms needed for successful transition from socialism to market-based economies and sequence of reforms; (2) progress made in this transition both by individual countries and by subregion and factors explaining the extent of progress to date; and (3) how firms' evaluations of judicial systems in transition countries—and by implication, the priorities and challenges that these systems face—compare with those in more advanced countries, to the extent that transition countries share common concerns and priorities with countries in Western Europe.

Dynamics of Institutions, Development, and Elites

FRANÇOIS BOURGUIGNON

I am very grateful to the Russian government and the city of St. Petersburg for hosting this conference. It is a harbinger of the events that will take place later this year related to the G8, which is chaired by Russia, and of the role of this great country in development—not only in the region, but in the world.

Institutional change and the role that elites play in that change are integral to this address. It is increasingly realized today that economic development depends very much on the quality and nature of institutions. The experience of those countries that have "transitioned" from centrally planned economic systems to market economies is perhaps the best example of the major role that institutions can play in the process of economic development. Considerable progress has been made recently in our understanding of the relationship between institutions and development. Yet our knowledge is still very partial. In particular, a point that we need to understand better is that of the endogeneity of institutions. What explains the fact that institutions are modified in one society, thus improving economic performance, and persist in another, despite very unsatisfactory economic results? Without some answer to this question, recommendations for institutional change in a given country may be purely academic, with little chance of ever being embraced.

A key actor in the evolution—or, on the contrary, the persistence—of institutions are the elites, or borrowing from Mancur Olson, the groups within a nation that share, give, or get part of political or economic power. In a perfect democracy, the political elite would be the whole population and the concept would not be very useful. But democracies are imperfect, and some groups end up playing a more important role than others in public decision making—whether because of their economic power or other reasons. In addition, there are still many countries that are run by autocratic regimes, which fit more closely the preceding definition of elites.

This address is about the role of elites in determining the institutions in which the economy of a country has to work, and about what this role implies for third parties like the international development community. As with most of my work at the

World Bank, there are two sides to this presentation: on one side drawing on what we do know, and on the other, dealing with what we don't. Regarding the first part, I will rely on the extensive work done by the Research Group of the World Bank, in close cooperation with the whole development research community. On the more difficult part—discussing what we don't know—we have to take a more theoretical view. And we need to alert our colleagues in the development economics community to the unresolved issues that are important to policy makers and development practitioners.

I will begin the presentation with a short reminder about the existing knowledge on the relationship between institutions and development, in particular those institutions that are related to the governance of a country. I will then explicitly introduce elites into that description of the role of institutions in development, which, in effect, is equivalent to introducing political economy factors under the assumption that institutions are fixed. In that framework, I will finally show that a major factor in explaining economic development or stagnation is the capacity of a national politico-economic system to generate institutional changes. I will then conclude by briefly analyzing a few historical examples of institutional changes or lack thereof, and drawing some implications for the role of external actors, in particular the international development community.

Institutions, Governance, and Growth: The Basics

Figure 1 gives a very schematic representation of the evolution of macroeconomic thinking in the field of development over the past 50 years or so, under the simplifying assumption that development is equivalent to economic growth. It is convenient to divide that evolution into three stages, with the most recent and elaborated one being based on the role of institutions.

In a first stage, growth was seen as resulting mechanically from the accumulation of productive factors (physical and human capital), as well as exogenous factors like technological progress. This approach is described by the arrows with

FIGURE 1. Successive Approaches to Economic Growth
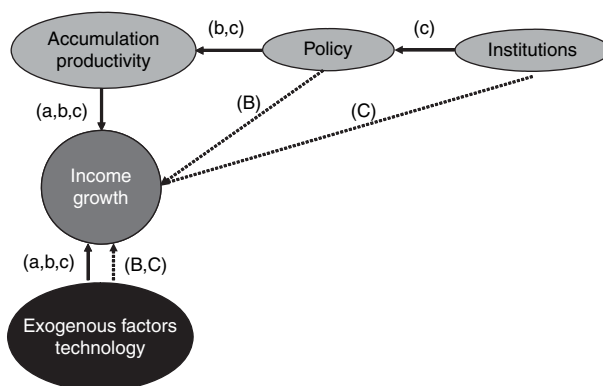
Source: Author.

the label (a) in figure 1. In a second stage, the focus shifted to policies that may create an environment more or less favorable to the accumulation process and to gains in total factor productivity. Some of these policies may be quite close to accumulation itself, such as those concerned with education and human capital. However, the relationship may be much less direct for the various policies that affect investment behavior or the efficient allocation of resources. The quality of macroeconomic policies (as summarized by inflation or the budget deficit), the size of the government sector, or the outward orientation of the economy are examples of indirect determinants of investment and productivity gains. Solid arrows with the label (b) in figure 1 describe that broader view of development. The dotted arrows with the label (B) correspond to a "reduced form" specification of the underlying structural model. What ultimately matters for economic growth is the nature of the policies being implemented, as well as domestic and external exogenous factors that could modify their effect.

In the third stage, policies themselves are taken to be endogenous and essentially determined by institutions, or in other words by the rules of the game behind public decision making and possibly by exogenous characteristics of the countries under study. At this stage of growth modeling, the structural model is now much more intricate. As shown by the solid arrows labeled (c), the causality chain leading to growth now includes the way in which existing institutions and exogenous characteristics of societies lead to policy decisions of some type, which in turn determine the process of accumulation and productivity gains ultimately responsible for growth. At this level, too, it is also logically possible to use a reduced-form view—as shown by the dotted arrow labeled (C)—that bypasses all these intermediary steps and where growth is essentially determined by the nature of institutions in a country and exogenous characteristics of that country.

It is interesting that our understanding of growth has evolved by successively deeming as endogenous those factors or economic processes that at a previous stage were considered the ultimate determinants of growth. In a way, this presentation is about the continuation of this process. Yet it is not so much about trying to make institutions endogenous as it is about understanding how institutions change by themselves or can be modified through the intervention of third parties.

Empirically, considerable efforts have been devoted over the last 15 years or so to testing the various reduced-form models that correspond to the dotted arrows in figure 1. Following the well-known pioneering paper by Barro (1991), the analysis has essentially been of the cross-country type, often with several observations of a single country over different time periods. An impressive number of policies and exogenous parameters have been analyzed, yielding results of varying robustness.[1] Most of this literature is about the role in generating growth of a large number of policies such as trade openness, security, or the nature of the tax system, and exogenous factors describing a country, such as geographical location, ethno-linguistic composition, or the inequality of the distribution of resources.

By comparison, less has been done with variables that describe the nature and quality of institutions. In effect, several studies combine both institutional and policy variables as determinants of economic growth, without really controlling for the

endogeneity of the latter or trying to explore the relationship between the two sets of variables. It is often more the quality of the government, to borrow from the title of the paper by La Porta and others (1998), that is being considered, than institutions per se. In Knack and Keefer (1995), La Porta and others (1998), and Rodrik (1999), for instance,[2] variables used include the democratic nature of decision making, the rule of law, political rights, or protection of property rights. These may indeed be considered as true institutional characteristics in the sense that they describe the rules of the game, as Douglass North (1990) defined institutions.[3] But alongside these variables, these studies also include tax/GDP ratios, social spending, or the quality of bureaucracy, which seem to be under the direct control of the government and must thus be considered as policy variables.

The correct reduced-form model to be used to explore the role of institutions in economic development should include only variables that truly describe existing institutions in a country, and exogenous characteristics that may combine with institutions to determine the nature and pace of development. This is what is done, for instance, in Acemoglu, Robinson, and Johnson (2001) and Acemoglu, Johnson, and Robinson (2005), which present rather solid evidence of the role of institutions on development in the long run. Figure 2 gives some idea of that relationship—even though no allowance is made there for the possible endogenous nature of the institutional variable and the influence of other exogenous country characteristics. The figure relates GDP per capita in 2004 to the indicator of the rule of the law proposed by Kaufman, Kraay, and Mastruzzi (2005). Because GDP per capita in figure 2 is considered in levels rather than in growth rates, the implicit view of growth is definitely very long run. Figure 3, taken from Knack (forthcoming), shows the same relationship within a medium-run context, where it is the 20-year growth rate of GDP per capita that is correlated with an institutional indicator: namely, an indicator elaborated by the International Country Risk Guide. It can be seen that the fit is much less satisfactory, even though the positive relationship is still statistically significant. The comparison of these two charts suggests that the influence of institutions on growth is indeed very long run.

FIGURE 2. Simple Cross-Country Correlation between Income Level and Rule of Law Indicator
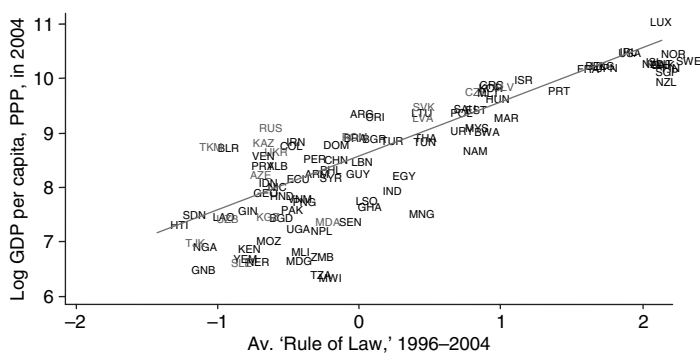
Source: Author's calculations using the rule of the law indicators proposed by Kaufman, Kraay, and Mastruzzi (2005).

FIGURE 3. Partial Cross-Counry Correlation between Twenty-Year GDP Growth Income Level and the ICRG Institutional Indicator, 1982–2002
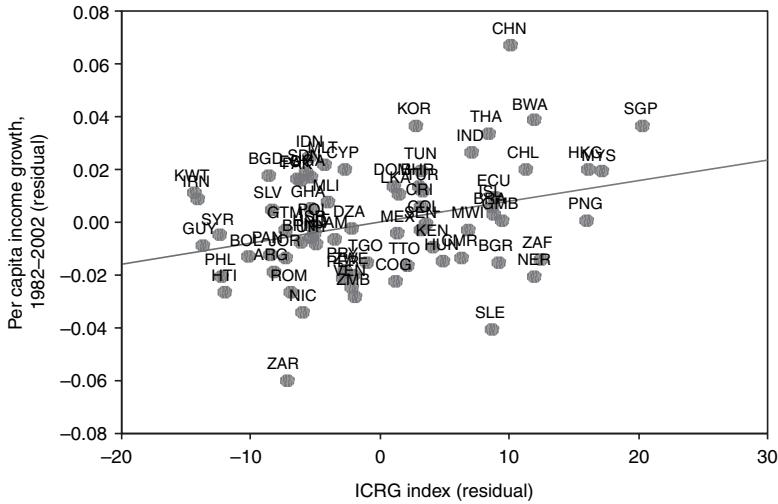
Source: Knack (forthcoming).

Note: The ICRG institutional indicator controls for initial income and school attainment.

Empirical work on institutions and development is made difficult because of the nature of the institutional indicators available and because most available indicators cover only the recent past. The best indicators should be objective—or in other words, based on observed behavior. Practically, however, statistical observation in this field is difficult. Whether the objective is to describe the degree of protection of property rights, or even the extent of democracy, no simple statistics are available across countries. This is the reason why most indicators rely on the perception of some aspects of institutions by a set of agents. These agents may be the general public, as in the indicators that can be derived from barometers available on a regular basis in several regions. They may be firm managers, as in the indicators that can be derived from the Investment Climate Surveys, conducted by the World Bank and the European Bank for Reconstruction and Development.[4] However, most indicators are based on experts' opinion on particular institutional aspects. These indicators are compiled by several business agencies and NGOs such as Business Environment Risk Intelligence, the International Country Risk Guide, Business Monitor International, or Transparency International. In the World Bank, Daniel Kaufmann, Aart Kraay, and Massimo Mastruzzi regularly compile a kind of consensus statistics based on these original indicators.[5] A governance database is also compiled every year by country teams. The World Bank systematically uses the resulting Country Performance and Institution Assessments to allocate aid among low-income countries.[6] The problem with these various perception-based indicators is that their definition is not always clear, even when it is based on several sub-indicators in a given field. They are probably fine when rough comparisons are made across countries. They may be less so when the comparison is made over time within a given country, which is

ultimately what should matter for the understanding of the relationship between the quality of institutions and development. This problem is especially severe given that most of these indicators are available only over the past few years.

Elites and Institutions in the Process of Development

It is now time to explicitly introduce economic and political agents into our model to complete our description of the way countries make policy decisions that affect development. This is what is done in figure 4.

The population is divided into two groups: the "elite" and the "people." There may be various subgroups within each of these classes, but it simplifies the exposition to consider only two groups. The dotted arrows represent the way that policy decisions are made (P) and the distribution of income between the two groups (d). They correspond to the political economy system of the hypothetical country being considered. Policy decisions depend on the interest of the various parties (the "distribution" (d) arrows) and on the institutions in place (the (c) arrows). In other words, institutions determine the rules of the political economy game leading to policy decisions, which in turn impact the nature and pace of economic growth and the way it is distributed between population groups. If institutions included a fairly democratic public decision-making process, then the influence of both the elite and the people on policies would be more or less proportional to the demographic size of these two groups. Presumably, the arrow originating in the box labeled "people" (P_p) would convey more power than the arrow originating in the box labeled "elite" (P_e). The opposite case is depicted in figure 4, with the elite having much more power to control policies than the people. That people still have some influence on policies reflects some kind of imperfect democracy, rather than a pure autocracy. Yet institutions include many other dimensions than democracy. For instance, some policies that would partly expropriate the people's property or extract massive rents from them could not be imposed by the elite in the presence

FIGURE 4. Institutions, Policies, and Development: The Role of Agents
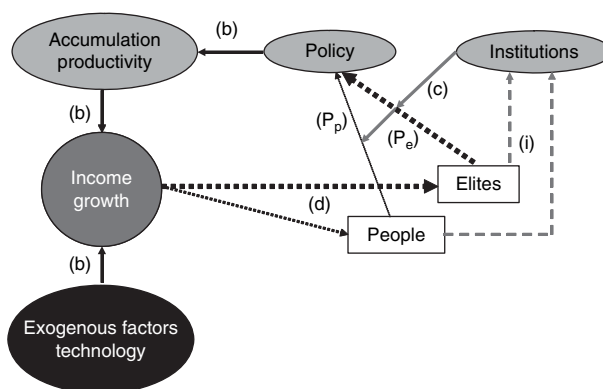
Source: Author.

of a judicial system with some minimum effectiveness in protecting property rights or preventing corruption.

As is apparent in figure 4, institutions are not exogenous. They may be modified by society, and both elites and the people can play a role in that process; see the arrows labeled (i). In the most basic model of elite control, where information is perfect, elites choose institutions that maximize their payoff. That payoff may be their direct economic interest, or if elites are somewhat benevolent, it may be broader social welfare. Note in particular that elites are not necessarily monolithic. They may comprise groups with interests closer to those of the people, which might have some power on the overall elite in imperfect democratic systems. As democratic practices gain strength, the power to reform institutions progressively shifts to the people.

Figure 5 shows a simple example of how different institutional choices may result from different structures of power, and may lead to different economic outcomes. The institution being considered here is the control of corruption practices or rent-seeking by economic agents: in other words, some component of the rule of the law. It is assumed that only the elite have the power to extract rent from other people in the population, and that rent-seeking reduces the efficiency of the economy at an increasing rate. As the intensity of rent-seeking increases, GDP per capita goes down, so that the elite face a kind of Laffer curve. The amount the elite can actually extract from the people first goes up with rent-seeking, but goes down after a threshold has been reached where efficiency losses are more important than the additional rent. If the elite has political power and can oppose any institutional reform that would in some way prohibit rent-seeking, the equilibrium will be in *A*, corresponding to a low level of GDP per capita. If, on the contrary, the people are able to impose an institutional reform that will ban rent-seeking, the economy will end up in *B*, at a much higher level of GDP per capita. This example shows how bad institutions, supported by an unequal structure of political power, may generate inefficient economic results.

In effect, the situation described in figure 5 is observed, in one form or another, in many countries. It is another example of the general argument developed in the 2005 World Development Report (World Bank 2005b), according to which equity and development are complementary. The lack of equity lies here in the inequality of

FIGURE 5. Economic Equilibria With and Without Elite's Rent-Seeking
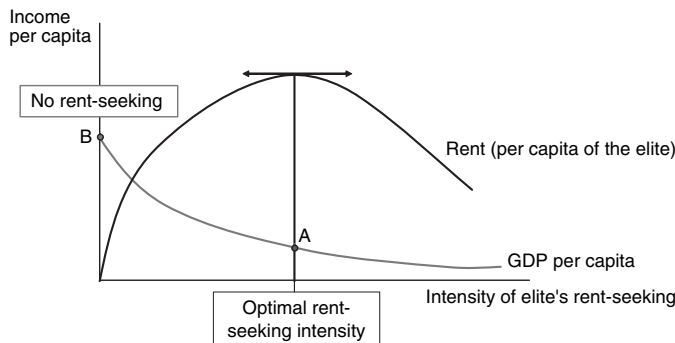
Source: Author.

political rights, which does not permit establishing institutions that control corruption or rent-seeking by the elite, and generates inefficient economic outcomes.

What we would like to understand is how to move from one type of institution that leads to an imperfect economic equilibrium to another institution that leads to a better economic equilibrium. In terms of figure 5, the question is to know how to go from a situation like *A,* the maximum rent situation, to *B,* where GDP per capita is the greatest—or at least to some intermediate situation. This question of the persistence of bad institutions imposed by powerful elites has been explored in depth by Acemoglu and various coauthors.[7] Most of their analysis relies on theoretical models that are shown to fit some stylized historical facts, and on cross-country regression work. In effect, the paper referred to earlier—Acemoglu, Robinson, and Johnson (2001)—goes much beyond estimating the effect of institutions on long-run growth. It also considers the historical origin of the institutions that are observed today. In the case of developing countries, in particular, the authors find an extreme persistence of the effects on development of natural conditions that go back several centuries, such as the mortality of settlers in the fifteenth century. Their conclusion is that the influence of these initial conditions on development has been transmitted mostly through their impact on the structure of power between elites and the people and the institutions it may generate. Even though this particular result has been the subject of a rather heated debate, this is certainly an interesting hypothesis.[8]

It also is a rather disturbing proposition, which would tend to suggest a very strong historical determinism in the formation of institutions, and therefore in the development performances of countries. As a matter of fact, both theory and direct observation also suggest that institutions can change under diverse circumstances, even when they are initially supported by apparently powerful elites. Following some exogenous shock that may disturb some initial political economy equilibrium, some changes may appear Pareto-superior and be implemented spontaneously. Others may result either from conflicts within the elite, collective action by the people, or possibly the simple threat of such a collective action when repression is found to be too costly by the elite.[9]

Those circumstances that make institutional change possible are what economists and social scientists working on development should strive to identify. We conclude this presentation by mentioning some interesting examples of spontaneous nonviolent examples of institutional change and what they suggest in terms of possible interventions by outside actors willing to ease those changes and the acceleration of development in slow-growing developing countries.

Some Examples of Institutional Changes

Dramatic institutional changes are being observed in many parts of the world. In Russia and in Eastern and Central Europe, democratization, marketization, and privatization have taken place at an unexpected speed. There is a drive toward democratization, or at least universal suffrage, in Africa. Democratization in Chile at

the end of the military regime has come with important and successful economic reforms. Land titling in some Sub-Saharan African countries or affirmative action against the caste institution in India are no less important institutional changes toward establishing and protecting private property rights or rebalancing the structure of political and economic power. All these institutional changes foreshadow dramatic changes in economic policies and development outcomes where they have occurred, and suggest that comparable changes are possible where they are needed for development. In the context of this presentation, the question is which factors triggered those reforms, and which factors are responsible for the persistence of inefficient institutions where such reforms did not occur. We briefly mention some examples in what follows.

As an example of the persistence of institutions and the role of initial conditions, the seminal work by Engerman and Sokoloff (1997) that compares the evolution of institutions in North and South America is very instructive. The presence of economies of scale in the most important commercial products in the southern part of North America and in South America promoted the emergence of a rich class of large planters employing poor natives or imported slaves. In the northern part of North America, the absence of commercial crops with large economies of scale led on the contrary to a large number of smaller farms run by a relatively homogeneous immigrant population. The composition of elites in the two regions was thus fundamentally different, and institutional changes proceeded at a different pace. A relatively equitable distribution of resources and a relatively homogeneous population in the North fostered a quick extension of suffrage to all social strata[10] and the development of mass education. On the contrary, with a very unequal initial distribution of wealth and human capital, the Southern elite resisted all institutional changes that would have threatened its control of power, including mass education. Eventually, democratic mechanisms were introduced, but at a slower pace and with frequent interruptions. This in turn resulted in a much slower economic development.

The sequence of reforms that finally led to the dismantlement of the Soviet Union and the dramatic political and economic changes in that part of the world give another example of elite-led institutional changes: in this case, of reform that was initially resisted by another part of the elite. According to major contributors to the analysis of the last years of the Soviet Union (see, for instance, Åslund 1995), the initial reason for reform was the realization by Soviet leaders that the economy was running inefficiently, and that this resulted in an increasing technological and military gap with the United States. A first set of reforms aimed at a partial liberalization of the domestic economy through the introduction of some market mechanisms. Yet this initiative by the Gorbachev government was met with hostility by part of the Nomenklatura, for whom this reform meant the disappearance of some of their rents. To overcome this obstacle, a second set of reforms was then launched with the aim of bypassing the apparatchiks by democratizing the choice of business managers. It is this introduction of democratic mechanisms that eventually led to the independence of some Soviet republics and then to the dismantlement of the entire Soviet Union, as well as to the full liberalization and marketization of the economy.

The institutional reforms launched in China at the end of the 1970s were also elite-led. As in the case of the Soviet Union, they aimed at increasing economic efficiency. Interestingly enough, however, they were not followed by political reforms of the same magnitude as in the Soviet Union. In effect, the general characteristics of the political regime stayed more or less unchanged at the same time that the economy settled on an extremely fast growth path. One important difference in the case of China is that there was no strong division in the elite about the reforms that progressively liberalized economic mechanisms. Since they kept some control over part of the economy, bureaucrats and apparatchiks were able to maintain their rents, and even to increase them both because of the general economic growth and also because growth was creating new niches for enrichment or rent-seeking. A hypothesis about institutional economic reforms in China and their success in an otherwise unchanged political environment would thus be that, overall, those reforms benefited the whole population. In other words, they were roughly Pareto-improving, something which may not have taken place in the Soviet Union because the Nomenklatura that opposed the Perestroika estimated, rightly or wrongly, that the net gains it could draw from it were negative. In the latter case, the liberalization of the economy eventually occurred because of the second sequence of reforms in the political sphere. But this was obtained only after some political turmoil and a severe economic recession, and it is not yet clear whether these reforms have put the economy on a fast and sustained growth path.

Governance and institutions have also been subject to important reforms in a number of African countries. As in the preceding cases, some reforms were a response by elites to the economic inefficiency inherited from the past—very often in a post-conflict context. For instance, the recent evolution in Ethiopia and Madagascar very much consisted in reestablishing market mechanisms, and thus shares similarities with the reforms in transition economies in Eastern Europe some 10 or 15 years ago. In countries like Mozambique, Rwanda, and Uganda, conflicts that generated a change in the governing elites made institutional reforms easier, in some sense, because of a common will to break with the preconflict functioning of the economy and the society. Similar stories may be told for some other Sub-Saharan African countries, although reforms did not always lead to a sustained acceleration of growth—far from it. In many other countries, ransacking elites continue to stifle growth and development, and conflicts among elites often escalate to involve non-elites. Reform in those countries is very slow, and in many is simply absent.

A handful of countries like Botswana, Mauritius, and Senegal are known for the remarkable stability of their democratic institutions. Yet, unlike the remarkable economic success of the first two countries, GDP per capita regressed in Senegal for practically 30 years after independence. This suggests that other reforms necessary for development were not undertaken in the country, or have been undertaken only recently. In the same perspective, the acceleration in the move toward universal suffrage that followed the signing of the Cotonou Convention between the African, Caribbean, and Pacific Countries (ACP) and the European Union shows that some institutional changes can be imposed from outside, but

this is generally not sufficient to guarantee progress on other dimensions of democratization and in other institutions that condition development.

Many other cases could be mentioned: the achievement of unilateral trade liberalization in Chile, for instance, or the deregulation and opening of the Indian economy in the 1990s. Who was perceived to win and who was perceived to lose because of these institutional changes, and which political economy factors facilitated them? What has been the actual effect of these policy changes? These are some of the fundamental questions that the economic development literature needs to deal with more frequently.

Conclusion

We understand why institutions are important, and we have some rough evidence to illustrate this. Yet, too little is known at this stage about how institutions emerge and evolve. Conflicts do not always arise when institutional reforms are overdue. The literature suggests that when elites know that their costs in an impending conflict are greater than the costs of the reforms, they may adopt desirable changes. But they will not do so if the cost of a potential conflict or of the repression is low enough. The problem is that information about these costs and benefits is extremely imperfect. Practically, existing institutions correspond to some kind of political economy equilibrium and tend to persist, even when there is another more efficient equilibrium.

Although weak institutions in some countries stymie development, external intervention to change institutions is difficult because it violates the principle of national sovereignty. At most, there is room only for general recommendations like in the Cotonou Convention. So what can be done, especially in international development institutions and agencies?

Information and analysis may be their first contribution. Data collection should lead to improvements in institutional indicators so as to permit reforms and institutional changes to be monitored more closely. Analysis may help determine the winners and losers of a specific reform. It may happen that such an analysis will point to some Pareto-improving reforms that should be adopted after the information is being made available. In cases where there is no easy win-win, all members of a society need clear information on the direct and indirect effects of institutional change, how benefits may compensate for losses, and what commitment device may ensure that compensation. It may often be that reforms are not undertaken because such information is not available, or is possibly jammed by the advocates of the status quo.

A second line of action may lie in the loose conditionality that may be exerted in low-income countries through the allocation of Official Development Assistance by the donors' community. In the Poverty Reduction Strategy (PRS) Process, donors and countries exchange views about policies for poverty reduction, and aid is made dependent over time on some assessment of the performances of recipient countries. Institutional changes are part of the PRS, and part of the performance assessment. The weakness of that line of external intervention, however, is that it requires the coordination of donors around the PRS and the performance assessment, and time

consistency of donors. Practically, those two conditions may prove difficult to meet. In Sub-Saharan Africa, the New Partnerships for Africa's Development initiative, which includes peer review of a country's governance institutions by other countries, may play a similar role by relying on "reputational" incentives rather than economic ones.

Even within such a contractual framework, the experience of the World Bank in advising our partner-countries demonstrates that critical information is missing. If it were possible to identify with some precision those who gain and those who lose in a reform, as well as the size of the gains and losses—and possibly mechanisms that could ensure *some* compensation—my experience convinces me that very substantial progress would be made.

Thank you very much.

Notes

1. For a recent useful survey of this voluminous literature, see Durlauf, Johnson, and Temple (2005).
2. Other contributors include Mauro (1995) and Hall and Jones (1999).
3. North (1990) defines institutions as "the rules of the game in a society, or, more formally, the humanly devised constraints that shape human interaction."
4. Data from 76 countries and 51,000 firms are available at http://www.enterprisesurveys.org/.
5. Kaufmann, Kraay, and Mastruzzi (2005). See also the related World Bank Web site: http://www.worldbank.org/wbi/governance/pubs/govmatters4.html.
6. World Bank (2005a). "Country Policy and Institutional Assessments: 2005 Assessment Questionnaire." Available at http://siteresources.worldbank.org/IDA/Resources/CPIA2005 Questionnaire.pdf. *Doing Business*, an annual World Bank report, also includes publicizing this kind of subjective indicator on governance institutions in many countries.
7. See Robinson and Acemoglu (2006); Acemoglu, Ticchi, and Vindigni (2007).
8. For other tests of this nature, see Acemoglu, Johnson, and Robinson (2005).
9. On the dynamics of institutions, see Greif (2006).
10. By 1828, practically all states had universal suffrage for adult white males.

References

Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2005. "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth." *American Economic Review 95* (June): 546–79.

Acemoglu, Daron, James A. Robinson, and Simon Johnson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review 91* (December): 1369–1401.

Acemoglu, Daron, David Ticchi, and Andrea Vindigni. 2007. "Emergence and Persistence of Inefficient States." Working Paper 12748. National Bureau of Economic Research, Cambridge, Mass.

Åslund, Anders. 1995. *How Russia Became a Market Economy*. Washington, DC: Brookings Institution Press.

Barro, Robert J. 1991. "Economic Growth in a Cross Section of Countries." *The Quarterly Journal of Economics* 106 (2): 407–43.

Durlauf, Steven N., Paul A. Johnson, and Jonathan R. W. Temple. 2005. "Growth Econometrics." In *Handbook of Economic Growth*, vol. 1, ed. Philippe Aghion and Steven Durlauf, 555–677. Elsevier.

Engerman, Stanley L., and Kenneth L. Sokoloff. 1997. "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies: A View from Economic Historians of the United States." In *How Latin America Fell Behind: Essays on the Economic Histories of Brazil and Mexico, 1800–1914*, ed. Stephen H. Haber. Stanford, Calif. Stanford University Press.

Greif, Avner. 2006. *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. New York: Cambridge University Press.

Hall, Robert E., and Charles I. Jones. 1999. "Why Do Some Countries Produce So Much More Output Per Worker Than Others?" *The Quarterly Journal of Economics* 114 (1): 83–116.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2005. "Governance Matters IV: Governance Indicators for 1996–2004." Policy Research Working Paper 3630, World Bank, Washington, D.C.

Knack, Stephen. Forthcoming. "Governance and Growth." In *Proceedings of the Symposium on the 2006 KfW-University of Giessen Developing Countries Prize on Good Governance*.

Knack, Stephen, and Philip Keefer. 1995. "Institutions and Economic Performance: Cross-country Tests Using Alternative Institutional Measures." *Economics and Politics* 7 (3): 207–28.

La Porta, Rafael, Florencio Lopez-de-Silano, Andrei Shleifer, and Robert Vishny. 1998. "The Quality of Government." Working Paper 6727, National Bureau of Economic Research, Cambridge, Mass.

Mauro, Paulo. "Corruption and Growth." 1995. *Quarterly Journal of Economics* 110: 681–712.

North, Douglass C. 1990. *Institutions, Institutional Change, and Economic Performance*. New York: Cambridge University Press.

Robinson, James A., and Daron Acemoglu. 2006. "Persistence of Power, Elites, and Institutions." Discussion Paper 5603, Center for Economic Policy Research. http://ssrn.com/abstract=913068.

Rodrik, Dani, 1999. "Where Did All the Growth Go? External Shocks, Social Conflict, and Growth Collapses." *Journal of Economic Growth* 4 (4): 385–412.

World Bank. 2005a. "Country Policy and Institutional Assessments: 2005 Assessment Questionnaire." http://siteresources.worldbank.org/IDA/Resources/CPIA2005Questionnaire.pdf.

———. 2005b. *World Development Report 2005–A Better Investment Climate for Everyone*. http://go.worldbank.org/WVDAOSZJ20.

Keynote Address

The Eurasian Growth Paradox

ANDERS ÅSLUND AND NAZGUL JENISH

In the first decade of postcommunist transition, multiple growth regressions showed that the more radical and comprehensive the market economic reform, the earlier a country returned to economic growth and the more vigorous its growth—and Central Europe took the lead. Since 2000, however, annual growth in the Commonwealth of Independent States (CIS) countries has been more than 4 percentage points higher than in the Central European countries. A regression analysis for 20 postcommunist countries shows, with strong significance, that a reduction of public expenditures has most effectively stimulated economic growth. As expected, oil exports are also positive and significant. The distance from the European Union (EU) is also positive and significant: that is, the further a country is from the EU, the higher its economic growth. The effect of corruption is negative for growth but only marginally significant. Neither the laggard effect nor investment reveals any significant effect. The conclusion is that at least among postcommunist countries, more emphasis should be given to the need to reduce public expenditures to boost economic growth.

Since the collapse of communism in 1989, economic output in different regions of the former socialist camp has developed in starkly contrasting fashions. Initially, output fell sharply all over. From 1992, however, Poland recorded growth, and then one country after the other followed, though Moldova and Ukraine remained in the doldrums as late as 1999.

The lesson from 1989 to 1998 was that economic reform worked. The more radical and the earlier the economic reform efforts were, the sooner a country would return to economic growth and the greater the upturn would be. Central Europe and the Baltics shone, while the countries of the Commonwealth of the Independent States (CIS) underperformed badly. Yet even the growth rates of the leaders were mediocre. We shall discuss these lessons in detail later.

FIGURE 1. GDP Growth Rates in the CIS-11, CE-4, and Baltic-3, 1998–2004
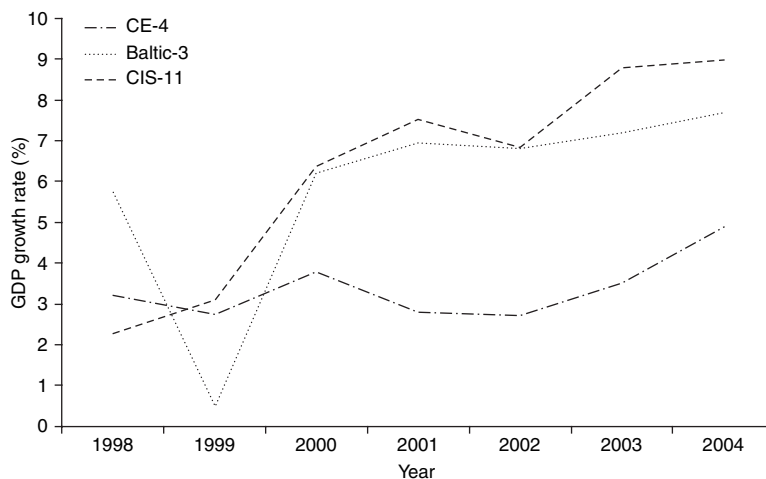
Source: World Bank *World Development Indicators 2005*; UNECE online statistics, http://www.unece.org/stats/data.htm.

Strangely, everything was turned upside down from 1999 on. From 1999 to 2004, eleven CIS countries (CIS-11) had an average annual growth of 7.8 percent,[1] while the four Central European Visegrad countries (CE-4, the Czech Republic, Hungary, Poland, and the Slovak Republic) recorded an average annual growth of only 3.6 percent. The three Baltic countries (Baltic-3, Estonia, Latvia, and Lithuania) came closer to the first group, with 7.1 percent growth, and Bulgaria and Romania came closer to the Central Europeans, with 5.4 percent (see figure 1). We limit our investigation to these twenty countries.

How can this growth paradox be explained? Why did the pioneers of market reforms so quickly become the laggards in growth? This paper seeks to answer these questions. In the second and third sections, we investigate the facts and suggest variables that warrant further exploration. In the fourth section, we undertake a regression with the most interesting variables.

Lessons from 1989 to 1998: Transition to a Market Economy Works

When the transition to a market economy started, recorded output plummeted in all countries, though the Soviet economy had already been in free fall. In 1990, only Hungary and Poland launched their transitions. The sudden declines in their registered production caused a shock, and their relative economic performance set the stage of the early debate. When other countries in Central and South-East Europe entered the transition in 1991, their output plummeted even more, but these falls were nothing in comparison with the CIS countries, several of which experienced real collapse.

Not only were the declines in output huge, but they lasted for years. Poland took an early lead by returning to growth in 1992. By 1994, the whole of Central Europe and

South-East Europe registered growth, and three of the most vigorous reformers in the former Soviet Union had also arrived at growth: Armenia, Latvia, and Lithuania. In 1995, they were followed by other reformers: namely, Estonia, Georgia, and Kyrgyzstan. However, several former Soviet republics experienced prolonged decline followed by stagnation, particularly Kazakhstan, Moldova, Russia, and Ukraine. Only at the end of the decade did they return to economic growth.

The total fall in output was staggering. According to official statistics, the aggregate decline in GDP was 19 percent in Central Europe and 29 percent in South-East Europe. In the former Soviet Union, the collapse was truly stunning, reaching 44 percent in the Baltics and 53 percent in the CIS (UNECE 2000).

No doubt, these figures are exaggerated. Perhaps half of the decline can be discarded as the result of statistical misrepresentation (Åslund 2002, chapter 4). The old system exaggerated output for the sake of fulfilling plan targets, while the new system stimulated underreporting for purposes of tax evasion. The inherited socialist statistical systems could not capture new decentralized enterprise development, and the underground economy mushroomed, especially in partially reformed countries (Berg 1994; Johnson, Kaufmann, and Shleifer 1997). Terms of trade or implicit trade subsidies changed sharply, and substantial Soviet subsidies to Central Asia were abolished (Orlowski 1993, 1995; Tarr 1994; Rosati 1995). Shortages soon disappeared, quality improved greatly, and the structural changes were huge. Therefore, the statistical problems are substantial. In fact, many of the initial output declines have been reduced in later statistical revisions, which have succeeded in capturing more of real output. For our purposes, however, we have little choice but to use the official statistics, making the assumption that the later growth rates have been less distorted—though like most, we dismiss Turkmenistan's statistics as sheer fiction.

Soon, a huge literature on the causes of output changes evolved.[2] By and large, it concluded: the more radical and comprehensive was the market economic reform, the earlier a country returned to economic growth and the more vigorous its growth. The three foci of the transition were macroeconomic stabilization, deregulation, and privatization. As convinced reformers usually pursued all three aims in parallel, it is statistically difficult to disentangle these effects because of covariation.

Almost all transition countries started out with high inflation, and output continued to fall until inflation had been brought under control. Stanley Fischer, Ratna Sahay, and Carlos A. Végh (1996b, p. 89) concluded: "The simple—but essential—message that emerges . . . is that real GDP rebounds following inflation stabilization, which in turn appears highly correlated with the improvement in the public finances." In a broader international regression, Michael Bruno and William Easterly (1998) found the critical threshold was relatively high: 40 percent inflation a year. In addition, Peter Christoffersen and Peter Doyle (2000, p. 439) stated: "There is no evidence that disinflation necessarily incurs significant output costs, even at moderate inflation rates." Moderate inflation did not impede growth significantly.

Deregulation was the basis for the formation of a market economy, and over time regression analysis shows the rising importance of deregulation for growth (Berg and others 1999). Privatization was always more controversial, but the regressions that

included the share of GDP arising from the private sector showed that privatization had a clear positive impact on growth (Berg and others 1999; De Melo, Denizer, and Gelb 1997; EBRD 1999).

The standard causes of long-term economic growth (Barro and Sala-i-Martin 2004) were of little or no importance. Surprisingly, Andrei Illarionov showed that the investment ratio in GDP was *negatively correlated* with economic growth: that is, the less a country invested, the higher its growth (see figure 2).[3] The explanation is probably that high investment reflected the maintenance of a soft budget constraint, a large public sector, wasteful public investment, and outright theft. Human capital was ample and underemployed, so there is little reason even to investigate it. Overall technology, research, and development appeared similarly irrelevant. Sensibly, nobody paid much attention to these factors. The issue was rather how to utilize the existing physical capital and import foreign technology to ease bottlenecks (Åslund 2002).

Apart from the transition indicators, growth was correlated with the expansion of exports. Imports took off slightly later. The countries that were about to join the European Union (EU) benefited from privileged access to the large EU market. As a result, the share of their exports to the EU of 15 members rose from half in 1989 to two-thirds in 2000. The CIS countries, by contrast, suffered from severe discrimination by the EU, and the share of their exports to the EU stayed constant at around one-third (Åslund and Warner 2004). Covariation made it difficult to ascertain whether this was really a positive effect of market access or whether it was a result of the EU accession countries adopting many of the systemic features of the EU countries. A corollary was that the closer a country was to Brussels, the higher its economic growth.

With regard to politics, the 1990s evidenced a strong positive correlation between democracy, comprehensive market reforms, and economic growth (Berg and others

FIGURE 2. Investment Rate as a Proportion of GDP vs. GDP Growth Rate in Russia, 1993–2004
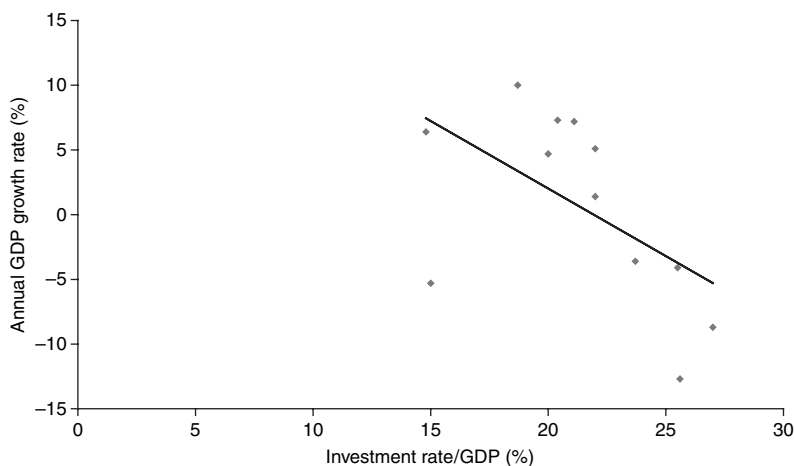
Source: UNECE online statistics, http://www.unece.org/stats/data.htm.

1999; EBRD 1999; Åslund 2002) because in the early transition, the threat against successful market reforms did not come from the many losers, but from the few winners who engaged in rampant rent-seeking (Hellman 1998). A corollary of the prior observations was that corruption was negatively correlated with economic growth (EBRD 1999).

In conclusion, radical market reform, macroeconomic stabilization, privatization, EU accession, export expansion, democracy, and reasonable governance all went together. Analytically, one problem was that the covariance was overwhelming. Another problem was that the growth rates remained anemic, and only Poland had convincingly exceeded its economic level of 1989. A third problem was that the comparative standards—the CIS countries—were performing truly miserably. Thus, although one decade had passed, we could not really say all that much about the causes of economic growth, apart from the obvious point that a critical mass of market economic elements was vital. In particular, Kazakhstan, Moldova, Russia, and Ukraine appeared stuck in an under-reform trap (Åslund, Boone, and Johnson 2001).

A World of Opposites, 1999–2004: The Winners are the Prior Losers

Strangely, whatever had been true until 1998 was false from that year onward. The starkest contrast evolved between the four Central European countries and the eleven CIS countries.[4] The latter group grew more than twice as fast as the former year after year (see figure 1). This could not be explained by sheer chance.

The dividing event was the Russian financial crash of August 1998, which had many repercussions for the whole CIS region. Several other countries underwent similar crises at approximately the same time, and the patterns were very similar from country to country. Most postcommunist countries maintained higher public expenditures than they could finance domestically for years. They had high tax rates, but they failed to collect much of the taxes. Instead, they ran up excessive foreign debts. Sooner or later they lost international creditworthiness as the international financial institutions refused to provide more credits.

On the verge of external default, or in default, CIS governments had no choice but to minimize their budget deficits. They could no longer borrow money abroad or from their population, and tax revenues could not be boosted in haste. Therefore, they were left with no choice but to cut expenditures severely. Several countries slashed their public expenditures by about one-tenth of their GDP in a year or two, often when their GDP was falling sharply. These cuts amounted to one-quarter or more of total public expenditures. Bulgaria cut its public expenditures as a share of GDP by 11 percent in 1997, Moldova by 10 percent from 1998 to 2000, Kyrgyzstan by 9 percent from 1995 to 1997, and Russia by 8 percent in 1999 (Åslund 2002; EBRD 2005).

Such drastic cuts are very different from ordinary budget trimming. Governments fight desperately to avoid disaster, which means that budget politics change completely. Whatever was politically impossible is suddenly accepted as economically vital. The big budget post that most transition countries cut drastically in crisis was

enterprise subsidies, which often involved rent-seeking schemes, such as barter. As a consequence, enterprises' budget constraints were sharply hardened and their playing field became more level. Another effect was that many former state managers who had seized control over their old enterprises but did not know how to run them under capitalism were persuaded to sell them to new entrepreneurs in order not to lose everything.

After public expenditures had been cut down to size in many countries, the multitude of taxes and their high rates made little sense, since a broad understanding developed that these taxes could not possibly be collected. Then, tax reforms introducing ever fewer taxes as well as lower and flatter taxes spread throughout the CIS and to the verges of the EU. As tax rates fell, tax administration could be simplified and tax collection improved.

In hindsight, the Russian financial crash can be considered the crucial event that rendered the CIS countries full-fledged market economies. Their fiscal systems were put in reasonable order, and ever since, inflation has been moderate. Most CIS countries derive at least 60 percent of GDP from their private sectors. Markets, albeit encumbered, drive their economies. A critical mass of market economy and private enterprise has been achieved, although the CIS countries continue to lag behind the EU accession countries, according to the EBRD transition indicators, which have changed little since 1998, recording only a light convergence (see figure 3). Their minimal movement amidst major structural changes suggests that these transition indicators might not be very relevant as a measurement of actual structural developments.

The Russian financial crash of 1998 was followed by several other dramatic developments. Russia devalued the ruble by three-quarters in 1998, and most other CIS countries subsequently devalued their currencies by about 50 percent, which benefited exporters. Soon afterward a commodity boom started, driven by Chinese imports of

FIGURE 3. Composite Transition Index for CE-4 and CIS-9, 1990–2003
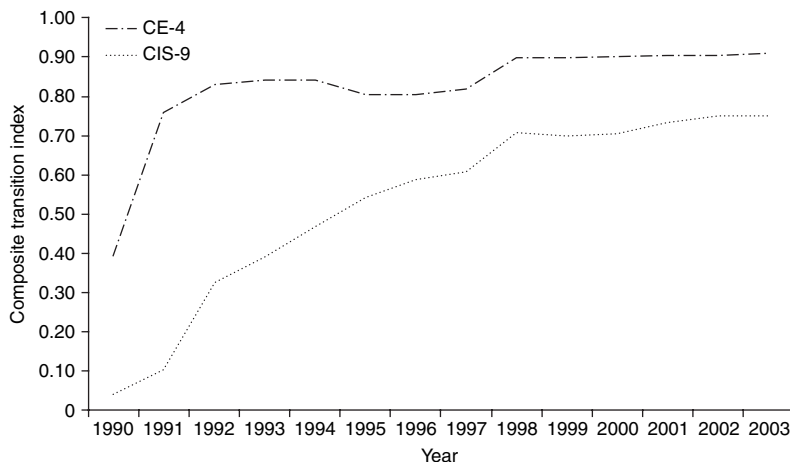
Sources: De Melo, Denizer, and Gelb 1997; Havrylyshyn and Wolf 1999, p. 34; Åslund 2002; EBRD 2001, pp. 12, 14; EBRD 2002, p. 20; EBRD 2003, p. 16.

commodities, allowing the CIS countries to boost their exports in spite of stagnant EU markets and EU protectionism. The expansion was driven by supply rather than demand, as evident from the failure of all forecasts based on demand to predict the CIS resurgence. Although only four of twelve CIS economies were significant energy exporters (Azerbaijan, Kazakhstan, Russia, and Turkmenistan), growth rates across the CIS were similarly strong. Commodity-poor Armenia has registered the highest growth rate. Nonetheless, to check the effect of major energy exports, we introduce a dummy for the three major energy exporters in our sample (Azerbaijan, Kazakhstan, and Russia).

The export boom has been followed by increased investment, as would be expected, which has further reinforced the economic growth. Much of the growth in Azerbaijan and Kazakhstan has been spurred by extremely high foreign direct investment (FDI), which has been motivated by potential oil production.

It is generally acknowledged that countries with a lower level of economic development, everything else being equal, grow faster than wealthier countries. Thus, one would expect the CIS countries to grow faster than the Central Europeans after they have caught up somewhat with regard to transition reforms. However, this "laggard effect" would hardly explain a difference of more than 1 to 2 percent annual growth between these two groups of countries (Åslund and Warner 2004). The laggard effect measured against GDP per capita in purchasing power parities (PPP) must be assessed.

Clearly, additional factors are needed to explain a steady difference in economic growth of over 4 percentage points each year for half a decade. One possibility is that this is simply recovery growth, and that the main explanation is the huge unused capacity in many post-Soviet economies after an official decline in output of about half of GDP, as especially Yegor Gaidar (2005) has argued.

However, striking systemic differences have developed in recent years. Most conspicuously, the CIS countries have drastically cut their public expenditures to about one-fifth less as a share of GDP than in Central Europe, where it turned out to be possible to collect quite high taxes and international financing has remained accessible. This implies that economic freedom has increased in the CIS countries in a fashion that is not captured by the EBRD transition indicators. A simple plot of growth against government expenditure as a share of GDP points to a negative correlation between these variables (see figure 4). Although care should be exercised when interpreting this type of graph, more accurate regression analysis below confirms the strong negative association between growth and government spending. Thus, public expenditures appear a plausible explanation of the observed differences in economic growth between Central European and CIS economies.

Similarly, the CIS has adopted a low-tax regime, while Central Europe has taken only limited steps in that direction as yet. Low and flat taxes are proliferating in the East, while most of Central Europe still has comparatively high and progressive income taxes. Russia has had a flat income tax of 13 percent since 2000, and Ukraine since 2004. Admittedly, the Slovak Republic chose a flat income tax of 19 percent in 2004 and Romania one of 16 percent in 2005, as tax competition stings, but Poland still has progressive taxes peaking at 40 percent. Corporate profit taxes are declining in

FIGURE 4. Public Expenditure and Growth in CIS-11, CE-4, and Baltic-3, 1999–2004
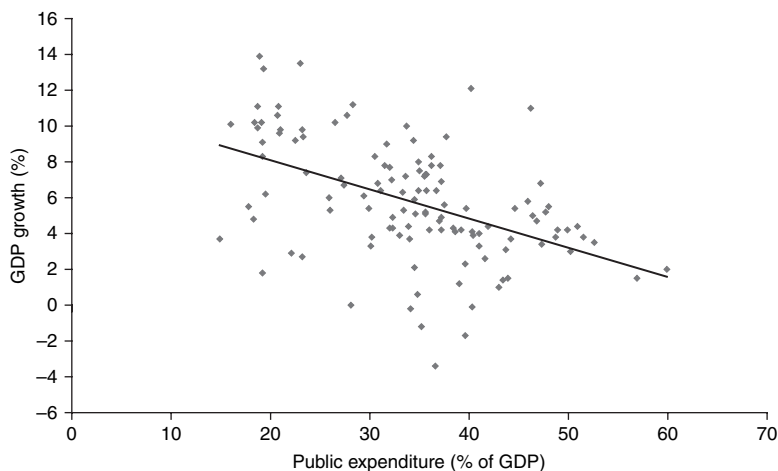
Source: EBRD (various years).

the whole region, but payroll taxes are being reduced much more in the CIS than in Central Europe.

In addition, Central European countries have developed a habit of running budget deficits of about 6 percent of GDP, while the CIS countries have nearly balanced budgets, with an average budget deficit of barely 1 percent of GDP for the last half decade (EBRD 2004).

The CIS countries also have de facto freer labor markets than the Central European countries. Unfortunately, no easy measure is at hand, and this is another aspect of economic freedom in the CIS countries that the EBRD transition indicators ignore. The same could be said about agricultural policies.

While growth and democracy were nicely correlated in the 1990s, we see an opposite picture after 1998. A simple plotting of growth against a Freedom House democracy index suggests a negative correlation between these two indicators. The CIS countries, which are by and large authoritarian, have grown faster than the democratic countries in Central Europe.

But what lies behind this? Have the Central Europeans just relaxed, while the CIS governments were shaken up by the Russian financial crash of 1998? The EU is probably part of the explanation. The first parts of the common legislation, the *acquis communitaire*, were undoubtedly useful, helping to build market institutions, while the last parts included new regulations such as the Common Agricultural Policy. It is also possible that the old idea of authoritarian advantage has some relevance when the main risk to economic development becomes popular pressures for regulation of labor markets in favor of insiders and excessive taxes on the rich to the benefit of social transfers for the majority. The dominant risk during the first decade was rent-seeking by elites, which was best checked by democracy.

As before, neither human capital nor technology is likely to have had much impact on growth, as free resources have remained ample.

Regression Analysis, 1999–2004

Specification

To investigate more accurately the relative contribution of the major factors discussed above to the differences in growth between the CEE and CIS countries, we estimate the following panel data model:

$$
\begin{cases}
y_{ti} = \alpha + \beta_1 \left(\dfrac{G}{GDP} \right)_{ti} + \beta_2 GDP_{t-1,i} + \beta_3 \left(\dfrac{I}{GDP} \right)_{ti} + \gamma_1 Oil_i + \gamma_2 Corrup_i + \gamma_3 CIS_i + \lambda_t + u_{ti}; \\
u_{ti} = \mu_i + v_{ti}, \ t = 1, \ldots, T; \ i = 1, \ldots, N;
\end{cases}
$$

where the dependent variable, y_{ti}, is annual GDP growth rate for country i in year t. There are six explanatory variables:

1. $(G/GDP)_{ti}$, government expenditure as a share of GDP

2. $GDP_{t-1,i}$, lagged per capita GDP (in logs), to control for the "catch-up" effect

3. $(I/GDP)_{ti}$, fixed investment as a share of GDP, a measure of the physical capital

4. *Oil*, oil-producing country dummy, to account for the effect of surging energy exports

5. $Corrup_i$, a corruption index, a proxy for the quality of the political institutions

6. *CIS*, regional dummy.

The CIS dummy serves as a proxy for the distance from the European Union and stands in for other time-invariant, structural factors that differ between the CEE and CIS regions, such as labor market regulation. We control for common shocks reflecting global and regional economic conditions by including fixed-year effects, λ_t. The error term is composed of two parts: μ_i, an unobserved individual effect; and v_{ti}, an idiosyncratic component.

Unlike the standard growth literature, our regression does not include any measures of human capital, since all postcommunist countries enjoy relatively high levels of education, which do not vary considerably across countries and over the sample period, and hence cannot explain the observed variation in growth. Nor does it contain specific labor market indicators, since the data, even when they are available, are plagued with severe measurement errors.

Moreover, as it is now recognized in the econometric literature, simply increasing the number of right-hand-side variables in growth regressions is unlikely to take away the omitted variables bias problem. Therefore, we do not here strive for the maximum generality and completeness of explanatory variables but rather focus on a few principal variables and robust ways of evaluating their impact.

The error-component specification is well-suited for this purpose. It allows us to exploit variation both across countries and over time, as well as to reduce the omitted variables bias. For instance, any differences in human capital across countries are captured by country-specific effects.

Data

Our sample consists of observations for twenty transition economies—eleven CIS countries, three Baltic states, and six Central European and South-East European countries—over the period from 1999 to 2004. The GDP per capita (PPP) data comes from the World Bank's 2005 *World Development Indicators* (WDI) report (World Bank 2005). The annual GDP growth rate and government expenditure data are drawn from the 2004 EBRD *Transition Report*. Investment figures are from the UNECE databases. Finally, we use the corruption perception index scores constructed by Transparency International (2006). Higher scores correspond to lower levels of perceived corruption. The indicator displays little variation over time, and therefore the period averages, rather than individual year estimates, enter the regression. All the data are expressed in terms of ratios obviating the need to control for population and country sizes.

Estimation Procedure

There are two major possible sources of estimation bias. The first is that lagged GDP per capita, investment, and government spending are likely to be correlated with the unobserved individual effects. The other is the potential endogeneity of investment and government spending—that is, investment and government spending—may be correlated with the contemporaneous idiosyncratic error term.

We first estimate the model with the fixed-effects procedure, commonly used in panel data regressions. This technique is robust to the presence of correlation between regressors and unobserved individual effects, as it removes the country-specific effects by subtracting time averages before applying the OLS procedure. However, it does not take care of the second problem. Another shortcoming of the method is that it cannot consistently estimate coefficients on time-*invariant* regressors such as *Oil, CIS,* and *Corruption.* Nevertheless, it provides a useful benchmark for the time-varying regressors.

An alternative strategy that addresses both estimation concerns is to difference the regression and then estimate jointly the transformed equation and the equation in levels with the two-step efficient general method of moments (GMM) procedure proposed by Arellano and Bover (1995). In this procedure, investment and government spending are instrumented with their second lags. The GMM estimator is consistent, asymptotically normal, and invariant to the choice of transformation.

Results

Overall, the regression results support our main predictions. Government spending and energy exports are the key to explaining the differences in growth in the transition countries. Economic regulation and corruption seem to have moderate impact, while the laggard effect and investment seem to play a negligible role.

Table 1 summarizes the findings. Column 1 reports the fixed-effects method estimates. Column 2 presents the GMM estimates. We carried out a series of sensitivity checks using different right-hand-side variables. One of them incorporates potential

TABLE 1. Regression for GDP Growth Rate

| Explanatory variable | Fixed effects (1) | General method of moments (GMM) | |
		No spillovers (2)	Spillovers (3)
Constant	n.a.	0.089	0.084
		(0.065)	(0.133)
G/GDP	−0.229*	−0.136*	−0.138*
	(0.087)	(0.044)	(0.058)
Lagged GDP per capita	−0.165	−0.009	−0.007
	(0.112)	(0.017)	(0.017)
I/GDP	0.075	0.047	0.042
	(0.068)	(0.057)	(0.057)
Oil	n.a.	0.024*	0.025*
		(0.012)	(0.012)
Corruption	n.a.	0.008	0.008
		(0.005)	(0.005)
CIS	n.a.	0.015	0.015
		(0.015)	(0.015)
Year 2000	−0.010	−0.004	−0.004
	(0.006)	(0.004)	(0.004)
Year 2001	0.000	0.002	0.002
	(0.005)	(0.004)	(0.003)
Year 2002	0.003	0.001	0.001
	(0.005)	(0.005)	(0.004)
Year 2003	0.019*	0.014*	0.014*
	(0.006)	(0.004)	(0.004)
Year 2004	0.029*	0.019*	0.019*
	(0.008)	(0.005)	(0.005)
Spillovers			0.001
			(0.034)
$\overline{R}^2$	0.69	0.51	0.51

Source: Authors' calculations.

Note: Robust standard errors are shown in parentheses. Sample size is 120. n.a. = not applicable.

* Significant at 5 percent.

spillovers from neighboring countries. We re-ran the GMM regression by adding the weighted average of the log per capita GDP for a country's neighbors and big trading partners. The results are shown in column 3.

Throughout all the regressions, the coefficient on the government expenditures is negative and strongly significant. It is significant at 1 percent level in the fixed effects and GMM regressions, shown in columns 1 and 2, and is significant at 5 percent in the regression with spillovers. Not only does it have the predicted sign but it has also the largest effect, in terms of magnitude, among all the variables entering the regression. The estimate implies that a reduction of 1 percent of GDP in government spending, everything else being equal, gives rise to about a 0.14 percent increase in the GDP growth rate.

As anticipated, energy exports boost growth. The coefficient on *Oil* is positive and significant at 5 percent level. The distance from the EU seems also to have a positive effect on growth, as suggested by a positive coefficient on *CIS*.

The coefficient on corruption, which proxies for the quality of institutions, is positive and marginally significant, indicating that low levels of corruption are associated with higher growth. This is consistent with the preceding finding about a negative correlation between government spending and growth, since high government spending, as a rule, goes hand in hand with high corruption.

The laggard effect does not appear to be a major factor accounting for the big gap in the growth rates. The coefficient on lagged GDP per capita has a negative sign, but it is not statistically significant.

Nor do these regressions reveal a significant relationship between investment and growth, though the estimated coefficient is positive. One possible explanation is that most postcommunist countries started transition with high initial levels of physical capital. Therefore, the marginal effect of additional investment is small. Another explanation is that it takes time for improvements in investment to translate into growth, and the time series is simply too short to detect any stable relationship between the two variables. However, some previous studies using longer series for a larger country sample also obtained insignificant estimates (see Barro and Sala-i-Martin 2004).

The effect of spillovers from neighboring economies turns out to be statistically insignificant. The weights are constructed based on geographic distances between countries. Though not perfect, this weighting system accounts reasonably well for economic linkages between countries, such as trade and the costs of transporting goods.

Most of the CIS countries, especially the oil-exporting states, enjoy considerably lower internal energy prices than the CEE economies. The sizeable energy price differentials across the two regions are therefore deemed by some analysts to be the leading explanation of the observed growth differences. To test this hypothesis, we reran the same regressions with an additional explanatory variable: internal gasoline prices in each of the sample countries. Gasoline prices serve as a proxy for domestic energy prices. Although we do not report here the estimates for those regressions because of some data problems, the preliminary estimates, nevertheless, suggest that our main results are robust to the inclusion of energy prices. It affects neither the sign nor the significance of the coefficients. Moreover, the magnitudes of the coefficients on the major explanatory variables such as government expenditure, oil, corruption, and lagged GDP do not change or change only negligibly. Thus the lower internal energy prices do not seem to be a major source of vigorous growth in the CIS region.

A substantial literature on economic growth and the size of the state exists, but it contains no agreement. La Porta and others (1999) showed with empirical material from 200 countries that bigger government is usually better, but such a regression does not say anything about causality. The Scandinavian countries had very small and efficient states in the1930s, which were therefore allowed to grow, for instance. Moreover, corruption takes a long time both to develop and to dwindle (Treisman 2000).

The postcomunist region offers a particular starting position of states that are both large and highly corrupt. Our regression suggests that with those initial conditions, a sharp reduction in public expenditures is the best way of boosting economic growth. Naturally, it would be desirable to reduce corruption swiftly, but knowledge and capability of how to do so are very limited. Yet we do know that corruption usually falls with rising income.

It should be emphasized that the postcommunist state was no average state but extreme in most regards. First of all, by any measurement it was much larger than the state in other countries at that level of development, whether measured in terms of taxation, public distribution, degree of regulation, or share property owned by the state. As a natural consequence, it was less subject to checks and balances than in most other states and it was severely overstretched. Second, the postcommunist state was pretty parasitical. It did the wrong things, hindering economic development rather than promoting it, while anti-socially redistributing from the poor to the rent-seeking elites (Milanovic 1998; Hellman 1998). Third, the postcommunist state was ineffective and inefficient because of a high degree of corruption in comparison with other states (Transparency International 2006). Thus, regardless of what one may think of the role of the state in general, in postcommunist countries it would be rather surprising if economic growth would not be boosted by a reduction of the size of the state by any measurement. Some of the transition indicators measure the role of the state in regulation and ownership. We suggest adding the redistributive function of the state.

Conclusions

The main conclusion arising from our analysis of economic growth in the postcommunist region since 1999 is that the sharp rise in the growth rate in the CIS countries can mainly be explained by a drastic reduction in public spending and budget deficits in these countries. A second explanation is unsurprisingly that growth has been boosted by the commodity boom on world markets.

Contrary to common views, the impact of the laggard effect is not conclusive from our regression. The coefficient on the lagged per capita GDP is negative, but statistically insignificant. Growth in the CIS countries is tempered by higher corruption than in Central Europe, which is also born out by the regressions, though it is only marginally significant. Greater distance from Brussels also seems to have a positive effect on growth.

In effect, the CIS countries have adopted the highly successful East Asian growth model—lock, stock, and barrel—while the less dynamic Central European countries have adopted the EU model, which has not been conducive to high economic growth, even if some countries—mainly Ireland, the three Baltic countries, and the Slovak Republic—have managed to go against the current. That one model is generally superior does not mean that all its parts are superior. Depressingly, the CIS countries that have generated impressive growth are largely authoritarian.

International institutions designed to promote growth in the postcommunist world, notably the World Bank and the European Bank for Reconstruction and Development (EBRD), need to incorporate these insights in their advice. For years, the EBRD has shown how Central Europe has scaled its transition indicators, but it fails to explain why Central Europe has only achieved a growth rate of 3–4 percent in recent years. By contrast, Janos Kornai (1992) noticed that the Central European states had developed a premature Western European social welfare system. This has turned out to be a social welfare trap with Western European tax rates, social transfers, and labor market regulations. These countries' membership in the EU has reinforced these negative features and reduced their inclination to reform. Meanwhile, they are ignoring the Maastricht restriction that is supposed to limit budget deficits to 3 percent of GDP, maintaining steady budget deficits on the order of 6 percent of GDP.

The obvious conclusion is that high public expenditures and taxes are bad for economic growth—at least in the postcommunist countries, saddled with excessively large governments of poor quality. Unsurprisingly, liberal economic policy or greater economic freedom does promote economic growth. Consequently, international financial institutions should advocate cuts in public expenditures in postcommunist countries with poor growth.

Notes

1. Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine, and Uzbekistan. Turkmenistan is excluded because of its extremely poor and unreliable statistics. All averages used here are unweighted because we are interested in the comparative performance of the different countries. If weighted averages were used, we would be preoccupied with the relative performance of Poland versus Russia, since these economies dominate in their respective regions.
2. See Åslund, Boone, and Johnson (1996); Berg (1994); Berg and others (1999); Christoffersen and Doyle (2000); De Melo and Gelb (1996); De Melo, Denizer, and Gelb (1997a), De Melo, Denizer, Gelb, and Tenev (1997b); EBRD (1999); Fischer and Sahay (2000); Fischer, Sahay, and Végh (1996a, 1996b, 1997); Havrylyshyn and Wolf (1999); Popov (2000); Sachs (1996); Selowsky and Martin (1996).
3. Illarionov presented his findings in a lecture at the Higher School of Economics on April 3, 2002 and many times elsewhere.
4. We ignore Turkmenistan because of its substandard statistics.

References

Arellano, Manuel, and Olympia Bover. 1995. "Another Look at the Instrumental Variables Estimation of Error-Components Models." *Journal of Econometrics* 68: 30–51.

Åslund, Anders. 2002. *Building Capitalism: The Transformation of the Former Soviet Bloc.* New York: Cambridge University Press.

Åslund, Anders, and Andrew Warner. 2004. "The EU Enlargement: Consequences for the CIS Countries." In *Beyond Transition: Development Perspectives and Dilemmas,* ed. Marek Dabrowski, Ben Slay, and Jaroslaw Neneman, 231–52. Aldershot: Ashgate.

Åslund, Anders, Peter Boone, and Simon Johnson. 1996. "How to Stabilize: Lessons from Post-Communist Countries." *Brookings Papers on Economic Activity* 26 (1): 217–313.

———. 2001. "Escaping the Under-Reform Trap." *International Monetary Fund Staff Papers*, Special Issue.

Barro, Robert J., and Xavier Sala-i-Martin. 2004. *Economic Growth*, 2nd ed. Cambridge, Mass.: MIT Press.

Berg, Andrew. 1994. "Supply and Demand Factors in the Output Decline in East and Central Europe." *Empirica* 21 (1): 3–36.

Berg, Andrew, Eduardo Borensztein, Ratna Sahay, and Jeronim Zettelmeyer. 1999. "The Evolution of Output in Transition Economies: Explaining the Differences." Working Paper WP/99/73, International Monetary Fund, Washington, DC.

Bruno, Michael, and William Easterly. 1998. "Inflation Crises and Long-Run Growth." *Journal of Monetary Economics* 41: 3–26.

Christoffersen, Peter, and Peter Doyle. 2000. "From Inflation to Growth: Eight Years of Transition." *Economics of Transition* 8 (2): 421–51.

De Melo, Martha, and Alan Gelb. 1996. "A Comparative Analysis of Twenty-eight Transition Economies in Europe and Asia." *Post-Soviet Geography and Economics* 37 (5): 265–85.

De Melo, Martha, Cevdet Denizer, and Alan Gelb. 1997. "From Plan to Market: Patterns of Transition." In *Macroeconomic Stabilization in Transition Economies,* ed. Mario I. Blejer and Marko Skreb, 17–72. New York: Cambridge University Press.

De Melo, Martha, Cevdet Denizer, Alan Gelb, and Stoyan Tenev. 1997. "Circumstance and Choice: The Role of Initial Conditions and Policies in Transition Economies." Policy Research Working Paper 1866, World Bank, Washington, DC.

EBRD (European Bank for Reconstruction and Development). 1999. *Transition Report 1999.* London: EBRD.

———. 2001. *Transition Report 2001*. London: EBRD.

———. 2002. *Transition Report 2002*. London: EBRD.

———. 2003. *Transition Report 2003*. London: EBRD.

———. 2004. *Transition Report 2004*. London: EBRD.

———. 2005. *Transition Report 2005*. London: EBRD.

Fischer, Stanley, and Ratna Sahay. 2000. "The Transition Economies after Ten Years." Working Paper 30, International Monetary Fund, Washington, DC.

Fischer, Stanley, Ratna Sahay, and Carlos A. Végh. 1996a. "Stabilization and Growth in Transition Economies: The Early Experience." *Journal of Economic Perspectives* 10 (2): 45–66.

———. 1996b. "Economies in Transition: The Beginnings of Growth." *American Economic Review* 86 (2): 229–33.

———. 1997. "From Transition to Market: Evidence and Growth Prospects." In *Lessons from the Economic Transition: Central and Eastern Europe in the 1990s,* ed. Salvatore Zecchini, 79–101. Norwell, Mass.: Kluwer.

Gaidar, Yegor T. 2005. *Dolgoe vremya (The Long Term).* Moscow: Delo.

Havrylyshyn, Oleh, and Thomas Wolf. 1999, "Growth in Transition Countries. 1991–1998. The Main Lessons." Paper presented at the conference, "A Decade of Transition," International Monetary Fund, Washington, DC, February 1–3.

Hellman, Joel S. 1998. "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions." *World Politics* 50: 203–34.

Johnson, Simon, Daniel Kaufmann, and Andrei Shleifer. 1997. "The Unofficial Economy in Transition." *Brookings Papers on Economic Activity* 27 (2): 159–239.

Kornai, Janos. 1992. "The Postsocialist Transition and the State: Reflections in Light of Hungarian Fiscal Problems." *American Economic Review* 82 (2): 1–21.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 1999. "The Quality of Government." *Journal of Law, Economics and Organization* 15 (1): 222–79.

Milanovic, Branko. 1998. *Income, Inequality, and Poverty during the Transition from Planned to Market Economy.* Washington, D.C.: World Bank.

Orlowski, Lucjan. 1993. "Indirect Transfers in Trade among Former Soviet Union Republics: Sources, Patterns and Policy Responses in the Post-Soviet Period." *Europe-Asia Studies* 45 (6): 1001–24.

———. 1995. "Direct Transfers between the Former Soviet Union Central Budget and the Republics: Past Evidence and Current Implications." *Economic Planning* 28 (1): 59–73.

Popov, Vladimir. 2000. "Shock Therapy versus Gradualism: The End of the Debate." *Comparative Economic Studies* 42 (1): 1–57.

Rosati, Dariusz K. 1995. "The Impact of the Soviet Trade Shock on Central and East European Economies." In *Output Decline in Eastern Europe: Unavoidable, External Influence or Homemade?* ed. Robert Holzmann, G. Winckler, and János Gács, 131–59. Boston: Kluwer.

Sachs, Jeffrey D. 1996. "The Transition at Mid Decade." *American Economic Association, Papers and Proceedings* 86 (2): 128–33.

Selowsky, Marcelo, and Ricardo Martin. 1996. "Policy Performance and Output Growth in the Transition Economies." *American Economic Review* 87 (2): 349–53.

Tarr, David G. 1994. "The Terms-of-Trade Effects of Moving to World Prices on Countries of the Former Soviet Union." *Journal of Comparative Economics* 18 (1): 1–24.

Transparency International. 2006. "Corruption Perceptions Index." http://transparency.org/ policy_research/surveys_indices/cpi/2006.

Treisman, Daniel S. 2000. "The Causes of Corruption: A Cross-National Study." *Journal of Public Economics* 76: 399–457.

UNECE (United Nations Economic Commission for Europe). 2000. *Economic Survey of Europe*, No. 1. New York: United Nations.

World Bank. 2005. *World Development Indicators*. CD-ROM. Washington, DC: World Bank.

Keynote Address

The Transition of Economics: The Cases of Israel and Russia

GUR OFER

The announced topic for this address is "Transition in Economic Thinking." The "advanced search" engine of Google provides the client with the following options:

With all the words
With the exact phrase
With at least one of the words
Without the words

Originally I thought that there was a mistake and that Boris Pleskovic wanted me to talk about "thinking about economics in transition." I then considered talking about "economic transition in thinking" or "economic thinking in transition." My final choice fell on "The Transition of Economics: The Cases of Israel and of Russia." This is the option of "some of the words but a few additional ones."

In a paper on the transfer of modern economics to Russia via the New Economic School (NES) that I presented at a recent conference in Budapest (Ofer 2007), I eluded to what I considered to be a somewhat similar case—for me, certainly a model to follow—when I found myself deeply engaged in the NES project. It so happened that in December 2005 the economics community in Israel gathered to remember Don Patinkin and to mark the tenth anniversary of his death. Among others, people discussed his role, how he single-handedly established modern economics in Israel. It so happened that Patinkin came to teach at NES in its first year and then came back for another two; he died just a few months later in 1995.

NES (or in Russian, RESH, the Russian Economic School), a graduate school of economics, was established in Moscow in 1991 by a group of economic professors from Russia and the West. Its goal was to introduce modern economics to Russia, to train academic and professional economists along the teachings of Western economics, in order to meet the requirement of the transition to a market economy. NES opened its gates in the fall of 1992 and since then has graduated more than 400 economists in a two-year masters—indeed, graduate—program, along a curriculum

similar to that in the leading U.S. universities (but without PhD work). Teaching during the first years was performed almost entirely by visiting professors from the West, including from the Hebrew University of Jerusalem, but an indigenous faculty was gradually developed, made from Russians who came back with PhD degrees from the West, among them graduates of NES, and a small number of domestic professors who trained themselves in modern economics. Today NES has a domestic faculty of 15 who run the school and conduct most of the teaching. NES is run as a Western university, with a tenure track appointment system based on publications in leading Western journals. Policy-oriented work on Russia and on transition is concentrated mainly in CEFIR, the Center of Economics and Financial Research, a think tank at NES.[1]

A number of papers at the end of the last century described and analyzed the spread of modern economics in a great number of countries.[2] Ofer (2007) mentions some similarities and differences between these experiences and the NES project. The Israeli experience, which in many ways seems to be more similar to that of NES, was not included in the above-mentioned volumes;[3] therefore I thought it appropriate to present it today. The similarities and differences between the two experiences— one already completed, and with great success, and the other, that of Russia and NES, on its second stretch, following a successful while challenging first stage of mountain climbing—justify in my view spending a few minutes on looking into the Israeli experience in greater detail while keeping an eye on the Russian experience so far. The memory of Don Patinkin and the more relaxed atmosphere around lunch tables add justification to this choice. Let me start then with the story of the transfer of modern economics into Israel.

The Introduction and Development of Modern Economics in Israel[4]

The Hebrew University was established in 1925, mostly by a group of professors who came to Palestine from East and Central Europe (Germany), but also a few from the United States. They adopted the continental model of higher education. Albert Einstein was the keynote speaker at the opening ceremony on Mount Scopus. The university did not have a faculty of social sciences until after World War II, let alone a department of economics: this, despite efforts to establish one since the 1930s. A few courses in social sciences, including statistics, the economics of the Middle East, and history of economic thought, mostly in a Marxian vein, were taught under the umbrella of the faculty of humanities. A number of candidates to fill the gap in "theoretical economics" were considered over the years both from Western Europe and from the United States, among them Abba Lerner. The highly respectable Senate of the Hebrew University, with figures like Martin Buber, was faced with a difficult choice. Established scholars refused to commit (you can imagine the poor state of Palestine and the Hebrew University during that period, as well as the very low level of the salaries offered, not to speak about tenure) and young scholars presented a great risk.

Following much hesitation, a position was offered to a fresh PhD from Chicago, in his twenties, with strong Jewish and Zionist attachments. His name was Don Patinkin,

unknown in the field, but "very promising" according to a letter by Jacob Marschak, who included in his list of potential candidates Abba Lerner and even Paul Samuelson. In addition to hesitations on the basis of his young age, the Senate was also worried about the fact that the work of Patinikin was highly mathematical, and thus unfit for the needs of an undeveloped country. The Senate finally assured itself that "since he is young he can still be flexible enough to accommodate the needs of the university (defined as "political economy of Palestine and the Middle East").

Patinkin came in 1949, at the age of 27 and initiated the development of a new curriculum and department. He acted in three main directions. First, he assembled a group of current students to be sent for PhD studies in the West (the United States and England) with the hope that they would come back and form the new department. Second, he developed and wrote down lecture notes for new courses, the most important of which was the now legendary Ec. 1 (introduction to economics), following the emerging "Chicago tradition." Until the new faculty came, he taught almost single-handedly both undergraduate and graduate courses. Finally, he took steps to establish an infrastructure for the study of and research on the Israeli economy.

Patinkin's economics, brought from Chicago, was the analytical positivistic version of "neoclassical economics" and it came to replace both the old continental version of "institutional economics" as well as the "political economy" concentrated mostly around the teaching of Marx. It is significant that the Hebrew University made simultaneous efforts during the early 1950s to establish a chair for "labor and the cooperation movement" following socialist teaching. Indeed, the topic was taught for a few years. It has to be remembered that the political leadership during the first three decades of Israel was in the hands of labor parties, among them Marxist parties with strong connections to the Soviet Union, and that the economic system was highly interventionist, even "Etatist," and it supported a high level of equality and of redistribution (not much to redistribute then). The notion of "economic efficiency" that was divorced in principle from considerations of the redistribution of income and wealth and that could be shown to work in conditions of "perfect competition" and "free markets" was clearly novel and challenging (see more on these below). No less challenging and novel were the concepts of "shortage," "alternative costs," "marginal costs," "utility," and many others. The Chicago school and indeed Patinkin himself devoted much effort to demonstrating that markets can eliminate unemployment without government intervention, as claimed and articulated by Keynes.

The method of teaching was by solving problem sets by students ahead of the discussion in class. At least under Patinkin, most of the time in class was devoted to going through the solutions. This was in contradiction to the continental method of reading lectures by the professors and reciting them for the exams. To this day, there are assignments of weekly problem sets in most courses. To be counted, homework had to be handed in by students before classes. A story tells of a student who was late and went to Patinkin's home to deliver his problem set before class. When a youngster opened the door, our student asked him if he would be so kind as to hand the assignment to his father. Needless to say, the youth was Don Patinkin himself.

A side but important issue was that of the language of teaching. None of the above terms, and hundreds of others, existed in biblical Hebrew and they had to be invented. Teaching in English was out of the question for the old-young nation that had just established its national independence in the land of Israel. A few years later a major publishing house rushed to translate Samuelson's text and it had to be scrapped, as nobody could understand the meaning of the new invented terms. It had to be retranslated using the language developed slowly in Patinkin's classrooms. (He himself struggled hard to express himself in Hebrew.) While most of the readings, Samuelson excepted, were in English, English literacy of the students has remained a problem to this day. The level of English teaching in high schools had been mixed at best, and many students graduated, even some with a master's degree, with no ability to continue to read economics in English. As the English language is the language of economics no less than mathematics, this state is a formula for a fast depletion of the human capital of professional economists.[5]

The American pattern of combining teaching and research, imported from nineteenth century Europe and perfected later, was also transferred to Israel. Research was pursued in two directions: general research in economics, directed at the global community of economists via Western refereed journals, sabbatical leaves, conferences, and the like; and research, much of it policy-oriented, on the main issues of the Israeli economy. Patinkin provided a personal example for both. On top of the heavy burden of teaching a number of courses and running the department, he continued to produce first-rate theoretical research, which culminated in the mid 1950s with the publication of his *Money, Interest and Prices* (1965), a work that came close to getting him the Nobel Prize. Since most of the young faculty members who joined the department during the 1950s completed their PhD work in the West, they also were trained and motivated to publish abroad.

Work on the Israeli economy was considered by Patinkin to be no less, and possibly even more important: especially the application of modern economics to the grave problems of the Israeli economy at that stage. While some infrastructure in terms of data was inherited from the pre-state period and the British Mandate, a systematic system of national accounting and related data had to be built from nearly scratch—let alone dealing with the economic consequences of the mass migration, reconstruction, and economic development. Patinkin initiated the establishment of a research center devoted to the Israeli economy, invited experts from abroad to set it out, including Simon Kuznets, and encouraged members of the department and graduate students to join in and devote time to it. He himself, a theoretical macroeconomist (remember, with mathematical inclinations), left for a year of study at Johns Hopkins University (with Kuznets) to train himself in economic development, national accounting, and the like. Upon returning, he became the academic head of the Falk Institute and devoted much time to study, write, and direct research on the Israeli economy. Following a number of basic studies on the Israeli economy by himself and other young faculty members, Patinkin published the now classic study *The Israeli Economy: The First Decade* (1959). A Hebrew language journal, *The Economic Quarterly,* was established in 1953 as the main arena for works on the

Israeli economy. While faculty members contributed papers, despite what was said above, they were seldom considered for promotion purposes.

The above raises the issue of the appropriate balance between outside and inside orientation of the academic work. In principle, openness and the participation in the global academic research and interaction is the necessary condition for productive research and policy work on the Israeli economy. The question is about the balance. Early on there was a discussion on whether or not to establish a full-blown Israeli academic journal in English for refereed academic papers. It was decided not to follow this path, in order to encourage faculty members to publish abroad. A related preference, relaxed only partially in later years, was to send the best students for PhD work abroad. All these decisions resulted in less academic work on the Israeli economy over the years by faculty members, which drew significant criticism. This, however, was assumed to be compensated, at least partially, by the high level of general academic work and the ability of faculty members to provide and disseminate the theoretical foundations and developments in economics in general to the expanding community of professional economists working on the Israeli economy across the country. Later on, however, the partial dichotomy between theoretical economics and policy-oriented research on the Israeli economy was considerably bridged over when the experience in Israel in the areas of macroeconomics, indexing and living with and control of inflation, as well as with economic growth and migration, became the topics of high-level academic work published in first-rate journals. In addition, leading academic economists served all along as chairs and members of key public commissions that initiated important reforms in the Israeli economy, most notably the stabilization plan of 1985 that ended a period of dozen years of high inflation and no growth, and steered the Israeli economy back to a path of economic growth.

The development of the economics faculty at the Hebrew University, the only one in Israel in the 1950s, was rather slow. By the early 1960s, the faculty had grown to about ten members, mostly upon coming back from studies abroad—and indeed, most did come back. Growth was much faster during the 1960s, when the Hebrew University was also involved in the establishment of additional departments of economics in other universities. Per contra, the number of graduates increased faster and they assumed mid-level positions in the government, the ministry of finance, the central bank, the Central Statistical Office, other government offices, and public and private institutions. They were known as "Patinkin boys" and they improved the level of economic analysis and work at mid levels, though not immediately the major aspects of economic policy (see more on this below).

Quantitatively, there are today seven university-level departments of economics, including many research and policy centers devoted to economic theory, as well as to the Israeli economy, a similar number of business schools, with thousands of students, tens of thousands of graduates occupying almost all the positions for economists, including at the top of government, public, and private institutions. Furthermore, many of Patinkin's descendants, boys, grandchildren, etc. . . conduct research and perform high-level policy work on all aspects of the Israeli economy in a great number of academic and nonacademic institutions, notably the research

department of the Bank of Israel, at all major banks, government ministries, and private organizations. As mentioned, the initial tension or dichotomy between out-ward- and inward-looking economic work has been largely eased and bridged over.

Qualitatively, economics in Israel excels. It ranks high in terms of publication in top international journals and in the level of training of students. Israeli academic economists are invited for sabbatical years to the best universities in the West and top Israeli students are likewise admitted with full fellowships for PhD studies. Israeli academic economists served as the chief economists at the IMF and the World Bank and served as presidents of the International Economic Association. Many more academic economists than before have chosen to locate abroad, mostly in the United States, and most are highly esteemed. At the same time a significant number of academics and students from other countries (true, mostly Jewish) came to teach and study in Israeli universities and to work in Israel, including the new recruit to head the Israeli central bank. The so-called "brain drain" is therefore partially offset by brain gain in a variety of forms. Until recently there was little worry that brain drain could become a real threat, but cuts in the budgets for higher education and reluctance, mostly by the government, to engage in needed reforms may tilt the balance in that direction. True, the two (actually three) Israeli Nobel Prize winners in economics came from other spheres at the Hebrew University, but they clearly benefited from externalities of the economics department. Economics in Israel is clearly more advanced (and was advanced earlier) than in many continental countries, some much larger and all with a longer academic history in economics.

A word must be said about the nature and content of the economic policy agenda and advice by the economic community in Israel over the years. Indeed, this topic deserves a paper of its own. As mentioned, the Israeli economy, including during the pre-state period, was dominated by the public sector. It was the major entrepreneur of economic development as well as the owner of a significant share of the economy. In addition, there was a very high level of intervention in the economic activities of the private sector: price controls, heavy foreign trade taxation and exchange rate controls, heavy regulation, subsidization, and direct economic support; a very strong trade union; and a labor-dominated government. While economists could understand, even justify, this high level of government involvement at the start on the basis of what one would term a series of "market failures" and the need for a critical concerted effort for economic takeoff, they nevertheless fought for a more rational analysis and policy, on both the micro and macro levels. David Ben-Gurion, the founder of Israel and its first prime minister, claimed all along that economic laws do not apply to Israel. Later on, as the economy emerged from the deep crisis of the early 1950s, economists increased their pressure on the government to allow more openness, more competition, freer markets and less intervention, more respon-sible monetary and fiscal policies, and budgets with lower deficits. Progress in all these directions did take place over the years, with ups and downs, albeit at a much slower pace that seemed appropriate to the economists.

More recently, as Israel has become much more open and "liberal," questions about the appropriate teaching of economics and the policy implications have been

raised mostly by outsiders to the field, but for the first time also within the economic community. Among them: Is the "separation" between considerations of efficiency and redistribution as per the neoclassical teaching valid? Did the basic economic courses, especially Ec. 1, sufficiently emphasize the conditions under which markets are efficient and the prevalence and importance of market failures—and hence the need for government intervention and regulation? Is privatization always beneficial? How about globalization? Even more fundamental, are the assumptions about "*Homos economicus*" and personal utility maximization justified? Are they correct? Don't they increase the materialistic tendencies of society and reduce its level of solidarity? (That assumes at least some incorporation of the utility of others in one's own utility function.) In short, is there a degree of overkill in the way we teach economics? The least that economists should do is pay more attention to social issues. These claims originated to some extent from parallel developments abroad, but also from domestic processes, especially the trend of rising income inequality and the incidence of poverty, and the recent tendency of the government to somewhat limit its large redistributive role. A full discussion of these issues must be deferred. My feeling is that while economics as we study it on paper contains appropriate responses to most if not all these claims, there may be a need to better emphasize the balance of forces and the social neutrality of economics, at least in order to be more persuasive with other professions and groups in society.

Economics in Israel is a success story in terms of achievements and quality, and a near optimal balance between theory and policy, of being outward and inward looking, of becoming a respected member of the global community of economics, but also having significant influence in shaping the economic policy of Israel and sharing in its successes and problems.

Some Parallels with Russia and a Concluding Note

Is the Israeli experience a model for Russia, and for other transition countries? No two cases can be identical, but I am sure that you can see many potential parallels. As I mentioned above, this model served as a guide and inspiration to me when I got involved with others in the project of NES, of offering modern economics to Russia. The model and the original blueprints were of course modified by the collective knowledge and experience of the "founding fathers" of NES on the nature of the Soviet and the Russian economy and polity.

The problems faced by modern economics as it tries to make its way into Russia are discussed in great detail in Ofer (2007) and related works cited there. Many similarities are revealed; I trust that you can see them. Let me mention only a few. First, it could have been assumed that the resistance in Russia to the importation of modern economics would be stronger, despite the transition. Unlike in Israel, in Russia there was a well-established and entrenched field of "political economy." While the carpet was pulled out from under its feet, it did control the entire profession in the universities and institutes. Therefore, going through a flagship university

like Moscow State University, as was done in Israel with The Hebrew University, was out of the question.

Likewise, possibly it should have been assumed beforehand that there would be difficulties for NES to take part in policy work. It must be admitted that part of the hesitation and doubt at the start were not on the demand, but on the supply side: would the young economists, coming back to Russia or trained at NES, be able or willing to engage in Russian-oriented policy research and work? This fear was proved to be mostly misdirected. Rather, there was more resistance on the demand side. It also took quite a long time in Israel, but it seems to be further delayed in Russia, despite excellent policy work that is being done at CEFIR and NES. Gradually, this glass ceiling has been lifted and there is more and more listening as time goes on.[6]

The same is true about making more efforts on a national level to bring back professionals trained abroad and to reform the system of higher education. Israel has a special fund for this; in Russia it still has not happened. In Russia there also seems to be less enthusiasm, national and professional, with the new and fascinating experience that Russia has been going through following the fall of the communist regime, compared to Israel in its pioneering days. Back in 1991, when NES, as well as the High School of Economics, the Institute of Economic in Transition, the Leontief Center in St. Petersburg, and other schools and think tanks teaching and using modern economics were established, there seems to have been a different perception on what would happen, as compared with what really took place. Back in 1991 there was the assumption (or hope) and the enthusiasm that a new leadership would take over with ideas and plans about the economy in which projects like NES would fit in better. This did not fully materialize then, and nowadays there seems to be even a feeling of retreat. This current environment, political as well as economic, does not encourage people to come back to Russia. Hence one may expect, among other consequences, a larger loss of brain drain than was the case in Israel.

It may sound a bit paradoxical, but these eventualities, whether anticipated or not, emphasize two things: the importance of the continued development of entities like NES, and added justification of the strategic decision taken at NES to follow a policy of maximum openness, of study abroad, of intensive travel in both directions, and of joining the international economics profession by working in similar areas and publishing in leading journals; and, at the same time, of applying this modern economics to issues of Russia, aiming to reach a balance between the two, similar to the balance that was described earlier for Israel. Indeed, as in Israel, there are in Russia and in transition countries in general a number of topics of paramount significance to economics, like the new institutional economics and political economics that are being presented during the transition. The high proficiency in mathematics is also very important here.

Also, as in Israel, there are similar discussions and disagreements on the position of economics on issues of social justice and solidarity and on the right level of government intervention, openness, competition, and so on. While some demands for restraint and gradualism in the movement in these directions in Russia may be justified, there is the danger, as during the early period in Israel, that such demands might have been misinterpreted by the economic and political leadership and will be used adversely to retreat to unwarranted interventions.

Like Israel then, Russia needs modern economics and can gain from it more than established market economies. A basic change in the system was called for. Like Israel in its early years, Russia is in a potential position to compete successfully and move ahead of some of the countries on the continent that are changing very slowly to advance modern economics in their midst. With its high level of human capital and the advanced structure of the economy, Russia like Israel or even more, can become an important contributor to the advance of economics in general, and around the issues of transition in particular. In these two respects, the introduction of modern economics to Russia is different than that to most developing countries. A few Latin American countries and India may be exceptions.

We at NES try to contribute our small share to these developments.

Notes

1. More information about NES and its development is available in Ofer (2007) and the references there, and the Web site of NES, www.nes.ru.
2. See, among others, Portes (1987); Kolm (1988); Frey and Frey (1995); Coats (1996, 2000).
3. However, see Barkai 1993.
4. This section draws on the following: Liviatan (2007); Gross (2004, 2005); Barkai (1993); Michaeli (2005); Patinkin (1994).
5. A similar problem arose with the translation to Russian of a number of texts, including the second edition of Patinkin's *Money Interest and Prices* (1965). Faculty and students at NES had to struggle with an earlier draft with many problems. Also a number of returning PhDs hesitated to teach advanced courses in Russian for fear of lack of language. NES is encouraging teachers to offer courses in English.
6. Arkady Dvorkovich, a graduate of the first class at NES (class of 1994), was a deputy minister of economics and is now serving as the head of the presidential Experts' Directorate. Ksenia Eudaeva, also a graduate of the first class and a PhD from MIT, was just appointed the academic director of the Center for Strategic Research (the research center under the Ministry of the Economy that works on economic reform).

References

Barkai, Haim. 1993. "Don Patinkin's Contribution to Economics in Israel." In *Monetary Theory and Thought*: *Essays in Honor of Don Patinkin*, ed. Haim Barkai, Stanly Fischer, and Nissan Liviatan, 3–14. London: The Macmillan Press Ltd.

Coats, William, ed. 1996. *The Post-1945 Internationalization of Economics*. Durham, North Carolina and London: Duke University Press.

———. 2000. *The Development of Economics in Western Europe Since 1945*. Oxford: Routledge Publishing.

Frey, Bruno S., and Rene L. Frey. 1995. "Is There a European Economics?" *Kyklos* 48 (2) (special issue): 185–6.

Gross, Nachum. 2004. "The Economics Department at the Hebrew University during the 1950s" (in Hebrew). Discussion Paper 04.06, The Falk Institute, Jerusalem.

———. 2005. "Social Sciences at the Hebrew University until 1948/9: Plans and Beginnings." In *The History of the Hebrew University in Jerusalem: Establishment and Growth,* Volume A (in Hebrew), ed. Chagit Lavsky, 503–41. Jerusalem: Magnes Press of the Hebrew University.

Kolm, Serge-Christophe. 1988. "Economics in Europe and in the US." *European Economics Review* 32: 207–12.

Liviatan, Nissan. 2007. "Don Patinkin." In the *New Palgrave Dictionary of Economics*, 2nd edition, forthcoming.

Michaeli, Michael. 2005. "The Department of Economics at the Hebrew University: The Early Days from a Personal Angle" (in Hebrew). Mimeo.

Ofer, Gur. 2007. "Teaching and Research in Modern Economics in the Russian Federation: The Experience of the New Economic School." In *Capacity Building in Economic Education and Research*, ed. François Bourguignon, Boris Pleskovic, and Yehuda Elkana, 51–74. Washington, DC: World Bank.

Patinkin, Don. 1965. *Money, Interest and Prices*. 2nd ed. Evanston, Illinois: Row Peterson.

———. 1959. *The Israeli Economy: The First Decade.* Jerusalem: The Falk Institute.

———. 1994. "From Chicago to Jerusalem." *Economic Quarterly* 43 (2).

Portes, Richard. 1987. "Economics in Europe." *European Economics Review* 31: 1329–40.

Interaction of Political and Economic Transition

YEGOR GAIDAR

The interaction of political and economic development in the course of postcommunist transition and reform is a very complex and controversial topic that has a serious impact on the development of events in Russia today. When the team of people that is now in power came to the Kremlin, I had my own hypothesis about how they viewed the situation and the development of events. And during the past five years, this hypothesis has been borne out by facts.

The essence of the hypothesis is as follows. These people understood that Russia needed a market economy. Moreover, they understood that Russia needed liberal market economic reforms: the reforms that had not been completed in the 1990s because most governments of the 1990s were not supported by the parliamentary majority. They also believed that democracy in Russia—a real, functioning democracy— is still not needed for Russia, that Russia had not yet grown enough to witness a true democracy. Democracy would eventually exist in Russia, they believed, but not at that particular moment. And so, proceeding from that belief, they developed the economic and political measures that were brought about at that time. Rather serious, positive economic reforms were carried out, starting with the issues concerning private property in land and taxation policy, which allowed the government to decrease the tax burden while making it possible to collect much more for the country's budget. But at the same time, the imperfect—the young, but still functioning—system of democratic institutes in Russia was being dismantled. This system, which existed by the beginning of the 2000s, had an influential parliament. There was a certain independence and freedom of the press. The regional authorities were more or less autonomous in the solving of their local problems. There were influential entrepreneurial structures, which were able to take part in the decision making. All this existed by the year 2000, but by the year 2004, all this had disappeared.

The basis for such a movement is easy for me to understand because I have had a chance to read hundreds of books and thousands of articles that describe how right Deng Xiaoping was when he split the economic and the political reforms in

China and how wrong Gorbachev was when he brought those together in Russia. And these books and articles all said that first the economic ground should be established for democratic development, and only then the movement toward democracy should be started. If you believe that those who work today in the Kremlin have never read any of these articles or books, or at least extracts from them, you are mistaken. And this point of view definitely has had an effect on the practical development of events. But in my opinion, what has been written is a simplification of the actual development process. In my opinion, we should not employ this simplistic approach.

Socialism is a system within which politics and economy, the state structure, and the functioning of the everyday economic life are all intertwined. For those people who have never lived under socialism, it's a bit difficult to understand this, and it's difficult to explain this to them. Within the framework of the stable socialist system, which was formed in the 1930s, a nearby shop sells bread, bread which you are able to buy. And this fact depends not on the interests of those who bake the bread and not on the interests of those who sell the bread, but on the very simple fact that those who make it and those who sell it know very well that they are going to be punched if this bread is not available in the shops. This situation is very much contrary to what Adam Smith espoused. The producer knows very well that this bread is going to be taken away from him, and that the price paid will not be the price which would make the amount of supply equal. And if he doesn't give it away, he might end up in a gulag. Those who work in the economic sphere are absolutely sure that the authorities will employ violence, and that they will force people to do what people under any other conditions—under the conditions of a market economy—would never do; people would never work without any remuneration. People would never sell bread at prices that do not comply with a production cost, and authorities would not be able to send people to their deaths without any punishment at all. But as soon as people begin to doubt the ability of the authorities to apply as much violence as necessary, then the fear-based system stops working, and bread disappears from the shops because the fear disappears.

Unfortunately, my experience shows that what I'm saying is true. However, to explain it to the people who haven't lived through it would be impossible. Fortunately for them. The problem with the fear-based system is as follows. It, by its own development, undermines the basis of its own stability. Killing several hundred thousand people and sending millions to camps in an agrarian country where the overwhelming majority of people live in villages, have no education, and are illiterate—provided there is political will, severity and missing ideology are tasks that can be resolved. Implementing such a system in a literate and developed urbanized country with well-educated citizens, as world experience shows, would be much more difficult because those in authority would not be convinced of their right to employ violence.

In 1989 in Beijing, during the suppression of the strikes at Tiananmen Square, in a country that at the time was quite agrarian and not well educated, troops from Beijing were not thought to be reliable enough to use tanks . . . to fight the people, so troops that were considered reliable had to be brought in from Tiananmen College. And that was in an agrarian and not well-developed state.

In the Soviet Union, in 1991, troops who were ready to use tanks against their compatriots were difficult to find, and that fact was recognized by the Soviet authorities. It was recognized, not in 1989, but much earlier: in 1962, after a growth in prices that had been quite moderate. However, the increases violated an implicit contract between the people and the authorities that was formed in the 1950s. Its essence was as follows. You would guarantee stable prices and stable social programs to us, and for that we would endure you. You understand that you are not elected, and so we would endure you, and you shouldn't interfere with our lives. When the Soviet authorities, facing real economic problems and difficulties, increased prices by 30 percent, that increase proved to be a cause for very serious disorders in one of the Russian towns in Novocherkassk. And the most unpleasant thing for, and what most dismayed, the authorities was that, at the first stage of these disorders, the troops didn't want to use weapons against the citizens. The Soviet authorities remembered how they came to power in 1917, a result of a process that started with shots at people who participated in demonstrations against food shortages in Petrograd. If it could happen in Novocherkassk before there were severe indications of the need to move loyal inner troops there, it could well happen in Moscow the next time. Recognition of this fact would influence the evolution of events in the Soviet Union in the last decades of its existence: recognition of the fact that the entire structure of authority was based on the ability of those in authority to exert unlimited violence against the people, and that ability was being eroded. It was being undermined by the evolution and development of society. The society was becoming ever more literate and educated.

Alongside this was a question that permeated all the sessions of the political bureau: how much grain could be mobilized and how much was really needed? As soon as it was understood that the ability to exert violence was limited, it appeared that less corn could be mobilized than was needed. This assessment is based on all the archival material that is currently available. So what next? The country is no longer selling corn—and you know that Russia was the world's largest corn exporter before 1917; exports were about 2.5 times higher than those of the United States. But in the 1980s Russia became the world's largest corn importer. That transition of the country from being the world's largest exporter to being the largest importer happened against the background of the diminishing ability of the authorities to exert violence. To mobilize the amount of corn that was needed, millions of peasants would need to die, as happened in the 1930s. That was a political and economic change that would predetermine the history of the Soviet Union and the evolution of events.

As it became apparent that it would not be possible to obtain as much corn as was needed because of the deep crisis in agriculture, and a world record volume of corn would have to be purchased elsewhere, another characteristic of the socialist economy came to the fore. It was apparent that the products of the processing industry—an industry that Soviet authorities set up at the peasants' expense, exporting corn when millions of people in the country were starving to death, as happened in 1932–33, and purchasing complete imported equipment—could not be sold for convertible currency. When the crisis with currency in the Soviet Union became obvious, the possibility of increasing exports of the machine-building industry was not even discussed, because it was understood that this would not be realistic.

So you have the urbanized society's growing demand for food products, including corn. You have a chronic crisis in agriculture stemming from how you once proceeded with industrialization and the many peasants you killed. And you have a noncompetitive machine-building sector. What should you do?

And then a magic wand appeared: the opening of the largest oil fields discovered in the country, in western Siberia, with unique yields of boreholes and new production conditions that are not deep seated, and with enormously high prices for oil. You can compensate for the chronic inefficiency of the agriculture production by relying on abnormally high growth rates in petroleum exports. In nominal values, the volume of real exports would increase tenfold and the country would become the world's largest importer of food and corn. But then you have to understand that you will be endlessly dependent on a factor that is not predictable: the status of the world's petroleum market. No one can predict this market.

As of 1985, the Soviet empire—the political system, the economy, everything—was hanging on three small nails: weather, on which the harvest would depend; the state of the art at the largest petroleum fields; and oil prices. After the Soviet invasion of Afghanistan, Saudi Arabia understood that it might need the help of the United States, and the United States needed to reduce the prices for oil. The history of how Saudi Arabia increased oil production on a monthly basis a few times within one year, how oil prices dropped four times, how the Soviet economy started to disintegrate because it relied on oil prices that were abnormally high by historical measures (as in the early 1980s): that is one of the most interesting political detective stories of the 20th century. However, the essence is not related to the detective evolution of the events.

The fact is that the socialist model of industrialization made the country objectively dependent on a long-term basis on parameters that fluctuated uncontrollably. And when you have such foreign economic shocks, of such a type and to such an extent, and when a regime has few stable resources, the consequences are significant. The Soviet Union was not the only state in the world that experienced these external shocks. The 1980s were not an easy period for all oil-producing countries. Adaptation was quite difficult. Mexico was confronted with a series of economic crises. However, a crisis to the extent of that in the Soviet Union was not recorded elsewhere. And that is not surprising. It is difficult for people to live in an economy that relies on one particular commodity, because when trade conditions radically deteriorate by 10 percent, and more than once, it affects the financing of their education, health care, and culture. What should be done when the resources for borrowing are exhausted? Nevertheless, many countries did adapt to it.

However, for the socialist regime, legitimization is based on the idea that the authorities know better than the people what should be done, implying that they are the cleverest, they are equipped with the most up-to-date ideology. The people shouldn't interfere with development matters, and the authorities will bring us to a happy future. That is the basis of the legitimization of this regime. And for such a regime to tell the people that it appears that we have brought you in the wrong direction, and now we have external economic shock for which you will have to pay. That would be impossible, that would be beyond the limits of any political reality.

The Soviet authorities—and I know this from archival material—never even discussed it when there was a large-scale, unprecedented foreign economic shock. They understood that the people would tell them the following. "You think you are so clever. You explained to us for a long time that you didn't need our advice, that you better understood where we were proceeding. You want us to tighten our belts more. You should tighten your belts." This is the only idea that explains the fact that the Soviet regime, having experienced a large-scale foreign economic crisis, proceeded toward its own bankruptcy and disintegration as a victim, without trying to do anything to stop the catastrophe, just observing how the currency reserves were becoming exhausted, how we were not paying our external debts, how the catastrophic crisis in finance was increasing, how the crisis in the consumer market was developing, and how the corn reserves were disappearing. The regime just observed these changes and did nothing about them.

An attempt to combine the economic and political liberalization of the Soviet Union did not occur and was not the basis for the country's disintegration. Instead, a political and economic structure was formed that was not stable internally and that was based on violence. As the level of development increased, it undermined the ability of the authorities to use unlimited violence against their own people. Meanwhile, there was a long, deep, clinical crisis in agriculture and competitive international markets in the processing industry. The economy of the country depended on world prices that were prone to fluctuation. This was the basis of the catastrophe that happened in the Soviet Union.

Growth After Transition:
Is Rising Inequality Inevitable?

Increasing Inequality in Transition Economies: Is There More to Come?

PRADEEP MITRA AND RUSLAN YEMTSOV

Inequality has generally been increasing in the transition economies of Eastern Europe and the former Soviet Union but, as predicted by a number of theoretical models, the increase differed substantially across countries. This paper decomposes changes in inequality both by income source and socioeconomic group, with a view to understanding the determinants of inequality and assessing how it might evolve in the future. The empirical analysis relies on a set of comparable inequality statistics put together for the recent World Bank study, Growth, Poverty and Inequality in Eastern Europe and the Former Soviet Union: 1998–2003 (World Bank 2005b).

The paper argues that further evolution of inequality in Eastern Europe and the former Soviet Union will depend on various factors. Some of these factors relate to transition, such as the evolution of the education premium; a bias in the investment climate against new private sector firms, leading to an excessive dispersion of labor market outcomes; and regional impediments to mobility of goods and labor. But other factors are increasingly important, such as technological change and globalization. The paper also contrasts key features of inequality in Russia with trends in inequality observed in China, where rapid economic growth has been accompanied by a steep increase in inequality. It argues that China's experience is largely a developmental phenomenon rather than a transition-related one, deriving from the rural-urban divide; thus it is of limited relevance for predicting changes in inequality in Russia.

Introduction

Consider the evolution of GDP per capita and inequality in per capita consumption in Poland and Russia, the two largest transition economies of Eastern Europe and the former Soviet Union, respectively. Poland, shown in the upper panel of figure 1, experienced a relatively shallow transitional recession and a decline in inequality, and then a more gradual increase in inequality with some temporary reversals. This

FIGURE 1. Poland and Russia: Real Per Capita GDP and Gini Index, 1990–2003
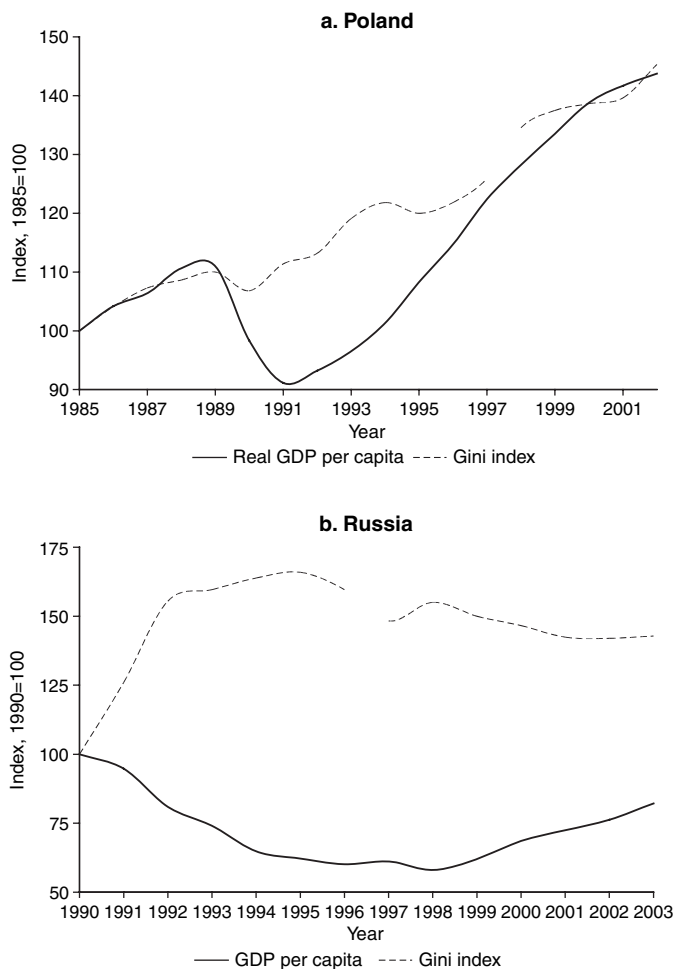
a. Poland

b. Russia

Sources: For Poland, Keane and Prasad (2002a) for 1985–97 (Gini for consumption per capita without durables); authors' estimates for Gini 1998–2002. For Russia, simulations based on published expenditure distributions by Goskomstat for 1990–96 and authors' estimates for 1998–2003.

pattern exemplifies developments in Eastern Europe more generally. This was followed by a sharper increase during the late 1990s and early 2000s, however, to the point that the Gini coefficient of inequality was more than 25 percent higher in 2003 compared to 1989.

In contrast, Russia, shown in the lower panel of figure 1, broadly exemplifies developments in the countries of the Commonwealth of Independent States (CIS). Russia experienced a wrenching transitional recession accompanied by an explosive increase in inequality, which peaked in the mid-1990s. However, this was moderated to some extent during the very rapid growth that occurred after the 1998 financial crisis, so that the Gini coefficient was 10 to 15 percent higher in 2003 compared to 1991. Since 1999, the transition economies of the former Soviet Union have grown at rates approximating China's extraordinary performance. Together with the transition

economies of Eastern Europe, they surpassed the pre-transition levels of GDP per capita for the region in 2004.

While these developments are encouraging, they have occurred in the shadow of the realization that rapid growth in China, shown in figure 2, has been accompanied by a steep increase in income inequality, as measured by the increase in the Gini coefficient of income inequality by 2 percentage points a year between 1990 and 2001. The Gini coefficient was nearly 50 percent higher in 2003 compared to 1981. For countries in Eastern Europe and the former Soviet Union, which share a socialist legacy with China, this could be seen as a harbinger of things to come.

Will improved economic performance in Russia and other transition countries in Eastern Europe and the former Soviet Union come at the expense of a further widening of income disparities? Has the transition to a market economy moved these countries irreversibly to a higher inequality path, on which other factors not related to transition, such as globalization, will be superimposed, possibly generating even more unequal distributions? And is economic policy capable of influencing these processes? These are the key questions addressed in this paper. In attempting to provide answers, the paper:

- Reviews the extensive literature on the determinants of inequality in transition, focusing on the stylized facts,

- Uses a consistent and comparable consumption aggregate for the transition economies of Eastern Europe and the former Soviet Union, which aims to overcome deficiencies in existing data and provide a firmer foundation for those stylized facts, and

- Decomposes inequality by sources of income and household groups, with a view to understanding the role of key determinants of inequality in different countries.

FIGURE 2. China: Real Per Capita Income and Gini Index, 1981–2001
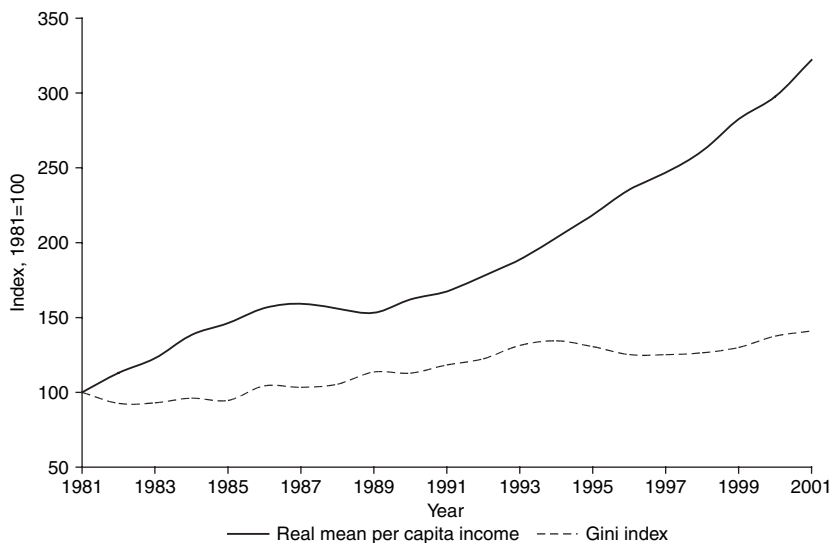
Source: Ravallion and Chen 2004.

The paper is organized in seven sections. The second section, following this introduction, raises the question of what is really known about inequality in the transition countries by examining the quality of available data. The third section summarizes the construction of and presents a data set more amenable to within and across country comparisons. The fourth section reviews the guidance available from theoretical models of transition on the key determinants of inequality. The fifth section presents the decomposition of inequality by income source and by household groups, which constitutes the key contribution of the paper, and assesses the outlook for inequality in the future. The sixth section compares the experience of the countries of Eastern Europe and the former Soviet Union with regard to growth and inequality with what is known from published sources about China in order to assess whether rising inequality in the latter portends the future of the former set of countries. The seventh section concludes with implications for policy and areas for further research.

Increasing Inequality in Transition: What Do We Actually Know?

Table 1, based on most widely used published data, suggests that all the countries in Eastern Europe and the former Soviet Union experienced an increase in inequality. However, despite an apparently common legacy (see Alexeev and Gaddy 1993), countries experienced very different degrees of increased inequality. On the one hand, as already seen in the example of Russia, a rapid increase in inequality occurred in the middle-income and low-income CIS countries, followed by some moderation. On the other hand, as the example of Poland illustrates, at least until the mid-1990s, the new member states of the European Union (the EU-8), appear to have experienced a more gradual but steady increase in inequality. Table 1 makes clear that, by the early 2000s, the region exhibited the full spectrum of inequality outcomes, ranging from fairly unequal to fairly equal distributions of income.

To what extent can the data presented in table 1 be taken at face value? A flavor of the controversies surrounding the "stylized facts" depicted in the table is provided in figure 3, which depicts a wide range of alternative inequality estimates for one country, Russia, drawn from different well-documented sources. The figure shows that, for the most recent period, depending on which source of data is chosen, Russia could be classified as anything from a moderately high to a high inequality country or as anything from a country exhibiting rising to falling inequality.

The example clearly illustrates the point that published data on income distribution should be treated with great care—and this for at least five different reasons, following Atkinson and Micklewright (1992).

First, published data from different countries rely on different imputation and adjustment procedures. In Ukraine, for example, significant and rather unusual imputations are undertaken with reported in-kind components. In some countries, total incomes include imputed rents, while in others they do not; which option is chosen can have large effects. In Russia, inclusion of proper imputed rents in the full

TABLE 1. Selected Countries, Eastern Europe and the Former Soviet Union: Gini Indices for Per Capita Incomes from "Official" Sources, 1987–2003

Country	1987–90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Armenia	0.269									0.570		0.537		0.428
Azerbaijan	0.345					0.440						0.373		
Belarus	0.233				0.280	0.253	0.244	0.249	0.253	0.235	0.247	0.245	0.246	0.249
Bulgaria	0.245		0.344		0.340	0.384	0.357	0.366	0.345	0.326	0.332	0.333	0.370	0.351
Croatia	0.251								0.333					0.29[a]
Czech Rep.	0.197		0.228		0.270		0.258	0.230	0.239	0.212	0.232	0.231	0.237	0.234
Estonia	0.240		0.395		0.350		0.370	0.361	0.354	0.361	0.389	0.385	0.393	0.402
Georgia	0.313							0.430						0.469
Hungary	0.214			0.231		0.242	0.246	0.254	0.250	0.253	0.259	0.272	0.267	0.268
Kazakhstan	0.297				0.330		0.35							
Kyrgyz Rep.	0.308			0.353				0.470	0.411	0.399	0.414	0.377	0.382	0.342
Latvia	0.240				0.310			0.326	0.321		0.327		0.358	0.379
Lithuania	0.248				0.350		0.347	0.309	0.332	0.343	0.355	0.354	0.357	0.318
Macedonia, FYR	0.349						0.369	0.367					0.34[a]	0.34[a]
Moldova	0.267			0.365	0.360			0.420			0.437	0.435	0.436	0.411
Poland	**0.255**	**0.265**	**0.274**	**0.285**		**0.320**	**0.328**	**0.334**	**0.326**	**0.334**	**0.345**	**0.341**	**0.353**	**0.356**
Romania	0.232				0.290	0.312	0.302	0.305	0.298	0.299	0.310	0.353	0.349	0.352
Russia	**0.259**	**0.260**	**0.289**	**0.398**	**0.409**	**0.381**	**0.375**	**0.381**	**0.398**	**0.399**	**0.394**	**0.396**	**0.398**	**0.404**
Slovak Rep.	0.186						0.237	0.249	0.262	0.249	0.264	0.263	0.267	0.299

(Continues on next page)

TABLE 1. *continued*

Country	1987–90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Slovenia	0.220	0.227	0.282		0.250		0.302	0.305	0.298	0.299	0.310	0.353	0.22[a]	0.22[a]
Tajikistan	0.334									0.470				
Turkmenistan	0.308				0.360									
Ukraine	0.240									0.282	0.288	0.290	0.277	0.271
Uzbekistan	0.351				0.330									

Sources: Data from UNICEF TRANSMONEE 2005 edition, www.unicef-icdc.org/research, except for selected countries and years from Milanovic (1998) for Estonia 1992, Georgia 1989, Kyrgyz Republic 1993, Latvia 1994, Lithuania 1994, Slovak Rep. 1989; World Bank (1999) for Azerbaijan 1995, Estonia 1994, Georgia 1997 and 2000, Uzbekistan 1994; World Bank (2002a) for Armenia 1999; World Bank (2003a) for Kyrgyz Republic 1997; Večerník (1995) for Czech Republic 1992 and 1994; and Eurostat (2005) for Croatia 2003, Macedonia FYR 2002–3, Slovenia 2002–3.

Note: The reference countries, Poland and Russia, appear in bold. For Russia, data for 1992 and earlier years refer to total incomes; for later years, they refer only to money incomes. Empty cells are for years with no available data.

a. Data are from Eurostat (2005) or EC (2005) and rely on an OECD equivalence scale.

FIGURE 3. Russia: Evolution of Gini Index, Various Sources, 1992–2004
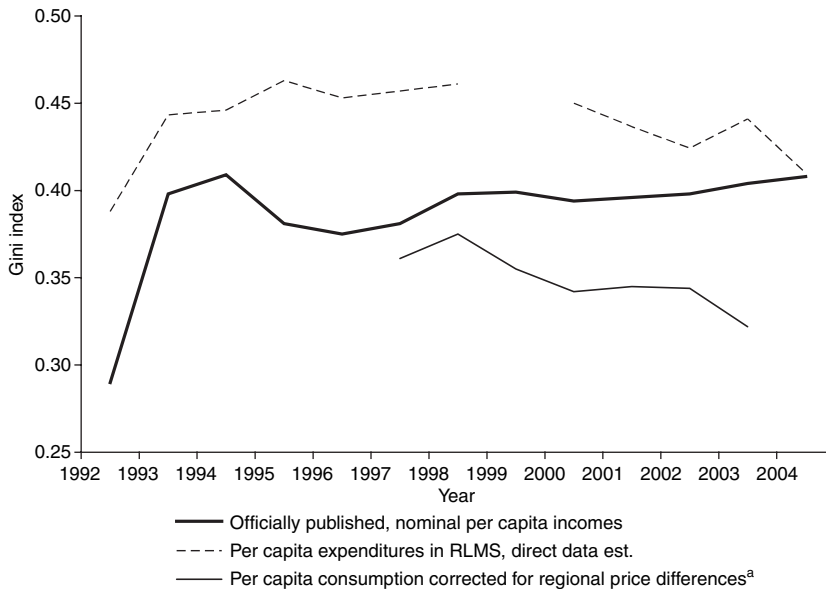
Sources: Goskomstat; World Bank 2005d.

Note: RLMS = Russian Longitudinal Monitoring Survey; HBS = Household Budget Survey; NOBUS = National Survey of Social Programs and Participation.

a. For 1998–2002, based on the HBS data; for 2003, using the NOBUS data.

consumption in 1993 reduced the Gini index from 0.42 to 0.35 (Buckley and Gurenko 1997). Thus different rows in table 1 cannot be compared with one another, and a higher country Gini does not necessarily translate into higher inequality for a comparable concept of welfare.

Second, in all the EU-8 countries, wages account for over 60 percent of household income. In contrast, among the low-income countries of the CIS, wages represent less than 15 percent in some cases. At the same time, while public transfers are a much more important component of income in the EU-8, where they comprise 25 to 30 percent of total income, their importance has shrunk dramatically in the low-income CIS countries. Public transfers in Georgia and Moldova, for example, represent less than 10 percent of GDP. Wages and transfers can be measured quite well by household surveys, whereas other sources of income, such as from informal self-employment, are notoriously hard to measure with any precision. Such compositional effects have serious implications for the accuracy with which inequality is measured. For this reason, table 1 is a poor guide to describing inequality in the case of low-income CIS countries such as Armenia, Georgia, the Kyrgyz Republic, and Moldova.

Third, there are serious issues of underreporting and nonresponse. Richer households, for example, tend to be increasingly missed by sample surveys. In practice, countries undertake different degrees of adjustment to correct for nonresponse but, in doing so, make a number of assumptions that can undermine comparability. In Russia, unlike in any other country, the increasing gap between reported incomes and estimates from macroeconomic sources is arbitrarily assigned to the top decile of

households as "undeclared" incomes (World Bank 2005d), limiting comparability with other data on income distribution.

Fourth, correction for regional price differences is not normal practice in many statistical offices.[1] Fifth, the use of equivalence scales has not been converging toward a single standard.[2]

All of this implies that, while official data can suggest that inequality has increased in all countries in transition, the magnitude of such increases is less certain. Despite these limitations, data such as those reported in table 1 are used to generate "stylized facts" and draw far-reaching conclusions about the evolution of inequality in transition (Ivaschenko 2003).

Toward Comparable Data on Inequality in Transition

The lack of consistency of "official" data on inequality prompted the creation of comparable and consistent inequality statistics based on primary records from household surveys across the transition countries of Eastern Europe and the former Soviet Union.[3] Most of these surveys are conducted by statistical offices and are, in that sense, "official." But the way in which primary data were used led to indexes that are different from the numbers reported in table 1.

First, the preferred measure of welfare is consumption rather than income. The choice of consumption was dictated by practical considerations. While data on incomes remain particularly difficult to collect in transition countries, practice has shown that data on consumption can be gathered with considerable accuracy. Survey consumption modules have become more detailed over time and are better able to capture the various dimensions of consumption, including informal payments.

Second, unlike the practice of simple aggregation undertaken by many statistical offices of the region, a distinction was made between different components of consumption. Since consumer durables and housing are consumed over a long period of time, it is customary to include the imputed value of the consumption flow associated with the possession of consumer durables (including housing) but to exclude the expenditure on the purchase of such goods. The lack of data, however, limits the application of this approach to all countries. It was therefore decided not to include estimates of the flow of services of durables or of durable purchases or rents.

Third, given the significance of spatial differences in the transition countries, an adjustment for spatial price differences was made, using Paasche price indices based on survey data in all countries. In cases where data were collected over a long period of time, it was also necessary to adjust for changes in prices over time. Quarterly Consumer Price Index (CPI) indices taken from International Monetary Fund (IMF) data were used to compute real values.

Fourth, households in the transition countries have coped with poverty by relying on an array of nonmarket strategies, including producing their own food and engaging in reciprocal exchange with other households and institutions. A consistent approach was used to assign a monetary value to these components of consumption.

Fifth, the same procedure, which conforms to methods used in other international household survey data depositories such as the Luxemburg Income Study, was used to clean the data of outliers across all data sets. Since a consistent approach was used across all data sets, one can be reasonably confident that differences across countries in the final consumption measure arise from differences in the primary data and are not due to the method of aggregation.

Results for all countries with available primary records are presented in table 2. The table clearly shows that there are discontinuities and that the evidence is of variable quality. However, the difference in country experiences regarding the evolution of inequality is striking, even with data that are as comparable as possible. It dispels the notion that countries would converge to some common level of inequality that prevails in the long run in market economies and provides motivation for the analysis undertaken in this paper.[4]

The new data confirm the overall picture that had emerged from the data on income inequality. Specifically, table 2 underscores four points. First, all the transition countries have become more unequal. Second, there were rapid increases in inequality in many CIS countries, followed by some stabilization, or even subsequent moderation. Third, there was a much more gradual increase in Central Europe, with continued change up to the most recent year for which data are available. Fourth, there was a wide diversity of experience, even among countries within the same subgroup of countries. For example, the Baltic states experienced inequality paths similar to that of Russia, whereas in Belarus, which retains many features of a command economy, the evolution of inequality more closely resembled that in Central Europe.

That said, the magnitude of increase and ranking of each country with respect to inequality usually differs, at times dramatically, from that provided by the income-based data in table 1. Income-based and consumption-based measures of inequality appear to be fairly consistent with each other only in some cases, typically in the EU-8 countries. This is clearly not the case in the low-income CIS countries and in some middle-income CIS and South-East European countries. For the reasons explained above, the new consumption-based data are believed to be more accurate. Indeed it is consumption inequality, based on the new data, which is reported in figure 1 on Poland and Russia used to introduce this paper.[5]

The data in table 2 are also helpful in illustrating the evolution of inequality over time and decomposing its sources by household groups in countries that are deemed broadly representative of four clusters in the region: that is, Hungary, Latvia, and Poland for the EU-8 countries; Romania for South-East Europe; Kazakhstan and Russia for the middle-income CIS countries; and Georgia, Moldova, and Tajikistan for the low-income CIS countries. Table 3 presents key data on the Gini index of inequality for those countries.

Having consistent data is the first step toward understanding the drivers for the increase in inequality and attempting to predict future evolution. The next section puts together six main drivers for the inequality increase often used to contrast the experiences of various countries.

TABLE 2. Gini Index for Per Capita Consumption

Country	1988–92	1993–95	1996	1997	1998	1999	2000	2001	2002	2003
Albania			*0.291*						**0.319**	
Armenia			*0.444*			**0.321**		**0.325**	**0.310**	**0.285**
Bosnia								**0.263**		**0.295**
Belarus	0.228	0.287			**0.291**	**0.299**	**0.293**	**0.301**	**0.292**	
Bulgaria	0.234	0.283	**0.350**					**0.337**		*0.277*
Estonia	0.230	*0.395*			*0.376*		**0.339**	**0.332**	**0.335**	**0.330**
Georgia	0.28		*0.370*	**0.404**	**0.386**	**0.393**	**0.397**	**0.383**	**0.390**	**0.391**
Hungary	0.210	*0.232*			**0.250**	**0.259**	**0.254**	**0.251**	**0.250**	
Kazakhstan	0.257	0.327	*0.353*					**0.346**	**0.330**	**0.318**
Kyrgyz Republic	0.260	*0.537*	*0.523*	*0.405*	*0.360*	*0.346*	**0.299**	**0.290**	**0.292**	**0.276**
Latvia	0.225	0.310	0.316	*0.317*	*0.336*				**0.340**	**0.350**
Lithuania	0.224	0.373	*0.323*		**0.303**	**0.304**	**0.306**	**0.305**	**0.305**	**0.325**
Macedonia FYR			*0.340*						**0.368**	**0.373**
Moldova	0.241	0.343			**0.371**	**0.365**	**0.350**	**0.357**	**0.345**	**0.328**
Poland	0.235	0.264	*0.268*	*0.277*	**0.296**	**0.302**	**0.305**	**0.307**	**0.320**	
Romania	0.255	0.282			**0.274**	**0.283**	**0.282**	**0.286**	**0.294**	**0.289**
Russia[a]	0.238	0.395		**0.353**	**0.369**	**0.357**	**0.349**	**0.339**	**0.338**	*0.332*
Serbia									**0.292**	
Tajikistan						**0.289**				**0.327**
Ukraine	0.233		*0.325*			*0.285*	*0.293*	*0.303*	**0.274**	**0.268**
Uzbekistan	0.250	0.333			*0.453*			**0.355**	**0.326**	**0.354**

Sources: Data in **bold** are based on comparable consumption indicator from ECAPOV II (World Bank 2005b). Data in *italics* are from direct survey data estimates from other sources—ECAPOV I (World Bank 2000), World Development Indicators, and Milanovic (1998)—and are based on grouped data. Data for Poland in italics are from Keane and Prasad (2002a), (consumption per capita without durables) and refer to 1990 for the period 1989–92. Only figures from ECAPOV II are consistent across time.

Note: Empty cells are for years with no available data.

a. Based on HBS, except for 2003, where NOBUS data are used.

TABLE 3. Representative Countries: Inequality Indices (Gini) for Comparable Per Capita Consumption

Gini index, and years	Georgia	Hungary	Kazakhstan	Latvia	Moldova	Poland	Romania	Russia	Tajikistan
Initial year	1999	*1993*	2001	**1998**	**1998**	**1998**	**1998**	**1997**	1999
End year	2002	*2002*	2003	**2002**	**2002**	**2002**	**2002**	**2002**	2003
Gini index, initial year	**0.397**	*0.232*	**0.346**	*0.336*	**0.371**	**0.296**	**0.274**	**0.353**	**0.289**
Gini index, end year	**0.391**	**0.250**	0.318	**0.350**	**0.328**	**0.320**	**0.289**	**0.338**	**0.327**

Source: Authors' estimates.

Main Drivers of Inequality in Transition

To what extent can one appeal to the literature on inequality in transition for guidance on explanations of these disparate trajectories of growth and inequality? That literature suggests that the principal determinants of inequality in transition were:

- Wage decompression and growth of the private sector

- Restructuring and unemployment, reverting to subsistence economy

- Changes in government expenditure and taxation

- Price liberalization, inflation, and arrears

- Asset transfer and growth of property income

- Technological change, increased mobility, and globalization.

Driver 1. Wage decompression and growth of the private sector   Transition involved the emergence of a private sector, which was to grow over time. By 2004, over 60 percent of GDP was produced in the private sector (EBRD 2005). This shift changed the process of wage setting by introducing a tighter link between productivity and wages. It is usual to associate inequality outcomes more closely with labor market conditions, primarily to inequality in wages, which in turn depends on the level of returns to human capital and changes in endowments. Indeed, wage inequality is a major driver of overall inequality. At first glance, data on wage inequality appear to mirror those for inequality of consumption. Contrasting different data sources, based both on enterprise records and household surveys, figure 4 reports available Gini indexes for wages in Russia and Poland. While dispersion between different sources is indeed very large, the levels and patterns closely resemble the trends depicted in figure 1.

Why did wage inequality in Russia increase so rapidly? Returns to education alone seem to be insufficient to explain it. Cross-country studies find that the returns to education increased from the "pretransition" period to the "early transition" period. The meta-study by Fleisher, Sabirianova, and Wang (2004) suggests that the sharpest increases occurred during the early years of transition. Flabbi, Paternostro, and Tiongson (2005) examine the evolution of the skills premium in transition economies through the late 1990s or the period thereafter through 2002 or 2003 using ISSP data, which is an internationally comparable survey. However, neither that study nor the other sources reported in table 4 produce any evidence that Russia stands out as having particularly large or distorted patterns of returns to education compared to Poland (or to other economies in transition such as Hungary; see Campos and Jolliffe 2003). Indeed it started with a much lower level of returns but by the mid-1990s had already converged to Polish levels. This factor therefore cannot be used to explain the excess inequality of Russian wages; other explanations are required.

Arrears, as reported by Lehmann and Wadsworth (2001), were responsible for up to a third of the "excess" inequality in wages in Russia. At the peak of wage arrears in November 1998, 64 percent of workers were owned back wages and the Gini

FIGURE 4. Russia and Poland: Gini Index for Monthly Wages, Various Sources

a. Russia

Official wage, GKS —— RLMS ----- ISSP

b. Poland

—— Official, GUS —— HBS — — LFS ------ ISSP
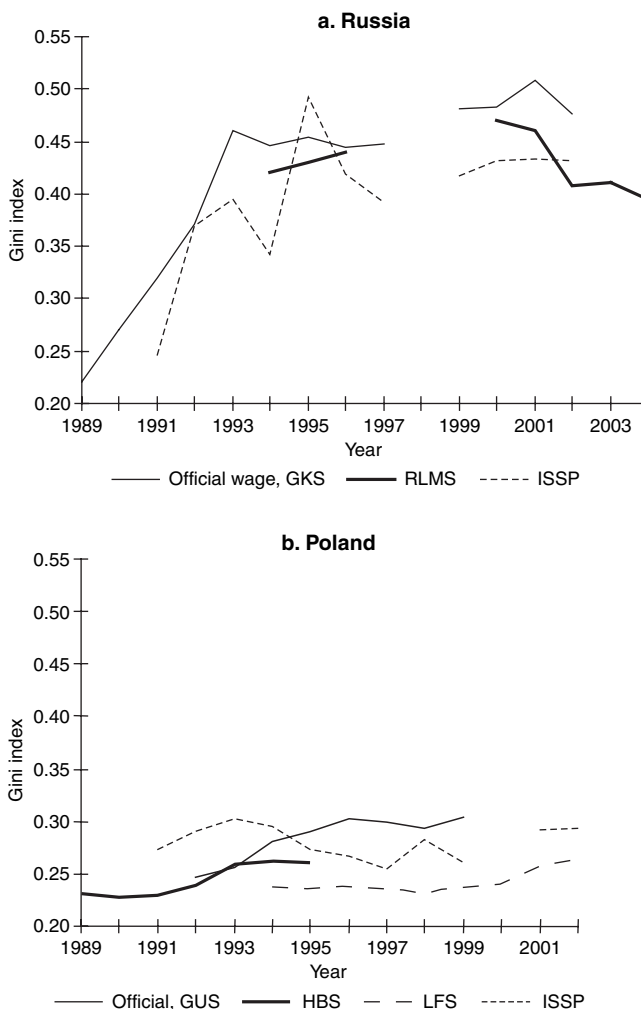
Sources: Russia and Poland, ISSP, from Flabbi, Paternostro, and Tiongson (2005). For Russia, GKS from Goskomstat; RLMS from Lukianova (2005) for contractual wages (cleaning out the effect of arrears). For Poland, HBS from Keene and Prasad (2002b); LFS from Newell and Socha (2005); GUS from World Bank (2004).

Note: GKS = Russian Statistical Office (Goskomstat) Survey of Wages; GUS = Polish State Statistical Office; ISSP = International Social Survey Program; LFS = Labor Force Survey; RLMS = Russian Longitudinal Monitoring Survey.

index for wages actually paid was as high as 0.58 (Lehmann, Wadsworth, and Acquisti 1999). By 2004 the share of workers who were owed wages fell to 15 percent[6] and the Gini index for paid wages fell to around 0.44: that is, by just less than a third (Lukianova 2005). But even at this level, wage inequality was considerably higher than in Poland or other countries in Central and Eastern Europe. Therefore this factor, while providing a partial explanation for the inverse U-shape of the evolution of wage inequality in Russia, does not fully account for excess inequality in the distribution of earnings.

TABLE 4. Poland and Russia: Returns to Education

Poland	1991	1992	1993	1994	1995	1996	1998	2001	2002
Years of education[a]	0.060	0.071	0.081	0.080	0.079	0.070	0.081	0.092	0.106
Dataset	ISSP	ISSP	ISSP	ISSP	ISSP	ISSP	ISSP	ISSP	ISSP

Russia	1985	1990	1991	1996	1997	1998	2000	2001	2002
Years of education[a]	0.028	0.039	0.028	0.079	0.072	0.091	0.094	0.084	0.097
Dataset	RLMS	RLMS	ISSP	RLMS	ISSP	RLMS	RLMS	ISSP	RLMS

Sources: ISSP data from Flabbi, Paternostro, and Tiongson (2005); RLMS data from Gorodnichenko and Sabrianova Peters (2004).

Note: ISSP = International Social Survey Program; RLMS = Russian Longitudinal Monitoring Survey.

a. Controls include gender, location, age, and family status.

Another explanation is provided by distinct differences in *minimum wages,* which were set at around 40 percent of the average wage in Central and Eastern Europe, as opposed to at 10 percent of the average wage in Russia (see Rutkowski 2001 and World Bank 2005c). This allowed Russian firms to maintain low-paid jobs that otherwise would have been economically unviable, so that low minimum wages were a very important policy-induced factor contributing to higher wage dispersion.

As opposed to relatively stable sectoral and interindustry wage differentials, *regional variation* in real wages, relative to the national average, almost tripled in Russia between 1995 and 2003 (World Bank 2005d). Segmentation of labor markets is a common feature of many transition economies, but in Russia this dispersion takes particularly extreme forms due to institutional, infrastructure, and geographical realities (Earle and Sabirianova 2002).

Increasing wage inequality in the transition countries of Eastern Europe and the former Soviet Union reflects a rising education premium, minimum wage policies, and increased divergence of wages across sectors, regions, and occupations. But wages, although important, were not the only determinant of inequality outcomes. The following factors played a role as well.

Driver 2. Restructuring and unemployment The closure and restructuring of firms, together with the entry of new firms, is central to transition, as resources are reallocated to more productive uses. Associated labor market developments have manifested themselves in a combination of open unemployment, lower labor force participation, and low-productivity employment, such as subsistence agriculture or informal sector activities. Ex ante there was little insight into what the incidence of job losses and its distribution across households would look like. Ex post there are indeed important variations across countries and regions in the implied effects on inequality. The role of employment status as a contributor to inequality is examined below, in the decomposition of inequality among households partitioned by labor market status.

Driver 3. Changes in government expenditure and taxation The system of social transfers was a sizeable factor initially thought to act to countervail increasing

inequality. But in practice it had its intended effect only in a few EU-8 countries, particularly Hungary, where social assistance programs expanded in real terms.[7] In contrast, low-income CIS countries, faced with fiscal stringency, drastically reduced coverage of their safety nets to focus on the most needy. Other CIS countries aimed at retaining key benefits but compressed levels to a simple per capita distribution among the claimants. The role of transfers as a contributor to inequality is examined below, in the decomposition of inequality by source of income.

On the revenue side, the transition induced a dramatic shift in the composition and incidence of taxes, such as the introduction of value added tax, while tax compliance declined. Limited empirical evidence suggests that most changes worked in favor of greater equality, but with significant variation across countries and time periods.[8]

Driver 4. Price liberalization, inflation, and arrears   All the socialist economies embarked on the process of transition with a substantial monetary overhang (Flemming and Micklewright 1999). Hence when prices were liberalized, they jumped and inflation rates tended to persist. Experience from other high inflation episodes, such as in Latin America, points to strong redistributive effects. Aggregate data indeed indicate that the inflation tax in Russia appears to have had a powerful effect. In 1992, for example, it has been estimated that households were hardest hit by inflation, losing about 12 percent of GDP through this tax on financial assets (Commander and Lee 1998). This amounted to roughly a quarter of household income and is likely to have been regressive. Similar if not more redistribution took place in Belarus, Bulgaria, Georgia, and Ukraine, but did not substantially affect the EU-8 countries.

Arrears on pensions and social benefits payments appeared in the inflationary environment of several countries in the CIS and South-Eastern Europe. Arrears were concentrated in the bottom part of the distribution and, in a highly inflationary environment, resulted in a cut in real wages in a highly unequalizing way (Lehmann and Wadsworth 2001). Similar effects have been found by Klugman (1998) for Uzbekistan.

These factors, however, were largely transitory in nature and affected the shape of the distribution only in certain time periods.

Driver 5. Asset transfer and growth of property income   Perhaps the most visible sign of transition everywhere has been the large-scale transfer of previously publicly owned assets into the hands of private agents, a development that has produced a long-term shift in the distribution of wealth. The increase in the share of entrepreneurial income, and the share of families receiving financial income, was an immediate result common to all transition economies. In Russia, for example, the share of property, interests, and profits in the cash receipts of households increased from around 4 percent in 1989 to 20 percent in 2003 (Goskomstat). These sources of income are known to be unequalizing (Milanovic 1998). The role of entrepreneurial income as a contributor to inequality is examined below, in the decomposition by source of income.

Many privatization programs are therefore believed to have worsened the distribution of assets and income, at least in the short run.[9] As against this, it should be

noted that a large part of national wealth was transferred in a rather equitable way through privatization of housing to tenants at below-market prices. In Russia, by early 1996 nearly 50 percent of the housing stock was in private hands, a proportion that had grown to 70 percent by 2005. Imputing an economic value to subsidized goods and assigning it to households in different parts of the distribution shows that this had mitigating effects on inequality (see Flemming and Mickewright 1999).

Driver 6. Technological change and globalization   Technological change and modernization of the economy in a broad sense have been important in the evolution of inequality in many countries. Atkinson (2003) shows that transition economies were not alone in experiencing growing inequality: there has been an increase in inequality in many OECD countries because of the change in technology associated with globalization: that is, a rise in the premium for skilled workers and a decline in the relative wage of unskilled workers. Figure 5 shows the extent of inequality increases in Austria, China, Georgia, Hungary, Mexico, Poland, Russia, Sweden, the United Kingdom, and the United States, using what is believed to be the most reliable indicator of dispersion in living standards for each country. The figure demonstrates that the increase in inequality in transition economies indeed occurred against the backdrop of a global increase in inequality—with, however, important variations across

FIGURE 5. Selected Countries: Gini Index Changes between 1980s and 2000s
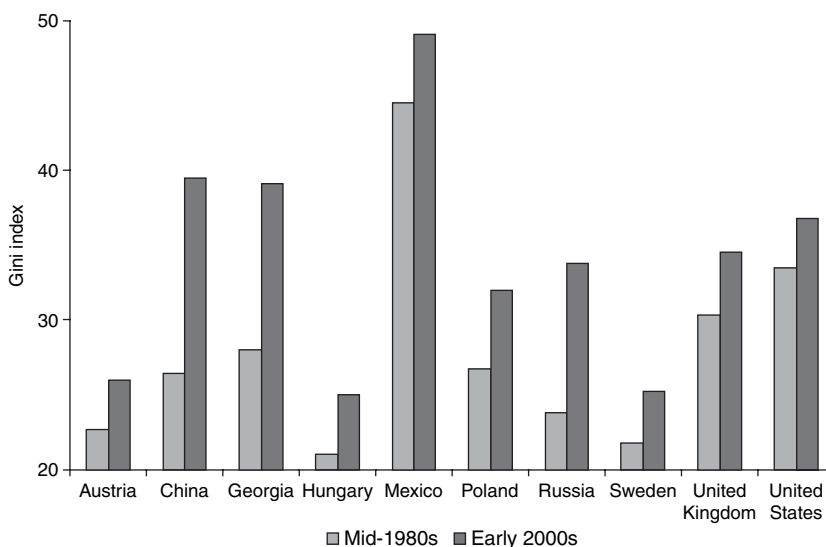
Sources: ECAPOV II (World Bank 2005b) for Georgia, Hungary, Poland, Russia; Ravallion and Chen (2004) for China; LIS (www.lispoject.org) for other countries.

Note: Levels of Gini index are not comparable across countries, as different concepts and definitions of welfare are used. For Europe and Central Asia for the early 2000s, current consumption per capita without housing rental values, correcting for regional price differences and without outliers. Data for the early 1980s come from published sources and refer to total expenditures, not correcting for price differences. For China, total incomes per capita, correcting for price differences. For OECD countries, per equivalent adult total money incomes, correcting for regional price differences without outliers.

countries. It is therefore inherently very difficult to separate transition-related determinants from the global factor of technological progress.

How different drivers interact with one another is very much a question of particular country circumstances, initial conditions, and most importantly, policy choices. The taxonomy of drivers offers some basic insights into the reasons behind the variation across countries with respect to increases in inequality. Models of transition provide further guidance regarding the role of policies.

Models of Restructuring

Aghion and Blanchard (1994) proposed a theoretical model of transition dynamics describing the reallocation of productive resources in transition. The transition is formalized as a reallocation of labor and capital across *state* and *private* sectors, with unemployment as a transient step between the two,[10] and highlights ways in which endowments and policies in transition affect the distribution of income (Commander and Tolstopiatenko 1996).

In the CIS, with an ungenerous benefits regime and low initial values for closure and restructuring, the reallocation of labor to the private sector is protracted, and inequality rises gradually and steadily to high levels. More generous benefit regimes with higher probabilities of restructuring, as in Central Europe, lead to unemployment peaking at higher levels, but given a rapid movement of workers into the private sector and a generous floor in the form of unemployment benefits, the rise in inequality is less pronounced, reaching a hump at a lower level than that observed in the first scenario (figure 6).

An attractive feature of the model is the conceptualization of restructuring: not as a one-time shift in the behavior of agents, but as a whole array of outcomes with different degree of rent appropriation by insiders in partly restructured enterprises. The empirical study of the first ten years of transition revealed the coexistence of new, partly restructured, and unrestructured firms as a defining feature of the move from a command to a market economy (World Bank 2002e). This introduces an additional source of variability and hence inequality, which is captured by the model.

However, a comparison of predictions from the model with empirical evidence shows a surprising reversal of patterns between Central and Eastern Europe (CEE) and the CIS. The inverse U-shaped trajectory of inequality seems to emerge not in the CEE, but in some CIS countries. The failure of the model to predict the actual evolution of inequality may be a result of its limitations,[11] or alternatively may reflect the effect of mitigation offsetting policy measures.

Despite these limitations, the ability of the model to portray a large variation in the levels and shape of the development of inequality is instructive. It suggests that there is probably no single "transition" story as far as the evolution of inequality is concerned. Furthermore, the model results are broadly consistent with the story emerging from the earlier description of different drivers as being one that can yield a wide variety of outcomes across countries and over time. A number of these factors are directly or indirectly influenced by policies, which also differed across countries.

FIGURE 6. Simulation Results from the Restructuring Model with Different Configuration of Parameters: Two Typical Trajectories for Inequality Indices
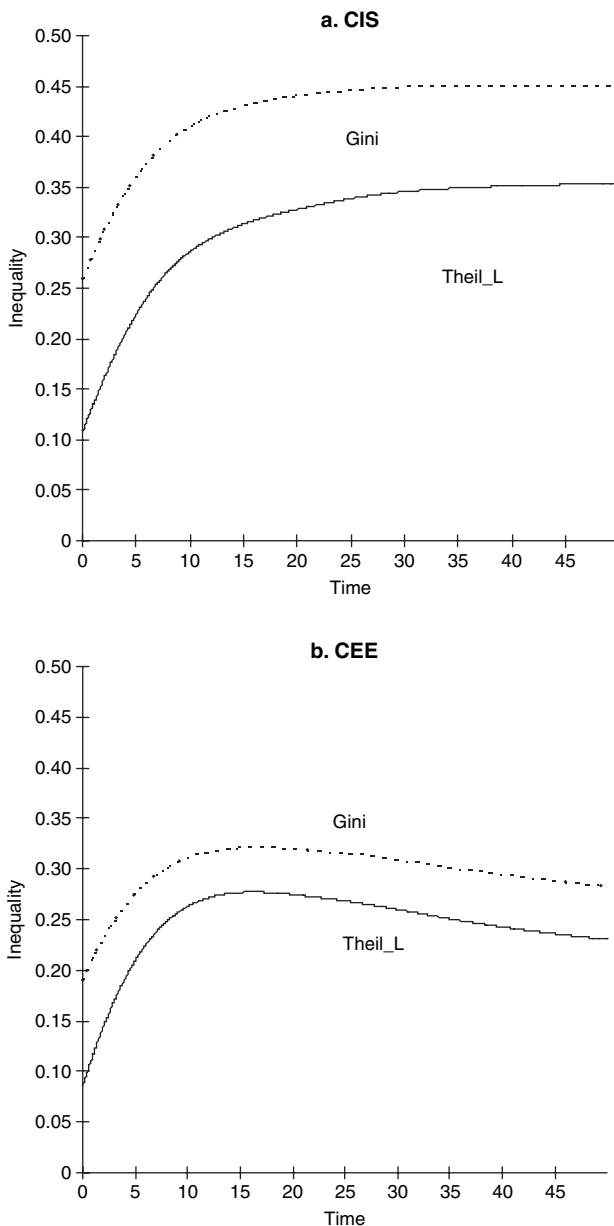
Source: Commander and Tolstopiatenko 1997.

Note: Time is in model years.

Decomposing Inequality Change in Transition

The most direct approach to capturing the relative importance of the drivers empirically is to decompose inequality into its components and associate each component with a particular channel of redistribution. The structure of inequality by income

source can be looked at in two ways: as inequality coming from between and within economic group differences.

Following Shorrocks (1982), the contribution of each component of income to total inequality can be obtained from the product of the concentration coefficient for each component and the respective weights of those components in total income. Concentration coefficients in turn depend on how unequally an income source is distributed ("own Gini") and how closely it is correlated with total income.[12] The product of the share of a particular type of income and its concentration coefficient equals the contribution of that income component to the Gini index. The sum of these contributions equals the Gini index. Following Milanovic (1999), the main income sources taken to represent key drivers of the level and changes in inequality in transition are: wage income, pensions, social transfers and non-wage income (a combination of all other income sources, ranging from in-kind subsistence income, farm incomes, and remittances to property income and incomes from self-employment and entrepreneurial activities). This stylized framework, by focusing on the relative importance of structural shifts versus own (or within) inequality effects, is helpful in understanding *how* inequality levels changed during transition.

Given its potential for an analytical description of changes in the sources of inequality, it is somewhat surprising that there are only a few studies that use this framework.[13] This section of the paper performs such empirical decomposition exercises going back 15 years, as opposed to the hypothetical exercises presented by Milanovic (1999), to understand the implications for inequality of employment reallocation between shrinking state and growing private sectors. The subsection that follows looks at the evolution of the structure of income over time and the contribution of each component to inequality in Russia and Poland over the period 1987 through 2002. The choice of these countries for analysis was dictated by data limitations. The subsection after that presents group-based decompositions using data on consumption inequality for a larger group of countries. These are the key contributions of this paper.

Decomposition of Inequality by Income Sources

Tables 5 and 6 report levels and changes over time in the structure of incomes, the concentration coefficient of each component of income, and its contribution to the Gini index of income inequality in Poland and Russia, respectively. The following points may be noted.

First, by the end of the period, the Gini index was seven points larger in Russia (0.41) than in Poland (0.34).

Second, the directions of change in the income structure in both countries were generally similar, reflecting transition-related drivers: that is, falling share of wages and a rising share of both entrepreneurial incomes (profits and income from self-employment) and pensions. The changes are consistent across periods of economic decline and growth, with wages and transfers moving in opposite directions. But the distributional outcomes were very different.

Only to a limited extent were the differences due to changes in the composition of the source of income, such as the much steeper rise in social transfers (including

TABLE 5. Poland: Contribution of Income Sources to Total Inequality, 1987–2002

	1987	1994	1998	2002	1994–87	2002–1994
Income structure: Percent						
Work income	60	54	56	55	–6	+1
Of which wages	55	46	48	47	–9	+1
"Entrepreneurial"	5	8	8	8	+3	+0
Income from farm	13	10	7	4	–3	–6
Old-age pension	17	24	26	24	+7	+0
Social transfers	5	5	6	9	+0	+4
Other income	5	6	4	8	+1	+2
Total income	100	100	100	100		
Inequality: Concentration coefficients						
Work income	0.260	0.330	0.388	0.431	+27%	+31%
Of which wages	0.251	0.302	0.350	0.394	+20%	+30%
"Entrepreneurial"	0.360	0.488	0.613	0.650	+35%	+33%
Income from farm	0.415	0.390	0.471	0.575	–6%	+47%
Old-age pension	0.171	0.175	0.204	0.263	+3%	+50%
Social transfers	–0.100	0.080	–0.017	–0.011	+180%	–86%
Other income	0.340	0.283	0.450	0.263	–17%	–7%
Decomposition: Gini index, contributions						
Gini, per capita income	**0.250**	**0.280**	**0.320**	**0.343**	**+0.030**	**+0.063**
Work income	0.156	0.178	0.217	0.237	+0.022	+0.059
Of which wages	0.138	0.139	0.168	0.185	+0.001	+0.046
"Entrepreneurial"	0.018	0.039	0.049	0.052	+0.021	+0.013
Income from farm	0.054	0.039	0.033	0.023	–0.015	–0.016
Old-age pension	0.029	0.042	0.053	0.063	+0.013	+0.021
Social transfers	–0.005	0.004	–0.001	–0.001	+0.009	–0.005
Other income	0.017	0.017	0.018	0.021	+0.000	+0.004

Sources: Milanovic (1999) for 1987; ECAPOV I (World Bank 2000) for 1994; World Bank 2004; authors' calculations based on HBS data for 2002.

pensions) in Poland compared to Russia. To examine to what extent these differences matter, it is not sufficient to simply compare actual changes across countries because the observed change is a complex result of interactions between drivers pulling inequality in different directions. What is needed is a counterfactual. However, producing a fully satisfactory counterfactual distribution is difficult and requires building a model of household income (Bourguignon, Ferreira, and Leite 2004), which goes beyond the scope of this paper. But it is feasible to conduct simulations using either base period concentration coefficients or income shares. It is recognized that such a counterfactual is purely hypothetical because share and concentration often change for the same reason.

With this caveat in place, simple simulations show that the differences in the pace of structural change in income sources do not fully explain the inequality differential

TABLE 6. Russia: Contribution of Income Sources to Total Inequality, 1989–2004

	1989[a]	1992	1996	1998	2004[b]	1998–89	2004–98
Income structure: Percent							
Work income	79	67	48	55	62	_24	+7
Wages	74	61	34	49	54	–25	+5
"Entrepreneurial"[c]	5	6	14	6	8	+1	+2
Income from farm	4	8	15	11	8	+7	–3
Old-age pension	8	10	18	20	17	+12	–3
Social transfers	7	6	2	2	2	–5	+0
Other income	2	9	17	13	11	+10	–1
Total income	100	100	100	100	100		
Inequality: Concentration coefficients							
Work income	0.285	0.540	0.679	0.540	0.515	+90%	–5%
Wages	0.280	0.531	0.644	0.514	0.454	+84%	–12%
"Entrepreneurial"[c]	0.360	0.633	0.764	0.750	0.925	+108%	+23%
Income from farm	0.300	0.350	0.440	0.573	0.375	+186%	–35%
Old-age pension	–0.200	–0.140	0.111	0.025	0.094	+113%	+276%
Social transfers	0.086	0.317	0.500	0.450	0.150	+425%	–67%
Other income	0.200	0.833	0.512	0.492	0.373	+146%	–24%
Decomposition: Gini index, contributions							
Gini, per capita income	**0.22**	**0.47**	**0.51**	**0.45**	**0.41**	**+0.206**	**-0.024**
Of which:							
Work income	0.225	0.362	0.326	0.297	0.319	+0.072	+0.022
Wages	0.207	0.324	0.219	0.252	0.245	+0.045	–0.007
"Entrepreneurial"[c]	0.018	0.038	0.107	0.045	0.074	+0.027	+0.029
Income from farm	0.008	0.028	0.066	0.063	0.030	+0.055	–0.033
Old-age pension	–0.016	–0.014	0.020	0.005	0.016	+0.021	+0.011
Social transfers	0.006	0.019	0.010	0.009	0.003	+0.003	–0.006
Other income	0.004	0.075	0.087	0.059	0.041	+0.055	–0.018

Source: 1992–98 from Commander, Tolstopiatenko, and Yemtsov (1999); RLMS (2004).

a. Figures for 1989 from Milanovic (1999) based in HBS.

b. Authors' estimates based on RLMS data.

c. Includes in-kind and cash incomes from nonagricultural self-employment, informal work, and property income.

between Russia and Poland. In fact, an application of Poland's income structure to Russia's concentration coefficients yields a Gini index for Russia that is just 1 point lower than it actually was. And application of Russia's income structure to Poland would have led to a Gini index about 3 points higher than actual in the latter country.

The results are very different for the simulations focusing on the impact of changing concentration coefficients. Application of end-period concentration coefficients to Russia's original income structure would have resulted in inequality exceeding its actually observed level by at least 5 percentage points. For Poland the result is striking: application of Polish end-period concentration coefficients to the original income

structure would have resulted in a Gini coefficient of about 0.45, a level observed in Russia during this period and 10 points higher than the actual outcome in Poland.

This exercise thus shows that changes in structure and in concentration coefficients offset each other—more so in Poland—but that the factors that increase inequality within income sources clearly dominate. Among these sources of change, three need to be mentioned.

First, *labor income* is the main source of livelihood, and distribution of earnings is the main determinant of overall inequality. But the shape of the distribution is also determined by concentration. Increasing concentration coefficients of wages drove up the overall Gini coefficient in both countries, contributing around 25 points to inequality in Russia, and 18.5 points in Poland. The difference between these contributions, which is 6.5 Gini points, is almost the entire difference between the Gini indices for Poland (0.34) and Russia (0.41). At the same time, the concentration coefficient for wages in Poland (0.39 in 2002) is surprisingly large and not much lower than that for Russia (0.45 in 2004), despite the "own" Gini indices for wages being significantly lower, as shown in figure 4. This is due to different degrees of polarization of labor incomes in the two countries: in Poland a share of households as large as 47 percent (in 2002) did not receive any wage income, compared to 35 percent in Russia (in 2004), reflecting a more sizeable adjustment in employment in Poland compared to Russia, among other things (see also Rutkowski 1996).

The second determinant of changes in inequality are *transfers*, pensions, and other social benefits. The effect of transfers on inequality was not uniform, and changes were mostly driven by changes in the size and the distribution of pensions. In both countries, changes in the distribution of pensions played a significant role as contributors to the *increase* in inequality. But since their concentration coefficients were below those of market income sources, this expansion reduced inequality compared to potential *levels*. Had there be no increase in transfers in Poland, inequality would have been fully 3 Gini points (or 10 percent) higher. The effects would indeed have been more progressive had there been no unequalizing change in the concentration coefficients of pensions.[14] Other social transfers, on the other hand, played a dramatically different role in Poland and Russia: thus, for example, the failure to target social benefits in Russia, as shown by a rapid increase in their concentration coefficient in early transition, is in sharp contrast to the situation in Poland.

The third broad driver of inequality is *private sector growth, combined with increasing informality*. The latter is difficult to measure with precision since the data cover reported incomes, which are known to underestimate informal incomes significantly (Yemtsov 2001). In particular it is important to distinguish between survival-type activities, new entrepreneurial incomes, and incomes from property. Informal income in various guises features in different parts of the income spectrum: in farm income, in the form of in-kind consumption from own land plots; in entrepreneurial income, as many businesses are not registered, or in the form of "side" wages reported as a result of freelancing; or in "other income," especially in the CIS, where this term is often used as a euphemism for not fully legal or untaxed income. In terms of sheer size, its effects were large. It is also quite remarkable that in the post-1998

crisis period in Russia, some income sources with a strong informal component, such as farming and other incomes, show a fall in their concentration coefficients.

To summarize these results briefly, the comparison of Poland and Russia from the late 1980s to early 2000s finds that there is no single determinant of inequality. Different drivers, at times working in opposite directions, combined to create a complex patchwork, which is rich enough to allow a wide variety of outcomes. The analysis now turns to a more in-depth examination of spatial and other group-based factors of inequality.

Decomposition of Inequality by Groups

A notable drawback of inequality decompositions based on components such as those presented in the previous subsection is their reliance on income data, with the attendant problems of accurate reporting discussed in the second section of this paper.

However, with the population divided into groups affected by transition, total inequality can also be represented as the sum of inequality from *within* each of the groups, and part of the inequality comes from differences in means *between* these groups. Decompositions of inequality by groups allow one to move to indicators of inequality in consumption, which is superior to income in terms of data quality.

This subsection decomposes consumption inequality in seven representative transition countries into the contribution of inequality "between" groups and inequality "within" groups using the Theil entropy measure of inequality (Bourguignon 1979; Shorrocks 1980). The sum of the within- and between-group contributions equals 1.

Table 7, panels a–c, shows to what extent inequality can be explained by inequality between groups, such as rural residents versus city dwellers, high school graduates versus those with less education, and working families versus jobless households.[15] The choice of these partitions is designed to capture some key dimension of transition such as the emergence of new social classes and changing distribution within those classes. While none of them corresponds as neatly to a set of drivers of inequality as the distribution of income by source, they complement the story emerging from the decomposition of income in an important way. First, they identify winning and losing groups more clearly than is possible with decomposition by income source. Second, differences by educational attainment help assess the magnitude and dynamics of inequality effects related to technological change. Third, they add location effects, which account for a significant share of inequality in virtually every country, since transition resulted in changes in the concentration of economic activity and migration.

Urban-Rural (Location) (Table 7a)

Changes in structure.   There were significant changes in the distribution of population across locations. In Hungary, the share of rural areas dropped from 38 percent to 35 percent of population during the period under review. In Latvia, the share of the capital city of Riga increased from 33 to 38 percent, and in Tajikistan the share of rural areas dropped from 78 to 73 percent in just five years. People have been migrating to higher-income areas. As a result, this driver reduced inequality. Had the initial distribution of population by location stayed the same, inequality in Latvia, for

TABLE 7a. By Location (for Inequality Measured by Consumption Per Capita)

	Latvia		Hungary		Poland		Romania		Russia		Moldova		Tajikistan	
	1998	2002	1993	2002	1998	2002	1998	2002	1997	2002	1998	2002	1999	2002
Theil entropy measure	0.198	0.254	0.149	0.126	0.206	0.217	0.167	0.178	0.205	0.186	0.240	0.209	0.142	0.190
Decomposition of Theil inequality measure (percent)														
	100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Of which between locations	6	16	5	3	5	7	3	11	3	4	9	9	3	4
Of which within capital city	37	50	30	19	5	14	nd	nd	8	7	22	27	9	15
Of which within other urban areas	34	19			58	51	56	58	57	70	18	14	18	20
Of which within rural areas	23	16	28	29	31	28	42	31	32	19	50	51	69	62
Theil entropy index for per capita consumption														
Capital city	0.189	0.241	0.194	0.127	0.187	0.266	nd	nd	0.182	0.178	0.212	0.214	0.151	0.217
Other urban areas	0.189	0.177	0.124	0.124	0.198	0.195	0.157	0.160	0.177	0.181	0.230	0.176	0.158	0.213
Rural areas	0.184	0.189	0.125	0.116	0.189	0.190	0.170	0.154	0.258	0.168	0.218	0.184	0.131	0.169
Population shares (percent)														
Capital city	33	38	19	17	4	8	nd	nd	6	6	17	18	6	9
Other urban areas	37	32	43	48	55	52	55	54	68	68	19	19	16	18
Rural areas	31	30	38	35	41	40	45	46	27	26	63	63	78	73
Real means, relative to national mean per capita consumption = 1.00														
Capital city	1.193	1.357	1.251	1.149	1.420	1.386	nd	nd	1.504	1.148	1.467	1.427	1.385	1.370
Other urban areas	0.976	0.852	0.993	1.024	1.093	1.088	1.085	1.181	0.980	1.065	0.998	0.882	1.032	0.999
Rural areas	0.824	0.698	0.885	0.897	0.834	0.805	0.898	0.783	0.944	0.801	0.873	0.911	0.962	0.952

TABLE 7b. By Education of the Household Head (for Inequality Measured by Consumption Per Capita)

	Latvia		Hungary		Poland		Romania		Russia		Moldova		Tajikistan	
	1998	2002	1993	2002	1998	2002	1998	2002	1997	2002	1998	2002	1999	2002
Theil entropy measure	**0.198**	**0.254**	**0.149**	**0.126**	**0.206**	**0.217**	**0.167**	**0.178**	**0.201**	**0.181**	**0.240**	**0.209**	**0.142**	**0.189**
Decomposition (percent)														
Decomposition:	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Of which between education group	*7*	*22*	*11*	*12*	*13*	*26*	*11*	*20*	*2*	*5*	*8*	*8*	*4*	*4*
Of which within primary education	15	9	23	19	18	14	32	25	5	2	24	21	28	22
Of which within second education	54	34	5	5	26	19	25	25	31	29	32	38	24	35
Of which within vocational education	4	6	38	40	24	21	19	18	39	37	23	18	27	18
Of which within tertiary education	20	28	22	23	19	20	13	13	22	27	14	15	17	21
Theil entropy index for per capita consumption														
Within primary education	0.158	0.171	0.136	0.105	0.165	0.181	0.155	0.145	0.256	0.159	0.219	0.166	0.126	0.202
Within secondary education	0.189	0.189	0.110	0.095	0.184	0.130	0.139	0.138	0.193	0.176	0.237	0.214	0.141	0.175
Within vocational education	0.267	0.195	0.113	0.109	0.163	0.158	0.139	0.139	0.207	0.177	0.220	0.189	0.136	0.176
Within tertiary education	0.183	0.224	0.188	0.125	0.208	0.195	0.169	0.153	0.176	0.164	0.203	0.189	0.148	0.178
Population shares (percent)														
Primary education	23	21	30	28	24	22	40	39	5	3	31	30	34	22
Secondary education	58	48	7	7	27	28	28	33	40	39	35	40	26	42
Vocational education	4	11	52	49	38	37	25	20	34	34	23	19	27	18
Tertiary education	15	19	12	17	11	13	8	8	22	24	11	11	13	18
Real means, relative to national mean per capita consumption = 1.00														
Primary education	0.814	0.644	0.844	0.824	0.827	0.789	0.884	0.789	0.902	0.794	0.842	0.866	0.922	0.919
Secondary education	0.980	0.944	1.138	1.079	1.150	1.263	1.084	0.981	0.904	0.880	0.922	0.930	0.942	0.902
Vocational education	0.902	0.761	0.962	0.962	0.817	0.692	0.915	1.123	0.997	0.986	1.092	1.061	1.034	1.108
Tertiary education	1.377	1.669	1.483	1.365	1.619	1.647	1.621	1.804	1.174	1.217	1.502	1.514	1.239	1.221

TABLE 7c. By Household Labor Market Status (for Inequality Measured by Consumption Per Capita)

	Hungary		Poland		Romania		Russia			Moldova		Tajikistan		Georgia	
	1993	2002	1998	2002	1998	2002	1997	1999	2002	1998	2002	1999	2002	1999	2002
Theil entropy measure	**0.087**	**0.107**	**0.152**	**0.181**	**0.128**	**0.149**	**0.218**	**0.214**	**0.193**	**0.24**	**0.209**	**0.149**	**0.187**	**0.279**	**0.271**
Decomposition (percent)															
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Of which between groups	2	2	1	0	4	1	0	1	5	9	8	2	0	3	1
Of which within the group of wage earners	52	53	38	40	55	69	62	63	67	43	38	13	40	17	19
Of which within the group of self-employed	16	15	43	38	18	7	5	9	14	10	18	19	39	41	39
Of which within the group of subsistence farmers	2	2	3	3	11	8	26	19	8	29	19	66	14	29	28
Of which within the group of nonworking	27	27	15	18	13	14	6	8	6	8	16	1	6	11	13
Theil entropy measure															
Within "formal" wage earners	0.084	0.104	0.145	0.171	0.118	0.142	0.194	0.207	0.184	0.239	0.208	0.171	0.21	0.228	0.205
Within "informal" of self-employed	0.077	0.096	0.157	0.189	0.156	0.243	0.172	0.2	0.203	0.277	0.213	0.159	0.17	0.239	0.247
Within "informal" subsistence farmers	0.086	0.089	0.146	0.202	0.121	0.133	0.339	0.233	0.156	0.187	0.134	0.138	0.16	0.339	0.354
Within LM group of nonworking	0.092	0.114	0.147	0.180	0.126	0.149	0.196	0.221	0.18	0.196	0.243	0.433	0.24	0.368	0.325

TABLE 7c. *continued*

	Hungary		Poland		Romania		Russia			Moldova		Tajikistan		Georgia	
	1993	2002	1998	2002	1998	2002	1997	1999	2002	1998	2002	1999	2002	1999	2002
Population shares (percent)															
"Formal" wage earners	66	56	41	43	61	56	68	62	67	36	32	11	35	20	23
"Informal" self-employed	8	15	43	37	14	18	7	9	12	7	16	15	42	50	45
"Informal" subsistence farmers	1	3	2	2	13	13	17	20	14	48	38	74	17	20	20
LM group of nonworking	26	27	15	17	12	13	7	8	8	9	13	0	5	10	12
Real means, relative to national mean per capita consumption =1.00															
"Formal" wage earners	1.022	0.97	0.988	0.992	1.059	1.077	1.02	1.042	1.055	1.222	1.193	1.071	1.011	1.046	1.086
"Informal" self-employed	1.089	1.172	0.967	0.988	0.824	0.816	0.929	1.037	1.116	1.152	1.095	1.17	1.018	0.942	0.941
"Informal" subsistence farmers	0.845	1.041	1.249	1.263	0.911	0.899	0.99	0.865	0.693	0.784	0.774	0.956	0.955	1.212	1.081
LM group of nonworking	0.921	0.968	1.092	1.01	1.006	1.023	0.903	0.963	0.891	1.161	1.071	1.05	0.931	0.785	0.916

Source: Authors' calculations based on World Bank ECA regional data archive.

Note: nd = no data.

example, would have been 15 percent higher and that in Tajikistan 12 percent higher by 2003.

Changes in "between" inequality.   In general, consumption in rural areas is lower than in urban areas. Capital cities have much higher living standards. In most cases, consumption is about 40 percent higher in capital cities than the national average, but inequality is also higher. Over time, the relative position of rural areas has deteriorated in most countries, sometimes quite sharply. This is common across all countries shown in table 7a. As a result, the "between" component of consumption inequality went up everywhere except in Moldova, where it remained unchanged, and in Hungary, where it fell: the only case of clear convergence between locations.

Changes in "within" inequality.   "Within" capital city inequality increased everywhere, except for Russia, where it stayed virtually the same, and Hungary. In rural areas, "within" location inequality fell for the most part, but remained broadly the same in Hungary and Moldova. There was no clear pattern for changes in inequality within other urban areas.

Some part of the decline in inequality within rural areas may be linked to land ownership or use rights reforms. A broadly similar redistribution of land occurred in low-income CIS countries such as Armenia and Moldova, which also have labor-intensive agriculture and where it is reasonable to expect the effects to have been equitable. Table 7a also shows a large fall in the Theil entropy index in rural Moldova, as opposed to rural Tajikistan, where land reform has been much less comprehensive.

Regional factors.   While the urban/rural dichotomy is small, the role of regional differences may be much greater. Thus Yemtsov (2003), using official per capita income data series, shows that "between-regional" factors among Russia's 80-plus regions accounted for about a third of the overall inequality, with the increase in the between-regions component being a key driver of the change in inequality between 1995 and 2000. However, direct survey measurements instead of official data reveal much smaller roles for regional variations: only about 15 percent of overall inequality can be ascribed to the between-regional differences in means, with stability between 1997 and 2002 (World Bank 2005d). Thus, while the persistence of regional factors is evident, their role as drivers of inequality change is not. Lack of convergence across Russian regions in mean real incomes is also presented as a major factor influencing the outlook for inequality going forward by Dolinskaya (2002) and by Fedorov (2002).

Summing up, while locational factors play a role as a driver of inequality, it is unlikely that they will strongly influence the dynamics of inequality going forward. It is therefore necessary to focus on within-urban and, for low-income CIS countries at any rate, within-rural drivers as key factors that will determine the evolution of inequality in the future.

Education (Table 7b)

Changes in structure.   The shift toward higher skills is clear and universal. As the structure is changing in favor of groups with higher incomes, while groups with

depressed incomes are becoming smaller, the effect is a reduction in inequality. Russia has a different system of classification with regard to levels of education that is not easily reconciled with those prevailing in the other countries and hence is not fully comparable.

Changes in "between" inequality. The share of the "between" component presents a picture strikingly different from that seen in the case of the urban/rural divide. Not only is it much larger, but it also clearly and consistently increases throughout the region. In Latvia and Poland, it accounts for up to a quarter of all inequality. There were also large increases in the "between" component in Romania and in Russia. In Russia, however, the contribution of the "between" component remains small, as it does in Tajikistan. This is because the returns to education, as measured by the relative mean consumption of those with higher education (the bottom panel of table 7b), are low when compared with those in countries of Central and South-East Europe that are further advanced in the transition. Groups with specific skills, such as vocational education, lost in relation to other groups, measured again by returns to education, especially in rapidly restructuring economies such as Latvia and Poland.[16]

Changes in "within" inequality. Changes in "own" inequality by education group are informative. The contribution of the "within" component in primary education fell everywhere, mostly reflecting its fall in the share of this group within the population. However, inequality within the group remains large, reflecting the presence of very large losses for some of these individuals. At the same time, the role of the "within" component in tertiary education went up virtually everywhere, particularly in Latvia, Russia, and Tajikistan, contributing between a fifth and a quarter to total inequality in all countries except Moldova and Romania. It is likely that this reflects rapid technological change but also possibly revealed differences in the adaptability of skills in the face of exposure to global competition. Most importantly, inequality among those with the highest skill levels, as measured by the Theil entropy index, exceeds inequality among other education groups in the quickly globalizing economies of Central Europe, where demand for skills is likely to have been shifting rapidly. In Russia, Moldova, and Tajikistan, by contrast, much of the inequality arises in the middle or bottom of the skills distribution—most likely a transitional phenomenon—with these countries lagging behind those in Central Europe with respect to both size and intensity of change.

The evolution of consumption inequality by level of education is clearly a complex product of many factors, including policy. Specifically, the extensive use of transfer payments in Central Europe targeted to the unemployed, who are more likely to have the lowest level of skills, might have resulted in their consumption inequality being "artificially" low.

Labor Market (Table 7c)

Table 7c focuses on the market for labor, dividing up households into groups characterized by wage employment, entrepreneurial activities, subsistence activities, and nonemployment (retirement, unemployment, and so on).[17] The choice of this partition reflects what is important in transition economies and has been developed by

one of the authors of this paper for the first time in a recent World Bank study about Growth and Poverty in ECA (2005 b).[18]

A few broad generalizations emerge. First, the effects of restructuring on income distribution operated not so much through the relative size of between-sector differences, but through the variation in the role of "employment/nonemployment" types and inequality within the group of unemployed or marginally employed (e.g., those who consumed themselves a large part of their output). Table 7c shows that, even by 2002–3, as much as 20 to 40 percent of the population in Georgia, Kazakhstan, and Moldova were in families reliant on subsistence farming and that, in Georgia and Moldova, a further 10 percent had no employed family members. Over the period of analysis, more people moved into employment and fewer people remained in subsistence employment, but, with the exception of Moldova, Russia, and Tajikistan, the shift was not large enough. The allocation of population between employment as a whole and unemployment in more advanced economies is comparatively steadier, suggesting that the transition-induced reallocation is much farther advanced there.

Second, the growth of entrepreneurship has been a major contributor to an increase in inequality in many countries. This is because as a group it is associated with higher inequality in outcomes than wage employment or subsistence activities, and its share in total population has generally been rising. There are exceptions to this finding, however: notably Georgia, where a decline in the share of households characterized by entrepreneurial activity has resulted in a falling contribution of this group to inequality.

Third, the rise in the contribution to inequality of the nonemployed (transfer recipients) is an important factor behind rising inequality, particularly in the advanced transition economies of Central Europe, but in Romania as well. The increase is due to growing inequality within this group, accompanied, in many cases, by its rising share in total population. Growing inequality among the nonemployed may be a reflection of the increasingly poor opportunities for those who are unemployed or out of the labor force to sustain their standard of living (relative to national mean per capita consumption) and can be related to the failure to increase the share of the employed in total population.

Beyond these generalizations, how different factors come together is very much a country-specific matter. In Russia, in particular, where overall inequality has somewhat receded during the period under review, the main factor is the shift from self-employment (whether entrepreneurial or subsistence) to wage employment between 1999 and 2002, accompanied by a decline in inequality among wage earners. One factor explaining this decline is the reduction in arrears which, as discussed in the fourth section, has been a feature of the economic recovery after the financial crisis in 1998.

Overall inequality declined in Moldova as well. However, this is not due to changing shares of different groups, but a decline in within-group inequality for all major groups: that is, wage employees, entrepreneurs, and subsistence farmers. The reduction in wage inequality may be due to a reduction in arrears. However, the reduction in inequality among agricultural self-employed and rural residents engaged in subsistence

farming is a likely outcome of somewhat delayed, but equitable land reform. In contrast, in Poland and Romania, upward pressure from nonworkers has been reinforced by rising inequality among wage earners. This is no doubt related to the further decompression in wages in those countries (World Bank 2003a, 2004, 2005a).

Sectoral effects.   Many survey datasets analyzed in table 7 do not contain detailed sector identifiers that would allow households to be allocated to particular activities. Despite these limitations, it is important to present at least a partial account of the role of sectoral reallocation in the evolution of inequality. This is closely related to changes in the sectoral composition of employment in transition. Intersectoral differences during the 1998 to 2002 period increased their contribution to overall inequality in Russia from 2 to 6 percent, but remained stable in Poland at around 6 percent. The share of services in overall inequality expanded in both Russia and Poland, but whereas the services sector is the most unequal in Poland, it is the second most unequal after manufacturing in Russia.[19] Agriculture does not seem to play an active role in those countries.

The taxonomy presented in this section can be used to assess what course possible changes in inequality might take for a particular country compared to other countries in the region. Should one expect inequality in Russia, for example, to increase further? This could happen to some extent, reflecting increases in education premia and possibly, but not necessarily, worsening of interregional inequality. So far Russia has been lagging behind countries such as Hungary, Poland, and Romania in the size of the wage premium for education (Rutkowski 2001). There is therefore the potential for some widening of wage differentials between skilled and unskilled labor. While between-regional inequality—which explains up to a third of inequality in Russia—might persist, it need not aggravate an increase in inequality. On the contrary, to the extent that such inequality has roots going back to central planning, it can be mitigated through freer movement of goods and labor across Russia's regions. In addition, depending on societal attitudes to inequality, intergovernmental fiscal transfers can play an equalizing role as well.

Unfortunately, comparable consumption aggregates are not available beyond the 1998–2002 period for all countries in table 7. For this reason it is necessary to rely on published studies and different sources to examine the extent to which the decomposition exercises presented in this section can be used to look forward. Extending the time horizon of available data, figure 7 presents a set of results from available studies using group decompositions for Hungary, Poland, and Russia, where the graphs show the contribution of each component to overall inequality. Well in line with priors regarding the increase in education premia, there is a large and increasing contribution from differences between education groups. But alongside the increase in differences across different levels of education attainment, the importance and persistence of locational effects in Russia—and even in Hungary and Poland—is striking.

Summing Up

The decomposition of changes in inequality over time by income source and socioeconomic group helps identify the forces behind the direction and magnitude of

FIGURE 7. Russia, Hungary, and Poland: Relative Importance of Between-Groups Inequality over Time
percent of total inequality

a. Russia
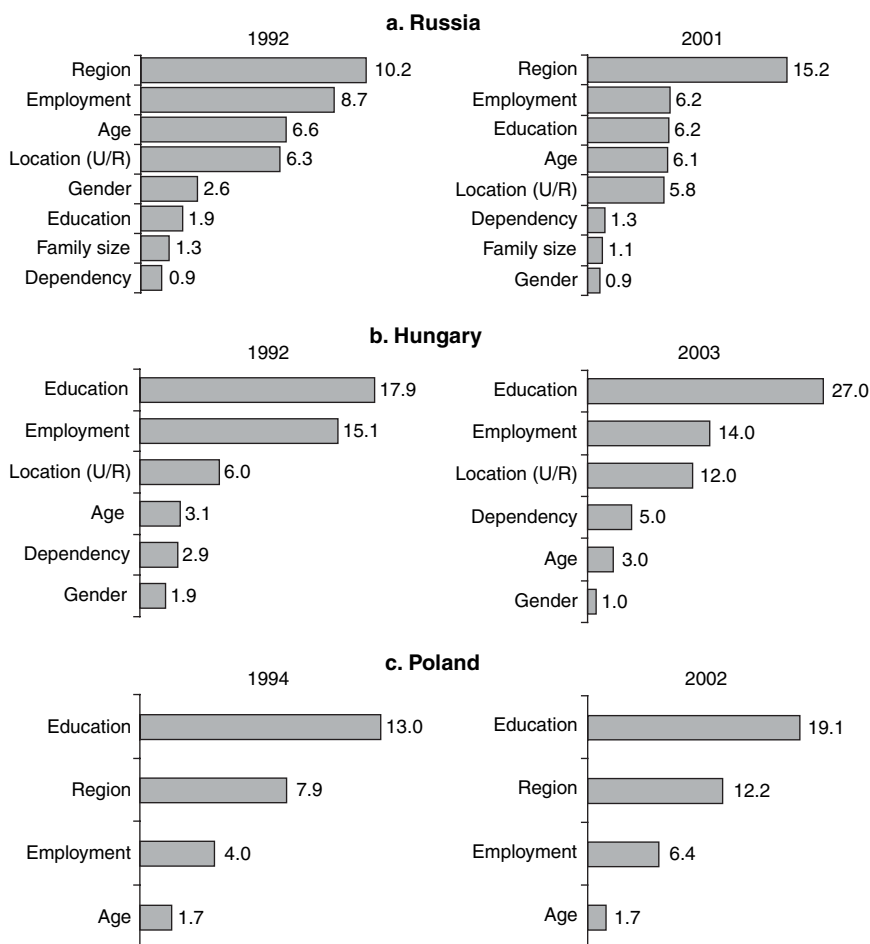
b. Hungary

c. Poland

Sources: For Hungary, Töth (2004a, 2004b). For Poland, World Bank (2004), Szulc (2003). For Russia, Popova (2005).

Note: Decompositions of inequality for Hungary rely on mean log deviation index of inequality based on money incomes. For Poland, Theil entropy index is used as a measure of inequality, and consumption per equivalent adult was used instead of income. For Russia, Theil index of inequality based on which decompositions were made was computed for disposable resources per equivalent adult. For location, U/R = urban/rural.

changes in inequality across the transition countries. Although the theoretical framework developed to explain changes in inequality in transition does not allow rigorous testing of hypotheses and exact identification of various effects, it allows broad qualitative conclusions to be drawn. These conclusions are summarized in table 8. They show that each of the drivers of inequality, especially the ones specific to transition (1–5), operates through a specific channel and can be mapped by looking at the components of inequality in a particular way. However, the role—and, in some instances, the direction of influence—of each effect differs across countries, depending

Table 8. Identifying the Role of Inequality Drivers with Decomposition Results

↑ = inequality increasing, ↓ = inequality decreasing

Drivers	Decomposition by sources	Decomposition by groups
1. Wage decompression and the growth of private sector	• "Own" wage inequality increase ↑ • Fall in the share of wages in incomes ↓	• Increase in private sector and in unemployment ↑
2. Restructuring, unemployment, or reverting to subsistence economy	• Coefficent of concentration for wages ↑ • Increase in share of informal incomes ↑	• Increase in the number of subsistence farmers ↑ • Increase in the number of unemployed ↑
3. Fiscal adjustment affecting government expenditure and taxation	• Changes in the real value of transfers↑↓ • Changes in targeting ↑↓	Inequality among transfer recipients ↑
4. Price liberalization, inflation, and arrears	• "Excess" inequality in wages ↑	• Excess inequality among fixed-income recipients (transfer and state sector workers) ↑↓
5. Asset transfer and property incomes	• Property incomes increase ↑ • Entrepreneurial incomes increase ↑ • Imputed rents ↓	• Increase in the number of self-employed ↑
6. Technological change and expansion of knowledge economy, migration	• Returns to education ↑ • Increase in variation of returns ↑	• Migration to urban areas ↓ • Education expansion ↓ • Premium for highly skilled ↑ • Inequality among the skilled ↑

Source: Authors.

on how advanced they are in the process of transition to a market economy, a consideration not captured in the table.

This complexity of interactions between the determinants of inequality results in a clear conclusion: there are no common, all-encompassing explanations for the increase and, in some cases, subsequent decline in inequality in the transition countries across periods of economic decline and growth. The analysis of the paper also suggests that initial conditions and policy choices have been important in shaping the outcomes.

Changing Inequality in China

This paper started with a comparison of rising inequality between China and Russia and the suggestion that these two phenomena may be more closely linked than usually thought. Table 9 demonstrates that increasing inequality in China is as firmly established a fact as rising inequality in the transition countries of Eastern Europe and the former Soviet Union.[20] In what follows, it should be noted, however, that unlike in the case of the Eastern Europe and the former Soviet Union region, microeconomic data from China are not available for the analysis of this paper.

The key determinants of inequality in China are very different from what has been observed in Eastern Europe and the former Soviet Union. As figure 8 clearly shows,

Table 9. China: Increases in Gini Coefficients for Per Capita Incomes, Various Studies

		Rural			Urban		
Study	Data source	1988	1995	2001–02	1988	1995	2001–02
Ravallion and Chen (2004), Chen and Wang (2002)	SSB	0.297	0.334	0.365	0.211	0.283	0.323
Wu and Perloff (2004)	SSB	0.300	0.338	0.343	0.201	0.221	0.269
Li (2000)	SSB	0.301	0.323		0.230	0.280	
Khan and Riskin (1998, 2005)	CASS	0.338	0.416	0.375	0.233	0.332	0.318
Gustaffson and Li (2001)	CASS	0.228	0.276				
Wagstaff (2005)	CHNS	0.395[a]	0.419[a]				
Meng (2000)	CASS	0.234	0.282				

Sources: As noted.

Note: CASS = Economics Institute of the Chinese Academy of Social Sciences Survey; CHNS = China Health and Nutrition Survey; SSB = State Statistical Bureau based on Household Budget Survey. Empty cells are for years with no available data.

a. All China, 1989 to 1997.

FIGURE 8. Selected countries in Eastern Europe and the Former Soviet Union versus China: Gap in Per Capita Consumption between Urban and Rural Areas, 1993–2002
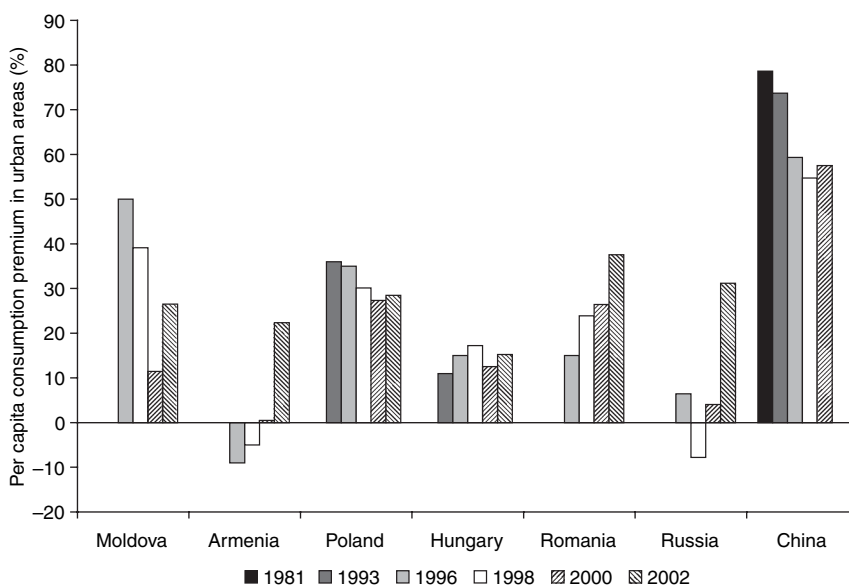
Sources: Authors' estimates. For China, data on real incomes are from Ravallion and Chen (2004).

Note: All means include a cost-of-living adjustment.

China stands out as a country with an extremely large rural-urban gap. Indeed, Shorrocks and Wan (2005) report that, at an estimated 37 percent in 2000, China has the highest "between" urban-rural component of inequality in the world. A significant determinant of China's inequality derives from the rural-urban divide: that is, migration from rural to urban areas and rapid changes in the sectoral composition of output, a classic development phenomenon. In contrast, the turbulent early years

of transition in some countries of Eastern Europe and the former Soviet Union witnessed a reversal of this gap, as some sources of livelihood became available in rural areas at a time when unviable enterprises were being restructured or closed in industrial cities.

Given the nature of economic development and the comparatively rudimentary nature of safety nets in China, changes in the distribution of wages are an important determinant of the evolution of inequality. As was the case in other transition economies, China had an extremely compressed wage structure in the prereform period, a feature that changed following the onset of reforms. However, the level of inequality remained low until the early 1990s, more than a full decade after economic reforms began (Li 2003), increasing rapidly since then.[21] Gustaffson and Li (2001) report that, between 1988 and 1995, the Gini index for urban earnings increased from 24.0 to 30.4.

Urban wages were highly and, almost certainly, artificially equalizing in 1988, with a concentration ratio of only 0.178 (Khan and Riskin 2005). In line with the slow pace of reforms, it rose gradually to 0.198 in 1995 (compared to 0.302 in Poland in 1994 and 0.644 in Russia in 1995), and to 0.245 in 2002 (compared to 0.394 in Poland in 2002 and 0.454 in Russia in 2004). While the rapid growth of private, foreign, and mixed-ownership enterprises contributed to this increase, the comparatively slow restructuring of state-owned enterprises is likely to have arrested the pace of change (Knight and Song 2003). In this connection, it is useful to be reminded that, in 2003, over 80 million out of 250 million urban employed in China were working in state-owned enterprises (*China Statistical Yearbook 2003*).

Most importantly, a comparison of wage inequality in China and Russia suggests that, while returns to education were negligible in China—but not in Russia—in 1989, subsequent developments led to an increasing education premium becoming a stronger driver of wage increases in China, albeit from a lower base. In Russia, in contrast, it played a less prominent role in explaining the evolution of wage inequality.

The analysis of regional differences, which played a dominant role in explaining the development of inequality in China, suggests that there are significant impediments to the operation of market forces. Thus Shi, Sicular, and Zhao (2002) explore the question of rural-urban inequality in greater detail for nine different provinces using the China Health and Nutrition Survey (CHNS). Once differences in living costs are taken into account, the authors conclude that the apparent labor market distortion in the form of registration system and other impediments for migration amounts to a rate of apparent taxation on rural wages of 81 percent. Shi (2002) finds that 28 percent of the rural-urban wage difference can be explained directly via the coefficient on registration. Inasmuch as impediments to migration reflect distortions inherited from the command economy, the large role of regional factors as drivers of wage inequality in China and Russia is a phenomenon related to transition. Further reforms in product and labor markets in both countries can be expected to lead to greater equalization of wages across regions.

Would faster growth in the transition countries of Eastern Europe and the former Soviet Union be accompanied by increasing inequality on a scale similar to that in China? Inasmuch as the latter derives from the rural-urban divide—namely, migration

from rural to urban areas and rapid changes in the sectoral composition of output, a classic development phenomenon for which there is no obvious analogue for the transition countries discussed earlier in the paper—the answer is negative. However, looking forward, it is also likely that transition-related factors will become less important in the evolution of inequality in Eastern Europe and the former Soviet Union compared to factors such as technological progress, global changes in skills premia, the effects of demographic changes, and migration. To the extent that China's income distribution is influenced by its increasing integration in world markets, its experience is relevant for Eastern Europe and the former Soviet Union, which have also been integrating into the global economy, in pointing to the role of such long-term factors. That analysis remains to be done.

Conclusions and Policy Implications

By the early 2000s, the transition countries of Eastern Europe and the former Soviet Union exhibited the full spectrum of inequality outcomes, from fairly unequal to fairly equal. Indeed, developments in economic growth and income inequality over different time periods have been sufficiently rich and varied in Poland and Russia—illustrative cases, respectively, for Eastern Europe and the Commonwealth of Independent States—as well as in China, to cast doubt on any easy generalization about the relationship between growth and inequality. The paper has demonstrated that inequality is the result of complex interactions between initial conditions, country circumstances, and—importantly—policy choices, which need careful analysis.

Before turning to the implications of this analysis for policy, it is important to distinguish between equality of opportunity and equality of outcomes. The *World Development Report 2006* (World Bank 2005a) makes a persuasive case for policies that promote equality of opportunity, defined as opportunities to pursue a life of an individual's choosing and to be spared from extreme deprivation in outcomes. However, it cites the examples of decollectivization of agriculture in China in the late 1970s and wage decompression in Central and Eastern Europe following the onset of transition in those countries as cases where a history of repressed inequality precludes using the resulting inequality of outcomes to infer inequality of opportunities. Indeed, since income differences provide incentives to invest in education, to work, and to take risks, any policy that is cognizant of trade-offs between efficiency and equity will result in inequality of outcomes.

A dominant driver of inequality common to Central Europe, China, and Russia has been wage decompression. While the share of wages has declined in the transition economies of Eastern Europe and the former Soviet Union and, more modestly, in urban China, their concentration coefficient—which depends both on how unequally wage incomes are distributed and how closely they are correlated with total income—has increased significantly in all cases. And although wages became less unequally distributed in Russia in the late 1990s and early 2000s, reversing the trend of increasing inequality in earlier years, that reversal is due in part to a reduction of wage arrears, which is a one-time phenomenon.

Could inequality in wages increase further in the transition countries of Eastern Europe and the former Soviet Union? A recent examination of the evidence (Yemtsov, Cnobloch, and Mete 2006) shows that, while rates of return to schooling are low in the transition countries, they are starting to increase and, furthermore, that there is a positive association between progress with market reforms as measured by EBRD transition indicators and returns to schooling. Hence, to the extent that the evolution of wage inequality is a reflection of the education premium, it is certainly possible to envisage greater inequality of wage outcomes as market reforms fully take hold in lagging reformers.

An important issue in the CIS countries is the reduction of the informal economy. While self-employment, including subsistence agriculture, played the role of a safety net following the deindustrialization and retrenchment that occurred in the early years of transition, and hence were welfare-improving relative to the potential unemployment that would otherwise have occurred, an important policy issue now is how to create more productive jobs. That would also mitigate the unequalizing effect of wage decompression, among other things. The creation of new jobs could be accomplished through the removal of those elements in the investment climate that confer a disadvantage on new private sector firms, which are important in employment creation (World Bank 2005c). Surveys of the business environment (EBRD 2005) indicate that beyond simplification of firm registration and licensing and reform of tax administration, the creation of a level playing field between state and privatized firms on the one hand and new private sector firms on the other would require "second generation" reforms in the areas of competition policy, the regulatory regime, and institutions that protect property rights, such as the court system. Leveling the playing field would lead to restructuring and the exit of unviable firms, accompanied by job destruction, which would need to be managed through more active use of the social safety net.

This paper has shown that location is an important determinant of inequality in Russia and that it exerts an influence in Hungary and Poland as well. While this might persist, it need not lead to a further increase in inequality. On the contrary, such inequality, to the extent that it has roots going back to central planning, can be mitigated through freer movement of goods and labor brought about through product and labor market reform. In addition, depending on societal attitudes to inequality, intergovernmental fiscal transfers can play a role as well.

The size and targeting of public transfers has had large and persistent effects on income distribution: broadly equalizing in Central Europe, and unequalizing in the CIS. While the absence of pensions—the most significant component of public transfers—would have aggravated inequality, pensions were not markedly egalitarian in their incidence, even in Poland, because most pensioners do not fall into the lower end of the income distribution. However, as the contrasting experience of Poland and Russia show, improved targeting of "other social transfers," mainly social assistance, can play a significant role in reducing income inequality and remain a policy instrument that can be used in line with a country's preference for inequality, provided they are fiscally sustainable.

Finally, while an assessment of the available evidence suggests that further increases in inequality in the transition countries of Eastern Europe and the former

Soviet Union are not inevitable, the paper identifies several gaps in the understanding of inequality on which future research might profitably focus. Such an agenda would include an in-depth exploration of the nonincome dimensions of inequality and inequality of opportunities; the role of technological change and globalization; housing policies, subsidies, and imputed rents; and the effect of tax policies on the distribution of income.

Notes

1. When such corrections are made, they tend to reduce inequality as measured by the Gini index by between 1 and 3 percentage points (Yemtsov 2003).
2. The use of the Eurostat equivalence scale rather than per capita typically reduces the value of Gini index by about 2 percentage points (see for example Forster, Jesuit, and Smeeding 2003).
3. Copies of much of the survey data conducted in the region are stored in the World Bank Europe and Central Asia (ECA) regional data archive. At the time of writing the archive contained primary unit record data from recent household surveys for 24 countries spanning the period 1998–2004.
4. Ravallion (2001), quoting Benabou (1996), argues that countries are expected to converge to the same distribution and proposes a test for such convergence, but due to data limitations transition economies have not been fully incorporated in his analysis.
5. The data used in figure 2 for China come from Ravallion and Chen (2004).
6. The data are taken from RLMS.
7. See Aghion and Commander (1999); Förster and Tóth (1997); Garner and Terrell (1998); Keane and Prasad (2002a).
8. See Kattuman and Redmont (2001) for Hungary; Garner and Terrell (1998) for the Czech Republic and Slovak Republic; and Commander and Lee (1998), followed by Decoster (2005) for some evidence for Russia.
9. For a review, see Birdsall and Nellis (2003); Davies and Shorrocks (2005).
10. This state can also be reinterpreted as subsistence or informal sector employment.
11. This is essentially a model of labor reallocation, which omits capital (or mixed) income, thereby bypassing one of the most important features of transition. Furthermore, parameters of the distribution within each sector are taken as exogenous and constant.
12. Note that whenever the concentration coefficient of income source k is greater than the overall Gini coefficient, an increase in the income source k (holding everything else constant), will increase inequality. See Cowell and Jenkins (1995).
13. See Commander, Tolstopiantenko, and Yemtsov (1999); Szulc (2003); Kattuman and Redmont (2001); and Kyslitsyna (2003).
14. This increase might seem somewhat counterintuitive, as transfers are often regarded as factors mitigating against inequality increase (Keane and Prasad 2002a). Paradoxically, it was largely a result of the increased pensions and greater reliance on pension payments by recipients. Before transition, inadequate pension payments were often supplemented by individual work after the pension age, and their recipients were as likely to be in the bottom of the distribution as in the top. After the changes in pension policy and indexation, most pensioners moved to the middle of the distribution, while having to forego additional earnings with tighter labor markets. This created a stronger positive correlation between income level and pensions and hence larger concentration coefficients. Gustaffson and Nivorozhkina (2005) used a unique study of households in Taganrog in 1989 and a follow-up study in 2000 to arrive at the same conclusions: the main beneficiaries from expanding public transfers have

been households in the middle of the income distribution, and that outcome also positively contributed to the increase of income inequality in Russia.

15. Table 7 relies on per capita equivalence scale, as do tables 3 and 4, where data availability dictated the choice. However, results on decomposition by groups presented in table 7 are also available on per equivalent adult basis (with constant degree of returns to scale, $\theta 0.5$ or 0.75). Results are broadly in line with reported here in table 7 (with the exception of Moldova), and are available from authors on request.

16. Returns to vocational education in Hungary were unchanged between 1993 and 1999, but the country had reformed its vocational education very early on in transition, as reported in Kertesi and Köllo (2001).

17. The definitions used are as follows. A household was classified as belonging to a group of wage earners when at least one household member was a salaried employee and there were no working members who were self-employed with only minimal supplementary income obtained from self-production (<5 percent). A household was classified as belonging to a group of entrepreneurs when it owned a business or at least one adult was self-employed, with only minimal self-production (<5 percent), making such self-employment truly market-oriented. A household was classified as belonging to a group engaged in subsistence activities when at least one adult was in self-employment and significant income accrued from self-production (>5 percent). Finally, a household fell into the group of nonemployment when no adult was in employment or self-employment.

18. The values reported for the Theil entropy index for per capita consumption in table 7c are different from those in tables 7a and 7b. This is because labor market information is available for a number of countries but often only for a subset of households and/or for a subset of time periods, such as only one quarter of a year; inequality can be decomposed only for that particular quarter instead of the full year as in tables 7a and 7b. Furthermore, in surveys, questions on employment are subject to a much larger nonresponse than questions about location or education levels. Most figures and directions of change are similar, with the exception of Hungary, where labor market information is poorly reported in household budget surveys.

19. The results of sectoral decompositions are not reported in table 7 but are available from the authors on request.

20. The coefficients in table 9 are widely believed to be underestimates for urban areas (see for example Khan and Riskin 2005). This is because the urban sample of the national survey includes only permanent residents and migrants with permits (hukous) registered in urban areas. The estimates of unregistered migrants differ and are as large as 150 million. Unregistered migrants are believed to earn significantly lower salaries and their omission from the sample definitely underestimates urban inequality in China.

21. Gustaffson and others (2001) find surprisingly similar earnings profiles for Chinese and Russian urban workers in 1989.

References

Aghion, Philippe, and Olivier Blanchard. 1994. "On the Speed of Restructuring." Massachusetts Institute of Technology and European Bank for Reconstruction and Development, London.

Aghion, Philippe, and Simon Commander. 1999. "On the Dynamics of Inequality in the Transition." *The Economics of Transition* 7 (2): 275–98.

Alexeev, Michael, and Clifford Gaddy. 1993. "Income Distribution in the U.S.S.R. in the 1980s." *Review of Income and Wealth*, Series 39: 23–36.

Atkinson, Antony. 2003. "Income Inequality in OECD Countries: Data and Explanations." Revised version of paper prepared for the CESifo conference, "Globalization, Inequality, and Well-Being," Munich, November 8–9, 2002.

Atkinson, Anthony B., and John Micklewright. 1992. *Economic Transformation in Eastern Europe and the Distribution of Income*. Cambridge: Cambridge University Press.

Benabou, Roland. 1996. "Inequality and Growth." Working Paper 5658, National Bureau of Economic Research, Cambridge, Mass.

Birdsall, N., and J. Nellis. 2003. "Winners and Losers: Assessing the Distributional Impact of Privatization." *World Development* 31 (10): 1617–33.

Bourguignon, Francois. 1979. "Decomposable Income Inequality Measures." *Econometrica* 47 (4): 901–20.

———. 2003. "The Growth Elasticity of Poverty Reduction: Explaining Heterogeneity across Countries and Time Periods." In *Inequality and Growth: Theory and Policy Implications*, eds. T. Eicher and S. Turnovski, 3–26. Cambridge, Mass.: MIT Press.

Bourguignon, François, Francisco H. G. Ferreira, and Phillippe G. Leite. 2004. "Beyond Oaxaca-Blinder: Accounting for Differences in Household Income Distributions Across Countries." Background paper for "Inequality and Economic Development in Brazil," World Bank, Washington, DC.

Buckley, Robert, and Eugene Gurenko. 1997. "Housing and Income Distribution in Russia: Zhivago's Legacy." *World Bank Research Observer* 12 (1): 19–32.

Campos, Nauro F., and Dean Jolliffe. 2003. "After, Before, and During: Returns to Education in Hungary (1986–1998)." *Economic Systems* 27: 377–90.

Chen, Shaohua, and Yan Wang. 2002. "China's Growth and Poverty during the 1990s: Trends Between 1990 and 1999." Policy Research Working Paper 2651, World Bank, Washington, DC.

Commander, Simon, and Une Lee. 1998. "How Does Public Policy Affect the Income Distribution? Evidence from Russia, 1992–1996." European Bank for Reconstruction and Development and World Bank.

Commander, Simon, and Andrei Tolstopiatenko. 1996. "Restructuring and Taxation in Transition Economies." Policy Research Working Paper 1625, World Bank, Washington, DC.

———. 1997. "Unemployment, Restructuring, and Inequality in the Transition." European Bank for Reconstruction and Development, London.

Commander, Simon, Andrei Tolstopiatenko, and Ruslan Yemtsov. 1999. "Channels of Redistribution: Inequality and Poverty in the Russian Transition." *Economics of Transition* 7 (2): 411–47.

Cowell, F., and S. Jenkins. 1995. "How Much Inequality Can We Explain? A Methodology and an Application to the United States." *Economic Journal* 105: 421–30.

Davies, James, and Antony Shorrocks. 2005. "Wealth Holdings in Developing and Transition Countries." Paper prepared for the Luxembourg Wealth Study conference on "Construction and Usage of Comparable Microdata on Wealth," Perugia, January 27–29.

Dolinskaya, Irina. 2002. "Transition and Regional Inequality in Russia: Reorganization or Procrastination?" IMF Working Paper 169. International Monetary Fund, Washington, DC.

Decoster, Andre. 2005. "How Progressive and Indirect Taxes in Russia?" *Economics of Transition* 13 (4): 705–29.

Earle, John S., and Klara Z. Sabirianova. 2002. "How Late to Pay? Understanding Wage Arrears in Russia." *Journal of Labor Economics* 20 (3): 661–707.

EBRD (European Bank for Reconstruction and Development). 2005. *Transition Report*. London: European Bank for Reconstruction and Development.

EC (European Commission). 2005. *Report on Social Inclusion 2005: An Analysis of the National Action Plans on Social Inclusion (2004–2006) Submitted by the 10 New Member States*. European Commission Directorate-General for Employment, Social Affairs, and Equal Opportunities. Luxembourg: European Communities. http://europa.eu.int.

Eurostat. 2005. "Statistics in Focus: Population and Social Conditions." In *Income Poverty and Social Exclusion in the EU-25*, ed. Anne-Catherine Guio. Series– 13/2005, Luxembourg.

Fedorov, L. 2002. "Regional Inequality and Regional Polarization in Russia, 1990-1999." *World Development* 30 (3): 443–56.

Flabbi, Luca, Stefano Paternostro, and Erwin R. Tiongson. 2005. "Returns to Education in the Economic Transition: 1986–2002." World Bank, Washington, DC.

Fleisher, Belton M., Klara Sabirianova, and Xiaojun Wang. 2004. "Returns to Skills and the Speed of Reforms: Evidence from Central and Eastern Europe, China, and Russia." Working Paper 703, William Davidson Institute, University of Michigan Business School, Ann Arbor.

Flemming, J., and J. Micklewright. 1999. "Income Distribution, Economic Systems, and Transition." In *Handbook of Income Distribution*, eds. A. B. Atkinson and F. Bourguignon, ch.14. Amsterdam: Elsevier Science BV.

Förster, Michael F., and István György Tóth. 1997. "Poverty, Inequalities, and Social Policies in the Visegrad Countries." In *Economics of Transition* 5 (2): 505–10.

Förster, M., D. K. Jesuit, and T. M. Smeeding. 2003. "Regional Poverty and Income Inequality in Central and Eastern Europe." Discussion Paper 2003/65, United Nations University/World Institute for Development Economics Research (UNU/WIDER), Helsinki.

Garner, Thesia, and Katherine Terrell. 1998. "A Gini Decompositon Analysis of Inequality in the Czech and Slovak Republics during the Transition." *The Economics of Transition* 6 (1): 23–46.

Gorodnichenko, Yuri, and Klara Sabirianova Peters. 2004. "Returns to Schooling in Russia and Ukraine." Discussion Paper 1325, Institute for the Study of Labor (IZA), Bonn.

Goskomstat (various years). *Russian Statistical Yearbook*. Moscow: Goskomstat.

Gustafsson, Bjorn, and Shi Li. 2001. "The Anatomy of Rising Earnings Inequality in Urban China." *Journal of Comparative Economics* 29: 118–35.

Gustafsson, Bjorn, and Ludmila Nivorozhkina. 2005. "How and Why Transition Made Income Inequality Increase in Urban Russia: A Local Study." Journal of Comparative Economics 33: 772–87.

Gustafsson, Bjorn, Shi Li, Ludmila Nivorozhkina, and Katarina Katz. 2001. "Rubles and Yuan: Wage Functions for Urban Russia and China at the End of the 1980s." *Economic Development and Cultural Change* 50: 1–17.

Ivaschenko, Oleksiy. 2003. "Growth and Inequality: Evidence from Transitional Economies." In *Inequality and Growth: Theory and Policy Implications*, eds. T. Eicher and S. Turnovski, 155–98. Cambridge, Mass: MIT Press.

Kattuman, Paul, and Gerry Redmont. 2001. "Income Inequality in Early Transition: The Case of Hungary 1987–1996." *Journal of Comparative Economics* 29 (1): 40–65.

Keane, M., and E. Prasad. 2002a. "Inequality, Transfers, and Growth: New Evidence from the Economic Transition in Poland." Discussion Paper 448, Institute for the Study of Labor (IZA), Bonn.

———. 2002b. "Changes in the Structure of Earnings during the Polish Transition." Working Paper 135, International Monetary Fund, Washington, DC.

Kertesi, Gábor, and János Köllo. 2001. "Economic Transformation and the Revaluation of Human Capital–Hungary, 1986–1999." Budapest Working Papers on the Labour Market 2001/4, Institute of Economics, Hungarian Academy of Sciences, Budapest.

Khan, Azizur Rahman, and Carl Riskin. 1998. "Income Inequality in China: Composition, Distribution, and Growth of Household Income, 1988 to 1995." *The China Quarterly* 154: 221–53.

———. 2005. "China's Household Income and its Distribution, 1995 and 2002." *The China Quarterly* 182 (June): 356–84.

Klugman, Jeni. 1998. "Wage in Transition: The Case of Uzbekistan." PhD dissertation, Australian National University, Department of Economics, Canberra.

Knight, John, and Lina Song. 2003. "Increasing Urban Wage Inequality in China: Extent, Elements, and Evaluation." *Economics of Transition* 11 (4): 597–619.

Kyslitsyna, Olga. 2003. "Income Inequality in Russia during Transition: How Can It Be Explained?" Working Paper 03/08, Economics Education and Research Consortium (EERC), Moscow.

Lehmann, Hartmut, and Jonathan Wadsworth. 2001. "Wage Arrears and the Distribution of Earnings in Russia." Working Paper 421, William Davidson Institute, University of Michigan Business School, Ann Arbor.

Lehman, Hartmut, Jonathan Wadsworth, and Alessandro Acquisti. 1999. "Grime and Punishment: Job Insecurity and Wage Arrears in the Russian Federation." *Journal of Comparative Economics* 27: 595–617.

Li, Shi. 2000. "Changes in Income Inequality in China Transition." Chinese Academy of Social Sciences, Beijing.

———. 2003. "A Retrospect and Prospect of Individual Income Distribution in China." *China Economic Quarterly* 2 (2): 379–404.

Lukianova, Anna. 2005. "Wage Differentiation and Phenomenon of Working Poor in Russia." World Bank, Washington, DC.

Meng, Xin. 2000 "Economic Restructuring and Income Inequality in Urban China." Research paper, Australian National University, Canberra.

Milanovic, B. 1998. "Income, Inequality, and Poverty during the Transition from Planned to Market Economy." Regional and Sectoral Studies, World Bank, Washington, DC.

———. 1999. "Explaining the Increase in Inequality during the Transition." Policy Research Working Paper 1935, World Bank, Washington, DC.

National Bureau of Statistics. *China Statistical Yearbook 2003*. Beijing.

Newell, A. 2001. "The Distribution of Wages in Transition Countries." Discussion Paper 67, Institute for the Study of Labor (IZA), Bonn.

Newell, A., and M. Socha. 2005. "The Distribution of Wages in Poland, 1992–2002." Discussion Paper 1485, Institute for the Study of Labor (IZA), Bonn.

Popova, D. 2005. "Dynamics of Income Inequality in the Context of Globalization." In *Russia's Accession to WTO: Imaginary and Real Consequences*, ed. L. Ovcharova for the Independent Institute for Social Policy (IISP). Moscow: Pomatur (in Russian).

Ravallion, Martin. 2001. "Inequality Convergence." Policy Research Working Paper 2645, World Bank, Washington, DC.

Ravallion, Martin, and Shaohua Chen. 2004. "China's (Uneven) Progress against Poverty." Policy Research Working Paper 3408, World Bank, Washington, DC.

Rutkowski, J. 1996. "High Skills Pay Off: The Changing Wage Structure during the Economic Transition in Poland." *Economics of Transition* 4: 89–112.

———. 2001. "Earnings Inequality in Transition Economies of Central Europe: Trends and Patterns during the 1990s." Social Protection Discussion Paper 0117, World Bank, Washington, DC.

Shi, Xinzheng, 2002. "Empirical Research on Urban-Rural Income Differentials: The Case of China." China Center for Economic Research, Beijing University.

Shi, Xinzheng, Terry Sicular, and Yaohui Zhao. 2002. "Analyzing Urban-Rural Income Inequality in China." Paper presented at the International Symposium on Equity and Social Justice in Transitional China, July 11–12, Beijing.

Shorrocks, Anthony. 1980. "The Class of Additively Decomposable Inequality Measures." *Econometrica* 48 (3): 613–25.

———. 1982. "Inequality Decomposition by Factor Components." *Econometrica* 50 (1): 193–211.

Shorrocks, Anthony, and Guanghua Wan. 2005. "Spatial Decomposition of Inequality." *Journal of Economic Geography* 5 (1): 59–81.

Svejnar, Jan. 2002. "Transition Economies: Performance and Challenges." *Journal of Economic Perspectives* 16 (1): 2–28.

Szulc, Adam. 2003. "Inequality during the Economic Transition in Poland: 1993–1999, Evidence." Institute of Statistics and Demography, Warsaw School of Economics.

Tóth, István György. 2004a. "Assessing the Effects of Economic Transition on Income Distribution: The Case of Hungary, 1987–2001." Paper presented at Fifth Annual Global Development Conference, "Understanding Reform," New Delhi, January 28.

———. 2004b. "Income Composition and Inequalities in Hungary, 1987–2003." In *TÁRKI Social Report 2004*, 72–92. Budapest: TÁRKI.

Večerník, Jiri. 1995. "Changing Earnings Distribution in the Czech Republic: Survey Evidence from 1988–1994." *Economics of Transition* 3: 355–71.

Wagstaff, Adam. 2005. "Decomposing Changes in Income Inequality into Vertical and Horizontal Redistribution and Reranking, with Applications to China and Vietnam." Policy Research Working Paper 3559, World Bank, Washington, DC.

World Bank. 1999. *Georgia: Poverty and Income Distribution*. Volumes I and II. Poverty Reduction and Economic Management Unit, ECA Region, World Bank, Washington, DC.

———. 2000. *ECAPOV 1. Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia*. Washington, DC: World Bank.

———. 2002a. "Armenia Poverty Update." World Bank, Washington, DC.

———. 2002b. "Georgia Poverty Update." World Bank, Washington, DC.

———. 2002c. "Hungary: Long-Term Poverty, Social Protection, and the Labor Market." World Bank, Washington, DC.

———. 2002e. *Transition: The First Ten Years. Analysis and Lessons for Eastern Europe and the Former Soviet Union*. Washington, DC: World Bank.

———. 2003a. "Kyrgyz Republic: Enhancing Pro-poor Growth." World Bank, Washington, DC.

———. 2003b. "Romania Poverty Assessment." World Bank, Washington, DC.

———. 2004. "Poland: Growth, Employment, and Living Standards in Pre-Accession Poland." World Bank, Washington, DC.

———. 2005a. *World Development Report 2006, Equity and Development*. Washington, DC: World Bank.

———. 2005b. *ECAPOV II. Growth, Poverty, and Inequality in Eastern Europe and the Former Soviet Union, 1998–2003*. Washington, DC: World Bank.

———. 2005c. "Labor Markets in Europe and Central Asia: Toward Creating More and Better Jobs." World Bank, Washington, DC.

———. 2005d. "Russian Federation: Reducing Poverty through Growth and Social Policy Reform." World Bank, Washington, DC.

Wu, Ximing, and Jeffrey M. Perloff. 2004. "China's Income Distribution over Time: Reasons for Rising Inequality." Working Paper 977, Department of Agricultural and Resource Economics (CUDARE), University of California, Berkeley.

Yemtsov, Ruslan. 2001. "Georgia: Income Distribution." Discussion Paper 252, Institute for the Study of Labor (IZA), Bonn.

———. 2003. "*Quo Vadis* Inequality and Poverty Dynamics across Russian Regions." Discussion Paper 2003/67, United Nations University/World Institute for Development Economics Research (UNU/WIDER), Helsinki.

Yemtsov, R., S. Cnobloch, and C. Mete. 2006. "Evolution of the Predictions of Earning during Transition." World Bank, Washington, DC.

Trade Liberalization, Inequality, and Poverty Reduction in Latin America

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Latin America's trade liberalization in the late 1980s and early 1990s was accompanied in some countries by increases in skill premiums, wage and income inequality, and even in poverty: results unexpected by many. This paper argues that this was mainly the result of four factors. First, most Latin American countries are rich in natural resources (which in general are complementary with capital and skills) and more abundant in capital than other developing countries with large pools of unskilled labor, such as China and India, that were integrating into the world economy while Latin America was liberalizing. Second, dynamic effects of trade led to new goods being produced in the region through outsourcing, an acceleration of skill-biased technical change, and Schumpeterian creative destruction, resulting in an increase in demand for skills in most industries. Third, initial conditions and contemporary events make predictions based on a simple factor abundance model difficult to generalize. As an example of the latter, the pre-reform structure of protection was biased toward unskilled-intensive sectors in some Latin American and Caribbean countries and tariff reductions naturally led to a relative increase in demand for skills. Differences in consumption bundles across income groups, exchange rate movements, and the growing importance of a nontradable service sector also make predictions less straightforward. Fourth, imperfectly functioning labor markets—such as potential transitions in and out of unemployment and informality—as well as income volatility are likely to affect and sometimes change the direction of the impact of trade reforms on income inequality and poverty. Finally, the paper argues that the effect of trade on poverty (and income inequality) depends on complementary policies being implemented. The impact of trade on poverty reduction can be significantly enhanced (and the effects on inequality mitigated) by policies that increase the provision and access to skills and other productive assets to the poor.

Trade reforms in Latin America have often been associated, in the popular debate, with increases in income inequality, poverty, and skill premiums. On the other hand,

many in the economics profession, based on the Heckscher-Ohlin framework and the Stolper-Samuelson theorem, expected trade liberalization in Latin America, as in other developing countries, to reduce income inequality through an increase in the relative demand for unskilled labor (the presumed abundant endowment of developing countries). This paper reviews the facts, attempts to explain the apparent puzzles, and explores what governments can do to ensure that international trade becomes an instrument for poverty reduction.

The distributional impacts of trade liberalization are difficult to assess ex ante as trade reforms, through their changes on factor and good prices, will naturally lead to losses to some agents and gains to others. In the presence of effective distributive policies (taxes, subsidies, and transfers), it is possible in principle to redistribute the overall gains to achieve Pareto efficiency.[1] In the absence of such effective redistributive policies—as is the case in Latin America, where the tax and transfer systems accomplish little redistribution (Perry and others 2005)—little can be said in general terms regarding the welfare implications of trade at the aggregate level, or for groups of individuals. Whether trade openness will benefit poor households becomes an empirical question and data analysis is needed to provide clues regarding the impacts of trade across different households.

This paper examines these issues in the context of the trade liberalization episodes that took place in most countries of Latin America from the mid-1980s (Chile and Mexico) to the early 1990s (figure 1).[2] Not only tariffs, but also quantitative restrictions, were substantially reduced during this period across Latin America. As we will see, their impact on income inequality and poverty varied across countries within the region.

The paper is organized as follows. The second section begins by reviewing the evidence on the effects of these trade reform episodes on income inequality, wage inequality, skill premiums, and demand for skills. It then turns to explaining the apparent puzzles through a characterization of Latin America factor endowments relative to other regions, a description of dynamic effects that may have resulted in a relative increase in the demand for skilled factors, and a study of the role played by initial conditions and contemporary events such as the initial tariff structure and exchange rate movements. The third section focuses on the impact of trade reform on the incomes of the poorest individuals. It also discusses the effects of transitions in and out of unemployment and informality, and the impact of trade on income volatility. The fourth section analyzes the importance of policy complementarities in ensuring that the poor benefit from trade reforms. The fifth and final section offers concluding remarks.

Trade Opening and Inequality: Latin America's "Puzzle"?

Many economists, following the predictions of neoclassical Heckscher-Ohlin and Stolper Samuelson trade models (HO/SS henceforth), expected trade liberalization in developing countries to reduce income inequality through an increase in the relative demand for unskilled labor. Under the assumption that capital and skills

FIGURE 1. Trade Openness Indicators, Latin America, 1987 and 1998

a. Average tariffs

b. Quantitative restrictions
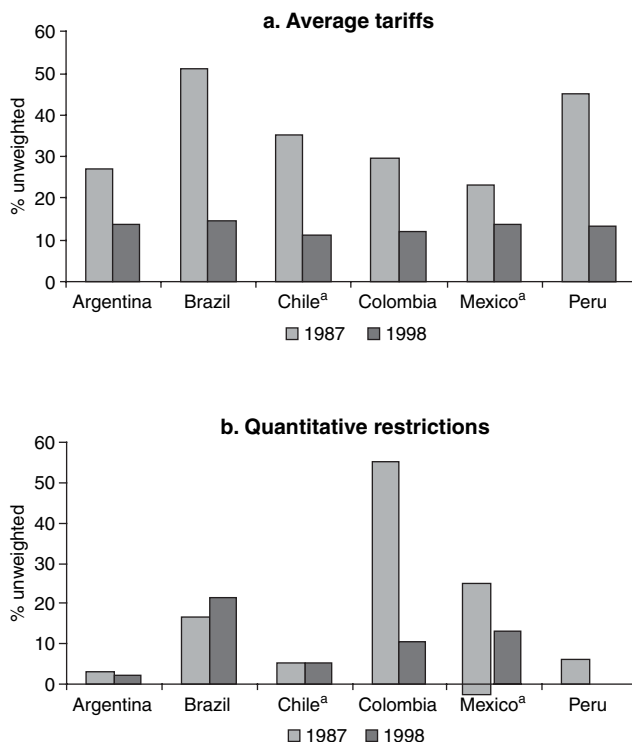
Source: Perry, Lederman, and Suescun 2002.
Note: The y-axis shows the unweighted average across all goods.
a. For Chile and Mexico, the preliberalization data is for the year 1984, as they started their trade reforms earlier than the rest.

were complements, trade liberalization was expected to reduce skill premiums and hence wage inequality. This seemed to be confirmed by the experience of the Asian Tigers' trade liberalization in the 1960s, where wage inequality declined after trade liberalization (figure 2).[3]

Many analysts also expected reductions in inequality and skill premiums when most Latin American countries sharply reduced their tariffs and nontariff trade barriers in the mid-1980s and beginning of the 1990s, although several previous empirical studies had not found a consistent relation between trade liberalization in developing countries and domestic income distribution.[4] What was observed in Latin America, however, was an increase in wage inequality (with some exceptions) and skill premiums (between workers with tertiary and secondary education), and in some cases an increase in overall income inequality (figure 3).

The increase in skill premiums for workers with tertiary education is explained by the fact that there were significant increases in relative demand for these skilled workers in most countries just after trade liberalization, which were not met by increases in supply. There was also increased relative demand for workers with secondary education vis-à-vis those with just primary education, although relative supply shifts led to reduced skill premiums in this case in several countries.[5]

FIGURE 2. Wage Inequality Before and After Trade Liberalization, East Asian Tigers
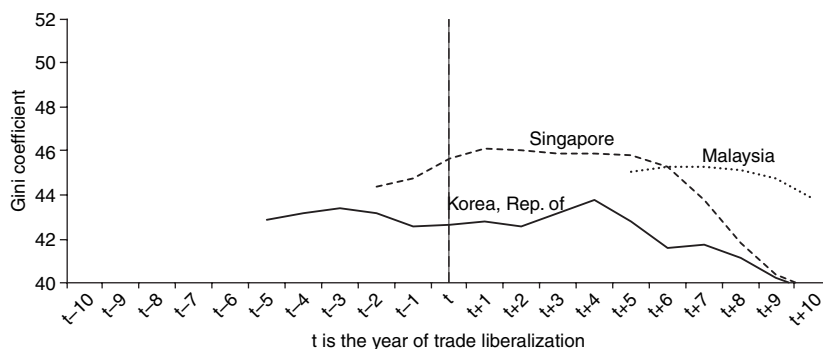
Note: Wage inequality is computed using a regression between the Deininger & Squire (D&S) inequality measures and the UTIP-UNIDO pay inequality measures (which is measured as the wage dispersion betwee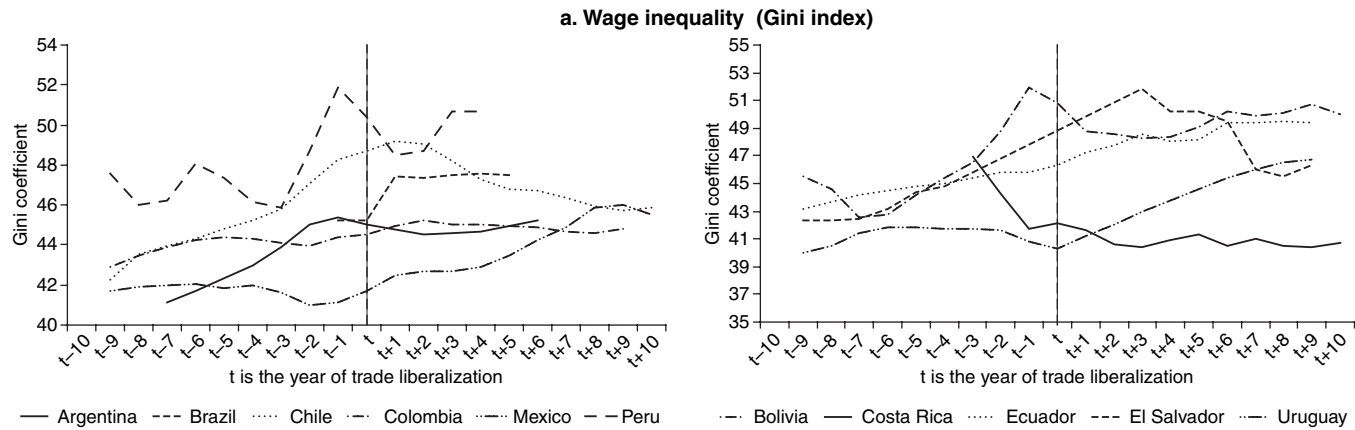n 28 three-digit manufacturing sectors) controlling for the data source characteristics in the D&S dataset and for the share of manufacturing in total employment.

Nevertheless, the observed increases in skill premiums wage and income inequality may not have been *caused* by trade opening, as many other things were going on at the same time. Indeed, many countries engaged simultaneously in capital account opening, financial sector liberalization, privatization of public enterprises, and domestic markets deregulation. It is extremely difficult to identify and separate the effects of all these policy reforms, and the few studies that have attempted to do so come to different conclusions.

Behrman, Birdsall, and Szekely (2000) examined the joint and separate effects of reforms on wage differentials among workers with primary, secondary, and tertiary education over time, using comparable wage data and the index of reforms in Lora (1997),[6] as extended and modified by Morley (2000). They found that the package of reforms had a strong but temporary effect on wage differentials (a negative effect on wages of workers with primary education, a slightly positive effect for workers with secondary education, and a strongly positive effect for workers with tertiary education), but that this was due to the effects of financial market reform, capital account opening, and tax reform, while trade reform results were not statistically significant and the effect of privatization went in the opposite direction. The stronger effects were due to capital account opening and financial liberalization, although they faded away rapidly over time. They hypothesized this was probably due to complementarities between capital and skills, and thus concluded that "technological progress, rather than trade flows, appears to be the channel through which reforms are affecting inequality" (2000, p. 3).

Morley (2000) examined the joint and separate effects of reforms on income distribution using household survey data and the same reform indexes, and he found strikingly different results: the overall effect was statistically not significant, while trade and tax reform appeared to increase income inequality, and capital account opening to reduce it. The effects of financial liberalization and privatization were not

FIGURE 3. Skill Premiums, Wage Inequality, and Income Inequality Before and After Trade Liberalization in Latin America

a. Wage inequality (Gini index)

t is the year of trade liberalization

— Argentina --- Brazil ⋯ Chile –·– Colombia –··– Mexico – – Peru   –·– Bolivia —— Costa Rica ⋯ Ecuador --- El Salvador –··– Uruguay

Sources: University of Texas inequality project. Time at which trade liberalization occurs is from Wacziarg and Welch (2003).

Note: Inequality in wages computed from a regression relationship between the D&S measures and the UTIP-UNIDO pay inequality measures (which is measured as the wage dispersion in 28 three-digit manufacturing industries) controlling for the source characteristics in the D&S data and for the share of manufacturing in total employment.

(Continued on the next page)

FIGURE 3. *continued*

b. Income inequality (Gini index)
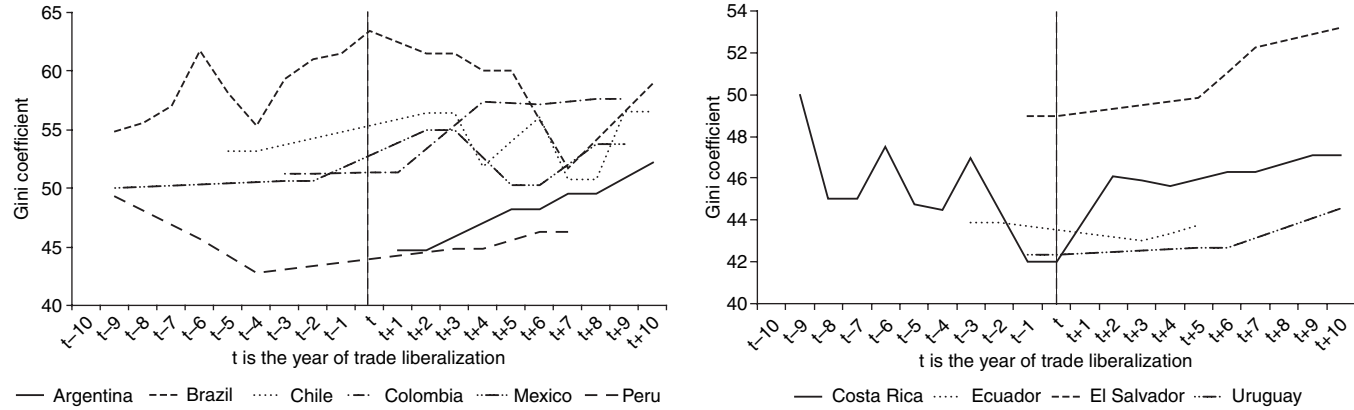
Sources: Dollar and Kraay 2002; De Ferranti, Perry, Ferreira, and Walton 2003. Time at which trade liberalization occurs is from Wacziarg and Welch (2003).
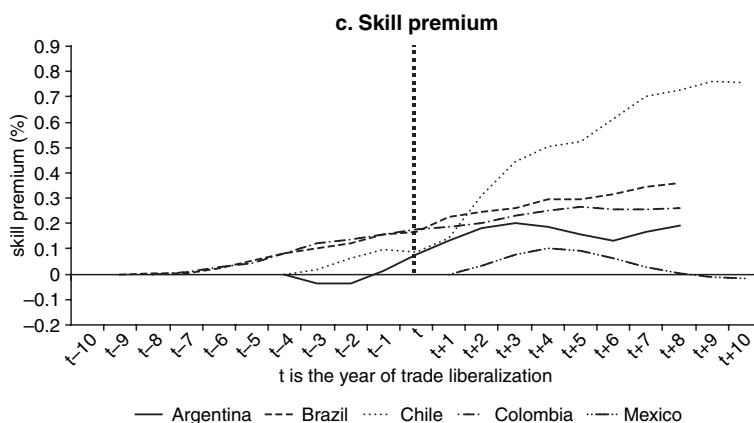
FIGURE 3. *continued*

c. Skill premium

Sources: Manacorda, Sánchez-Páramo, and Schady 2005. Time at which trade liberalization occurs is from Wacziarg and Welch (2003).

Note: The panel shows changes in skill premiums for workers with tertiary versus secondary education.

statistically significant. The same happens with studies using global samples with respect to the effect of trade openness on inequality. While Dollar and Kraay (2004) found no significant effects of trade openness on inequality, Barro (2000) found a positive association between the two variables, surprisingly stronger for poorer countries.[7]

Differences in results in these studies may be due to differences in samples, indexes of inequality and reform or trade openness, control variables, and estimation procedures. However, it is notable that none of them found a statistically negative effect of trade opening or openness on wage or household income inequality (that is, of reducing inequality), as conventional wisdom would have suggested. This is also true for most available country studies using microeconometrics. For example, Nicita (2004) found that trade liberalization increased income inequality in Mexico, Feliciano (2001) found a similar effect on wage inequality also in Mexico, and Galiani and Sanguinetti (2003) and Galiani and Porto (2005) found similar results for Argentina. In contrast, Porto (2006) estimated a decrease in overall inequality in Argentina due to Mercosur, a trade liberalization experiment within developing countries.

Further, the notoriety of trade opening as the backbone of the pro-market reform program in Latin America has led to the generalized belief that it was indeed the main culprit behind the observed increases in wage and income inequality. We examine potential explanations for such results in the discussion that follows. First, we take a better look at relative factor endowments in Latin America and discuss what one should expect from a more informed analysis. Then we look at the role played by the introduction of new goods produced in the region through outsourcing, skilled-bias technological change, and entry and exit of firms subject to more competition from abroad. We then look at the importance of initial conditions (such as the initial tariff structure) and other contemporary events. Finally, we explore other potential channels through which trade liberalization can affect income inequality.

Is There a Puzzle? A Better Look at Factor Endowments

The answer to the apparent puzzle may actually be related to Latin America's relative factor abundance and their complementarities.[8] Latin America is rich in natural resources. By the time of trade liberalization in the region (late 1980s and early 1990s), other developing countries with large pools of unskilled labor endowments, lower capital per unskilled worker ratios, and hence lower wages, such as China and India, were already emerging in the world trade scene (see figure 4). The East Asian Tigers of the 1960s and 1970s were relatively poor in natural resources and China, India, and Vietnam were by then not integrated into the world economy (nor was most of Latin America to a large extent), so the Tigers were at the time among the least capital-abundant economies integrating in the world economy.

Note that there is significant heterogeneity within Latin America, which can help explain differences in outcomes across countries. For example, in the year 2000 Haiti had a capital to unskilled worker ratio of $150, whereas Uruguay had a ratio close to $80 thousand. Similarly, the unskilled to skilled ratio ranges from 0.12 in Haiti to 1.6 in Barbados. It is 1.03 in Uruguay, which is the third country in the ranking after Barbados and Trinidad and Tobago. Thus, given that Uruguay and Haiti are at opposite ends of the scale in terms of skilled labor and capital abundance in the region, it may not be surprising that after trade reform one observes a very different outcome in terms of wage and income inequality, with Uruguay experiencing an increase in wage inequality (and a more modest increase in income inequality), as shown in figure 3. Similarly, Jamaica has net exports of natural resources per worker of $650,[9] whereas Venezuela has net exports of natural resources per worker close to $2,600. The skilled to unskilled ratio is 0.6 in Venezuela and 1 in Jamaica. The consequences of (somehow similar) trade reforms are likely to be very different across countries, given the differences in endowments within Latin America.

Implications of LAC´s Intermediate Unskilled Labor Abundance

It has been shown that, even in a world with two factors of production, if one assumes that factor endowment differences in the world are too large to allow for full global factor price equalization through free trade (as is evidently the case), what matters is not factor abundance compared to the global economy, but relative to the *cone (*a subset of countries with similar relative endowments) within which a given country competes on the same products (Davis 1996). In this two-factor and *n* country model, countries that have high unskilled labor abundance when compared to the global economy, but high capital/skill endowments within its *cone* will suffer increased inequality from trade liberalization.[10] If Latin America was indeed more skilled-abundant than other competing developing areas when it liberalized to trade, most notably China and India, as figure 4 indicates, such a simple model would indeed predict a rise in demand and returns for capital and for more skilled workers, assuming capital/skill complementarities and that countries are in the same diversification cone.

Robertson (2004) provides some indirect evidence. He examines the relationship between relative goods prices and relative wages on Mexico after its accession to the General Agreement on Tariffs and Trade (GATT) in 1986, and after its accession to

FIGURE 4. Factor Endowments by Region, 1990

a. Capital to unskilled labor index
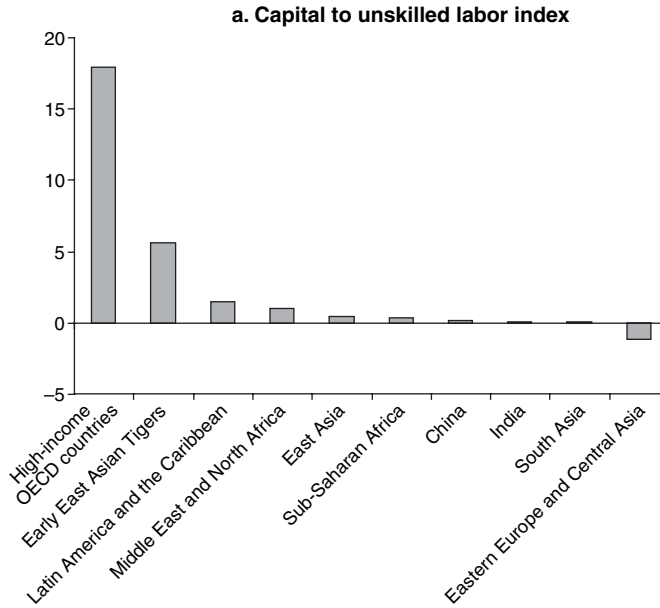
Source: Barrow and Lee 2000 dataset.

Note: A positive number indicates that the region relative to the world is well-endowed in skilled labor. It is calculated as the ratio of the region to the world relative skilled labor abundance minus 1.

b. Index of natural resource comparative advantage by region
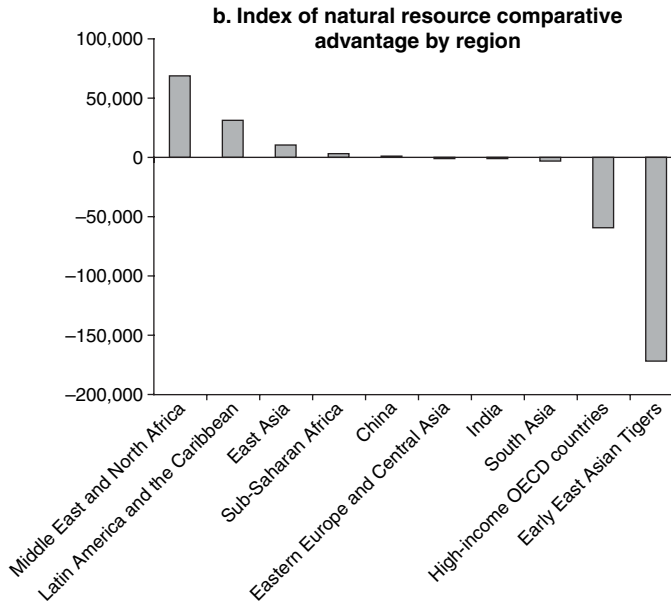
Source: World Development Indicators 2000.

Note: The natural resource index is calculated as the trade balance (exports minus imports) in ores, mineral, fuel, agricultural raw materials, and food divided by the labor force. Units are US$ per worker.

the North American Free Trade Agreement (NAFTA) in 1994. After GATT accession, the relative price of skilled-intensive goods and the relative wage of skilled workers rose. After NAFTA, results are reversed, but this is consistent with Mexico's integration with the United States and Canada—skill-abundant countries—rather than with the whole world. This is perfectly consistent with the prima facie evidence shown for Mexico in figure 2 (panel a), where there is an increase in wage inequality starting at the time of entrance to the GATT, which coincides with the start of trade reforms, according to Wacziarg and Welch (2003). Similarly, wage inequality starts declining eight years after the reform—around 1994—which coincides with Mexico's entrance into NAFTA.

Incorporation of new products/processes (or rapid growth of some specific products/processes) *in the margin* also played a significant role in some Latin American countries. Feenstra and Hanson (2003) provide evidence for Mexico, where outsourcing may have led to an increase in relative demand for skilled workers both in the United States and Mexico. Indeed these activities were below the average skill intensity in developed countries but above the average skill intensity in receiving developing countries. There are no studies of this sort available, unfortunately, for other Latin American countries, but similar effects are also likely to be important for Central American and Caribbean countries (such as Costa Rica) that enjoy similar location advantages and special trade arrangements with the United States.

Implications of Latin America's Abundance of Natural Resources

Trade opening in economies that are abundant in natural resources should lead to increased rents to landowners (and land is heavily concentrated in most of Latin America), oil and mine owners (normally the state, so distributional effects would depend on what they do with the increased rents), and holders of exploitation rights (which are mostly large capital-intensive companies). Effects on income distribution should also depend on the degree of complementarities with capital and skills, which is expected to be high in the case of mining, forestry, fisheries, and agricultural raw materials.[11] Table 1 shows that net exports of mining and agricultural raw materials tend to be positively correlated with capital, while net exports of food are correlated with unskilled labor in Latin America.[12] Further, capital and skilled labor also seem to be correlated within Latin America.

Models considering three factors of production grow enormously in complexity and predictions become more difficult (and sometimes impossible).[13] Nevertheless, and consistent with the simpler description above, Leamer, Rodriguez, and Schott (1999) explain Latin American inequality as a natural consequence of a development path determined by its rich natural resources endowments, with the use of a simple three-country, three-goods, three-factor framework (in which skills and capital are complementary and thus aggregated into a single factor).

The model is illustrated in figure 5. The corners of the triangle represent endowments of three production factors: raw labor, natural resources, and capital (human and physical). The three arrows represent three different development paths as countries with different endowments accumulate capital, holding fixed their relative supplies of land and labor. For example, for a country abundant in raw labor, as capital

Table 1. Partial Correlations between Capital, Skilled Labor, and Natural Resources

Dependent variable: capital/unskilled labor		
	Coefficient	t-statistic
Skilled/unskilled	1.4916	2.38*
Food	–0.0003	–2.84*
Mining	0.0003	1.85***
Fuel	–0.0000	–0.28
Agricultural raw materials	0.0021	4.04*
Number of observations	199	
R-Squared	0.57	

Source: Authors' calculations.
Note: The regression includes country and year fixed effects.
* Significant at the 1 percent level.
** Significant at the 5 percent level.
*** Significant at the 10 percent level.

FIGURE 5. Natural Resource Development Paths for Latin America
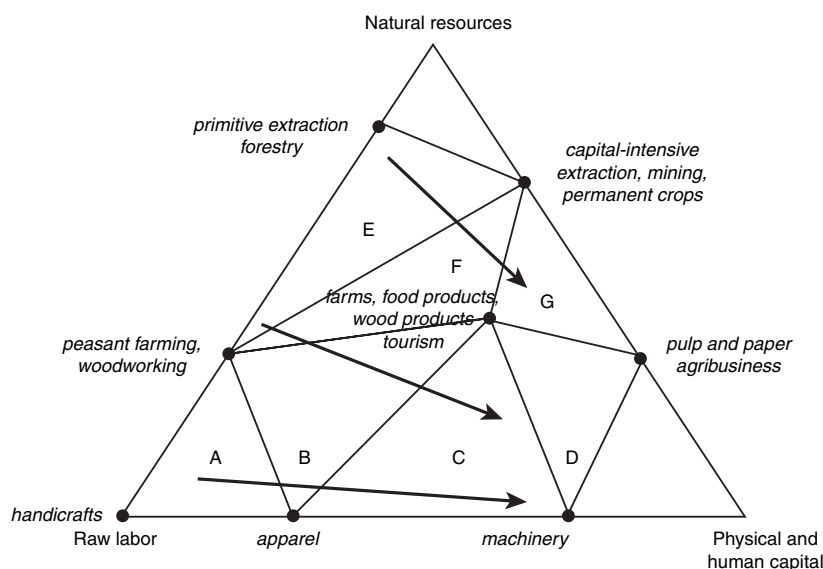
Source: Leamer, Rodriguez, and Schott 1999.

accumulates, it moves from diversification cone A, where it produces handicrafts, farming, and apparel, to cone C, where it produces apparel, food products, and machinery. As the country gets closer to the capital vertex factor, returns to raw labor and natural resources increase, while returns to capital decline.

Natural resource–rich countries without a large pool of unskilled labor (such as Venezuela) would follow a development path from primitive extraction of natural resources to capital-intensive extraction and to capital- and skill-intensive manufacture (path E-F-G in the diagram). Such countries may never compete in the same products (such as apparel) with countries that are abundant in unskilled labor and poor in natural resources (China and India would follow the A-B-C-D path in the

diagram) and would maintain a higher capital intensity and skill premium, leading to higher inequality all along their development path. To understand this, note that as countries develop along the A-B-C-D path, the returns to unskilled labor increase, reducing income inequality, whereas as countries develop along the E-F-G path, it is the returns to natural resources that increase, and the latter is complementary to capital and skills, as discussed earlier.[14]

Developing countries that are abundant in both natural resources and unskilled labor (Brazil and Mexico) would follow an intermediate development path (exemplified in the diagram by the points from "peasant farming/woodworking" to "food products" and finally to "agribusiness"). The impact of capital accumulation along these paths will lead to increases in skills premiums and income inequality that are somewhere in between those observed for the other two paths.

The diagram can also be used to illustrate a key point for trade opening in Latin America. As trade protection in some Latin American countries was especially high in unskilled-intensive sectors, countries kept a product mix that balanced some natural resource–intensive exports (that were nonetheless taxed) with unskilled-intensive protected production for the domestic sector (and some exports, especially for developed markets in which they enjoyed trade preferences). Trade opening would then mean shifting further from the raw labor vertex toward the natural resource vertex, reducing the demand for unskilled labor. When natural resources are complementary with capital and skills, skill premiums and capital returns would increase, leading to higher inequality.

Thus a more thorough analysis of the factor endowment model suggests that the impact of trade openness on income inequality will vary across countries with different endowments. But the type of factor endowment may also matter, as food production and agricultural raw materials are likely to be intensive in unskilled labor, whereas mining and fuel are more likely to be intensive in capital and skills. In a search for some systematic evidence along these lines, we ran Lopez's (2003) model, including explanatory variables that interact trade openness with indexes of natural resource abundance.[15] Results are shown in table 2.

In all cases, trade openness continues to increase inequality.[16] More interestingly, the magnitude of the effect rises with net exports of minerals and fuels (the interaction of trade openness with abundance in mining and fuel increase inequality beyond the average effect of trade openness on inequality).[17] On the other hand, in countries that are abundant in factors associated with food production and agricultural raw materials, trade openness leads to a below average impact on inequality and can even reverse signs, which implies that openness may reduce inequality in these countries.

Is There a Puzzle? Schumpeter's Destructive Creation and Skill Biased Technological Change

Most studies do not observe large labor reallocations across industries after Latin America's trade liberalization,[18] in sharp contrast to findings for the United States that indicate higher sensitivity for employment than for wages in the face of trade

Table 2. Differential Effects of Trade Openness on Inequality According to Factor Endowments

Variable		(1)	(2)	(3)	(4)	(5)
Openness to trade		2.37	1.69	1.67	1.79	2.02
t-stat		3.04*	1.93**	2.00*	1.69	2.57*
Openness to trade x food index			–0.31			
t-stat			–2.54*			
Openness to trade x mining index				0.50		
t-stat				1.97*		
Openness to trade x fuel index					0.03	
t-stat					1.00	
Openness to trade x raw material index						–0.57
t-stat						–2.99*
Sargan	p-val	0.77	0.75	0.75	0.75	0.73
SOC	p-val	0.42	0.38	0.39	0.4	0.42

Source: Authors' estimations based on Lopez (2003).

Note: The table reports the results of regressing the five-year changes in the Gini coefficient on the following five-year average *variables:* secondary education, financial development, government consumption, infrastructure, governance, inflation, banking crisis, terms of trade, output volatility, and exchange rates. The estimation method is GMM, as in Lopez (2004).

* Significant at the 5 percent level.

** Significant at the 10 percent level.

shocks.[19] At the same time, several studies have found that in the last two decades the share of skilled workers has increased substantially in most industries. Moreover, a larger share of the observed increase in aggregate demand for skilled workers in Latin America after trade liberalization is explained by intraindustry increases in relative skilled labor employment, rather than interindustry reallocation of workers from unskilled-intensive industries to skilled-intensive industries.[20]

The substantial intra-industry allocation that led to skill deepening in most industries can be partly explained by changes in product mix within sectors, shifting production toward those that are relatively more skilled-intensive, as found by Feenstra and Hanson (2003) for Mexico and discussed above. Such a fact, however, may also be explained by two dynamic effects induced by trade opening.

First, an acceleration of Schumpeter's destructive creation, as a consequence of increased competition, would lead to a significant reallocation of labor toward more productive (and more skilled-intensive) firms within industries subject to trade liberalization.[21] There is indeed evidence that trade (or exchange rate) shocks have caused significant productivity increases and reallocation of labor across firms within the same sector, for example after the exchange rate devaluation of 1995 in Mexico (see Verhoogen 2004).

Second, the acceleration of Skill Biased Technical Change (SBTC)—which has been identified by several studies as a major force behind increases in inequality in OECD countries—might also help explain a general increase in skill intensities in Latin America. Suggestive evidence in support for this hypothesis in Latin America and the Caribbean is presented in *Closing the Education and Technology Gap*

FIGURE 6. Latin American Capital Equipment Imports/GDP Before and After Trade Reforms
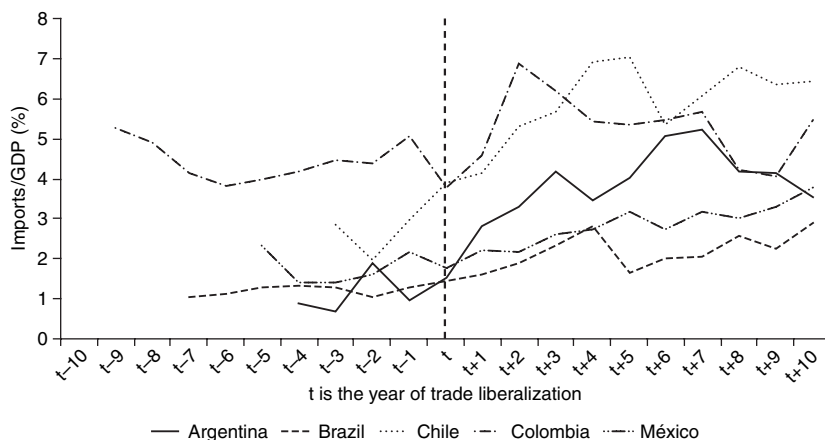
Source: World Development Indicators.

(De Ferranti, Perry, Gill, Guasch, Maloney, Sánchez-Páramo, and Schady 2003), based on Sánchez-Páramo and Schady (2003). They find that those sectors in which more skill upgrading to tertiary education took place after trade liberalization were pretty much the same across different Latin American countries. This suggests that the increase in skill intensities in the 1990s had a common external origin (SBTC could have accelerated through trade opening). They also find that there is more skill upgrading in countries and industries with higher import penetration—especially of research and development–intensive imports—and foreign direct investment (FDI) stocks. The sharp rise of capital equipment imports after trade opening (figure 6) would suggest one potential channel for a faster transmission of SBTC.[22] In support of this view, Harrison and Hanson (1999) found that those firms in Mexico that, within each industry, import more machinery and materials are more likely to employ a higher share of white-collar workers. Similar results relate skill upgrading with the degree of exposure of firms to foreign technology in Chile (see Pavcnik 2002).[23]

Is There a Puzzle? Initial Conditions and Contemporary Events
Initial conditions matter. Some Latin American countries used to protect more unskilled labor-intensive sectors; trade opening reduced protection more sharply in these sectors, further reducing the demand for unskilled labor. Goldberg and Pavcnik (2004) cite studies for Brazil, Colombia, and Mexico that found such a pattern of protection before reform.[24] Figure 7 provides some evidence that this was indeed the case in Mexico and Brazil, two large Latin American countries where trade liberalization was accompanied by increases in wage inequality, as shown in figure 3, panel a.

As Davis and Mishra (2005) point out, this would make no sense in the standard HO/SS model, as such goods would be exports, not imports; however, it does in a more complex model in which countries that are intermediate in unskilled labor abundance import different kinds of goods from countries with both higher and

FIGURE 7. Changes in (Production Weighted) Average Tariffs in Skilled- and Unskilled-Intensive Sectors
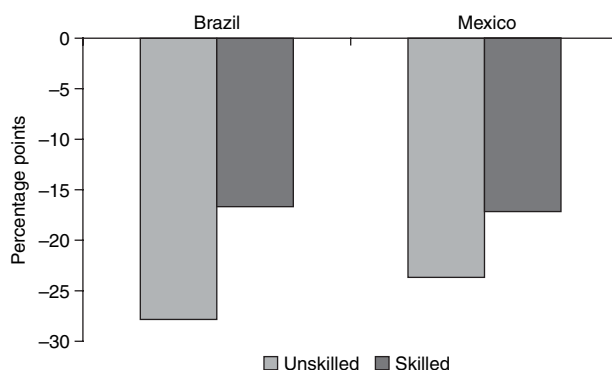
Sources: For Brazil, UNCTAD TRAINS data. For Mexico, Hanson and Harrison (1999).

Note: In the case of Brazil, we are comparing tariff changes between 1989 and 2004. In the case of Mexico, we are comparing tariff changes between 1984 and 1990. The following ISIC rev. 2 two-digit sectors are considered as unskilled-intensive: ISIC 31 (food, beverages, and tobacco); ISIC 32 (textile, wearing apparel, and leather industries); ISIC 33 (wood and wood products); and ISIC 39 (other manufacturing industries).

lower capital (skill) intensity. In addition, import substitution industrialization in Latin American countries led to tariff structures that gave positive effective protection to most manufacturing sectors at the expense of natural resource–based activities (which had negative effective protection). Thus trade liberalization should have been expected to significantly increase the rents of holders of property rights on natural resources. This contrasts with the earlier East Asian experience, which involved increased incentives to the export-competing sector (and unskilled-intensive sector) rather than sharp reductions in protection levels. This may also help explain the different patterns observed in the two regions (Wood 1997).

As industries with higher tariff cuts were more unskilled-intensive, lack of labor mobility—which is alleged to be behind the observed lack of labor reallocation between industries—could lead to changes in industry wage premiums, which would translate into increases in relative skill premiums. Some studies for Colombia (Attanasio, Goldberg, and Pavnick 2004) and Mexico (Feliciano 2001) find evidence of such a relation, though with small quantitative effects, while others do not (Pavnickand others 2004, in a study of Brazil).

In addition, trade opening in Latin America was generally accompanied by a period of appreciation and overvaluation of the currency, which cannot be attributed to trade liberalization. On the contrary, we would have expected from theory to observe a compensatory devaluation of the exchange rate. Rather, appreciation and overvaluation of the exchange rate were caused by the sharp rise in capital flows—which took place mostly as a consequence of capital account opening, at a time in which there was a global increase of capital flows to all emerging markets—as well as to monetary and exchange rate policies in some countries (notably in Argentina and Brazil).

This unexpected phenomenon led to a period of increase in growth and relative prices of the nontradable sector, as well as of cheap capital imports. The latter, in

addition to the effect of reductions in tariffs of capital goods imports, caused biased capital deepening and additional increased demand for skills. The increased share of the nontradable sector also led to an increase in informality, as discussed in the next section.

On the other hand, currency overvaluation delayed some of the expected increased rents to natural resource owners and mitigated the increase in demand for skills, as nontradable sectors are usually less skilled-intensive. Thus currency overvaluation had both temporary positive and negative effects on income distribution, though probably the latter were larger in most countries. These effects were transitory; they ended abruptly with the currency crises and devaluations prompted by the generalized capital flows reversals after the Russian crisis of 1998.

Finally, the growing importance of the (nontradable) service sector in some developing countries, induced by changes in consumer preferences as countries developed, may also help explain the increase in wage premium.[25] For this to be true, the service sector would need to be more skilled-intensive than the rest of the economy. Sanguinetti, Arim, and Pantano (2001) provide some evidence for Argentina and Uruguay, where the skilled to unskilled labor ratio in services is around 50 percent higher than in the rest of the economy.

Further Effects of Trade Liberalization on Income Distribution

Pervasive labor market rigidities in Latin America mitigated or delayed the reallocation of labor in response to the price changes induced by trade liberalization. At the same time, they might have contributed to temporary increases in unemployment in some countries, and to observed increases in informality, adding to inequality effects. There might also have been effects of trade liberalization on increased labor participation—especially of female workers who typically had lower skill levels—which might have accentuated wage inequality trade effects, but reduced overall household income inequality.[26]

There has also been a debate around the effects of trade opening on macroeconomic and household incomes volatility. Evidence on this is mixed. Macroeconomic volatility was actually reduced in the 1990s with respect to the two previous decades (De Ferranti and others 2000), although this might have been mostly the effect of better macroeconomic policies. To the extent that the poor are less protected against macro and idiosyncratic labor market risks, any increase in such risks would lead to a more unequal distribution of welfare and of income distribution in the short run. (It might also have some long-term effects on income distribution through lower human capital accumulation of the poor.)[27] Moreover, as trade liberalization imposes competitive pressure and requires quick adaptation to changing market conditions, it may lead to a move toward informality where labor and business regulations are rigid, leading to unprotected and perhaps lower-paid workers.

Trade liberalization affects households' income and welfare through changes in factor returns and employment, but also through changes in prices of the goods they consume. Goñi, López, and Sérven (2005) found that in Latin America, price changes

in the 1990s strongly benefited the poor and hurt the more well-to-do. Figure 8 shows the case of Brazil, but Goñi, López, and Sérven found similar results for other countries. This is the other side of the coin of the reduction of former protection that mostly affected unskilled labor-intensive activities, which mostly produced basic consumption goods. Commonly used income inequality measures do not correct for the heterogeneity of the consumption bundle by deciles. Thus actual increases in inequality in Latin America in the 1990s may not be as large as indicated by commonly used figures (which used the aggregate CPI as a deflator). Similarly, the effects of trade reforms on increased inequality may have been exaggerated.

A more comprehensive discussion of the impact of trade liberalization on unemployment, income volatility, and informality is left for the next section, which focuses on poor households.

Finally, trade liberalization may also affect households' incomes and welfare through changes in government taxes and expenditures in response to the effects of trade liberalization on government revenues. Actually, most countries in Latin America compensated for tariff revenue reductions by VAT increases, with no obvious effect on inequality. On the other hand, in those countries in which taxes and royalties from oil and mineral extraction are important, the medium-term effect on inequality of increased public expenditures was probably quite heterogeneous, ranging from being progressive in Chile (where public expenditures have been progressively focused in favor of the poor) to regressive in oil-producing countries (in which high subsidies to energy, tertiary education, and pensions tend to make overall public expenditures regressive).[28] Given that the larger effects of trade liberalization on increased wage inequality operated through increases in skill premiums, government responses in increasing education coverage—through both investments in education supply and conditional cash transfers to increase effective demand by the poor—are key for determining overall long-term effects (see the fourth section on policy complementarities).

FIGURE 8. Individual and Average Annual Inflation, Brazil, 1988–96
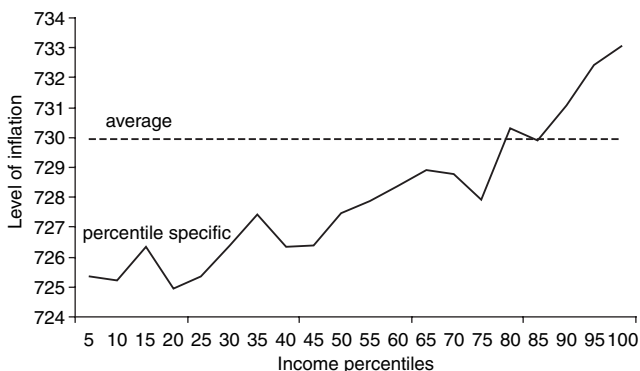
Source: Goñi, López, and Servén 2005.

Note: The x-axis shows the income percentiles and the y-axis shows the level of inflation over the period 1988–96 experienced by the average individual in each percentile of the Brazilian income distribution.

Trade Reforms and Poverty in Latin America

The discussion in the second section made clear that regardless of whether trade reforms generate aggregate gains, not everyone in the economy will benefit, and that Latin America's trade liberalization in the late 1980s and early 1990s was actually accompanied by increases in income inequality in many countries. However, indexes of income inequality are aggregate measures, and increases in income inequality may be consistent with declines in poverty. This section focuses exclusively on the impact that trade reforms in Latin America had on the region's poor.

Recent cross-country evidence (Dollar and Kraay 2004) shows no statistically significant impact of trade on the relative income of the poor in a sample of 72 developing countries and 24 developed countries. This is not surprising, given that as argued in the previous section, the impact of trade on income inequality is inherently a function of relative endowments and initial conditions, such as tariff structure and other regulations and policies. To find a statistically significant relationship would have meant that a homogeneous relationship exists between trade reform and household income regardless of factor endowments.[29]

A casual look at the evolution of the income of the poor in Latin America before and after trade reforms gives an ambiguous picture. Of the ten countries for which we have data on the income of the poor before and after trade liberalization, six countries show an increase in real income, but four countries experience a decline in the income of the poor after trade reforms (figure 9).

The absence of a clear pattern is confirmed when we combine our different exploratory exercises regarding the evolution of poverty, income inequality, and wage inequality before and after trade reforms. Results are summarized in table 3. Costa Rica is the only country in the region for which we have data available that experienced a significant declined in wage inequality. As expected, this was accompanied by an increase in the income of the poor. In Brazil and Mexico, however,

FIGURE 9. Income of the Poor Before and After Trade Reform in Latin America
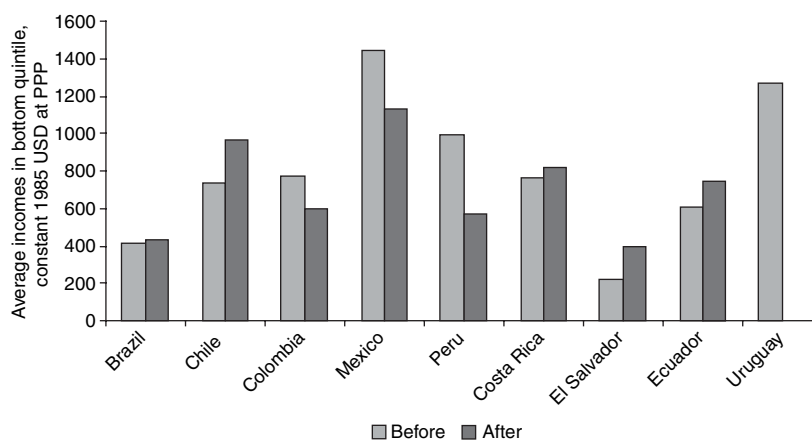
Sources: Dollar and Kraay (2002) for the income of the poor. Wacziarg and Welch (2003) for the timing of trade reform.

Table 3. Wage and Income Inequality and Poverty Before and After Reform

	Wage inequality		
Income inequality	Increased by more than 5 percent	Changed by less than 5 percent	Decreased by more than 5 percent
Increased by more than 5 percent	*Bolivia, El Salvador*, <u>Guatemala</u>, **Mexico**	*Argentina*, **Colombia**	
Changed by less than 5 percent	**Brazil**, *Ecuador*, <u>Uruguay</u>	*Chile*, **Peru**	*Costa Rica*
Decreased by more than 5 percent			

Source: Authors' analysis based on the material presented above.
Note: Countries in **bold** are those in which the income of the poor declined by more than 5 percent after trade reforms. Countries <u>underlined</u> are those that did not experience a change in the income of the poor (within a 5 percent margin) after trade reforms. Countries in *italics* are those in which the income of the poor increased by more than 5 percent after trade reforms. If the country name is not in bold, underlined, or in italics, it means that we had no information regarding the income of the poor before and after liberalization.

where wage inequality increased, the income of the poor declined after trade reforms. But even in some countries (Bolivia, Ecuador, and El Salvador) where wage inequality increased significantly, there were some increases in the income of the poor. This illustrates the difficulty of inducing the evolution of poverty by looking at the evolution of wage or income inequality.

Note, however, that this prima facie evidence does not imply causality, but simply that these changes happened simultaneously. In the case of Mexico, microeconometric studies confirm the increase in wage inequality after the reform (Robertson 2000; Nicita 2004). Nicita (2004) shows that in spite of a decline in poor households' wages and agricultural income associated with Mexico's trade reforms in the 1990s, their welfare increased due to a sharp decline in the cost of their consumption bundle.[30] Similarly, Argentina seemed to have experienced significant increases in income inequality at the time of trade reforms, as suggested by Porto (2006). However, when Porto measured the impact of trade policy changes on individual wages and established causality, results suggest that the poor experienced a 6 percent increase in real labor income that can be attributed to the trade reforms of the 1990s.

But changes in wages, agricultural income, and the cost of the consumption bundle are only part of the story when measuring the impact of trade reforms on the poor. As trade reforms get implemented, firms adjust, jobs are lost in some activities, and employment opportunities are made available in other firms within or across sectors. Changes in the employment status or transitions into or out of formality induced by trade reform, as well as changes in individual income volatility, will affect the income of the poor in the medium term. But perhaps more importantly they may affect their investment decisions in physical and human capital, which in turn will affect their long-term income levels. In the next sections, we first look at the impact that trade reforms had on the unemployment of poor individuals in Latin America. We then turn to the impact of trade liberalization on formal-informal employment, and finally on income volatility. The section closes by looking at the medium-term implications of trade reforms on poverty through some of these channels.

Trade-induced Changes in Unemployment of the Poor

The evolution of unemployment before and after trade reforms varies across countries in Latin America. While unemployment increased after a couple of years in Argentina, Brazil, and, transitorily in Peru, it actually fell in Chile and Colombia, and did not change much in Mexico. These observed trends do not imply causality, however. Some studies have attempted to establish causality with the help of microeconomic data.

Goldberg and Pavnick (2005) could not find a statistically significant impact of trade reforms on urban unemployment in Colombia. But they argue that data constraints (a short time dimension) and the partial equilibrium nature of their exercise may partly explain the absence of impact. Moreover, they do not allow for differences on the impact of trade on unemployment across individuals, and therefore provide little evidence of whether the poor (or the unskilled) had stronger or weaker movements in and out of unemployment.

Casacuberta and Gandelman (2006) look for differences across types of workers (unskilled versus unskilled) in the adjustment process of the labor demand of Uruguayan firms before and after the trade reforms that started in 1989. They find that trade reforms accelerated the adjustment process when firms are creating jobs for both skilled and unskilled workers. However, the adjustment process is also much faster when firms are cutting jobs of unskilled workers after the reforms. They did not observe any impact for skilled workers. This seems to suggest that unemployment of the skilled was reduced by Uruguay's trade reforms, whereas the impact on the unskilled remains ambiguous. However, unskilled workers are more likely to be able to move out of unemployment and benefit from the more rapid creation of jobs when labor mobility is facilitated by labor market reforms.

Porto (2005) takes a more direct look at the potential impact of trade expansion on labor income. He estimates the impacts of eventual world agricultural trade liberalization on wages, employment, and unemployment in Argentina. In the estimation of these wage and unemployment responses, the empirical model allows for individual labor supply responses and for adjustment costs in labor demand. It finds that a 10 percent increase in the price of agricultural exports would cause an increase in the Argentine employment probability of 1.36 percentage points, matched by a decline in the unemployment probability of 0.75 percentage points and an increase in labor market participation of 0.61 percentage points. Further, the unemployment rate would decline by 1.23 percentage points (by almost 10 percent). Expected wages would increase by 10.3 percent, an effect that is mostly driven by higher employment probabilities. Interestingly Porto finds no statistically significant differences between the poor and the nonpoor, but he observes that the employment effect contributes a larger proportion to the increase in the expected wage of the poor, whereas the wage effect dominates in the case of nonpoor.

Krivonos and Olarreaga (2005) find similar effects in the case of increases in export prices in Brazil. The study estimates the impact of an eventual 10 percent increase in world price of sugar (an important export commodity in Brazil), as a consequence of global trade liberalization, on labor income, wages, and employment. The results suggest that labor income would increase by an average 1 percent. The impact is 10 percent larger at the bottom of the income distribution. As in Porto

(2005), the contribution to changes in income of moves out of unemployment is much larger at the bottom of the income distribution: 45 percent versus 28 percent of the total change in expected income at the top of the income distribution.

The latter two exercises suggest that even though trade may lead to increases in wage inequality, the poor may be better off, not only because their real wages may increase (due to reductions in cost of their consumption bundle), but also because in some cases of trade expansion their employment opportunities could increase.[31] Such increases in labor demand for the unskilled may not necessarily translate into higher wages because there is a large pool of unskilled unemployed in most countries that puts downward pressure on unskilled wages.

To provide some further evidence on the role of trade openness on the unemployment of the poor in the region, we ran the regressions presented in table 4. They explain unskilled and skilled labor unemployment (proxied by those unemployed with primary and secondary education for unskilled workers and those with tertiary education for skilled workers) with country and year dummies, and GDP per capita as controls. The indicator of trade openness is borrowed from Wacziarg and Welch (2003).[32] We also interact trade openness with an indicator of abundance in natural resources to explore the potential heterogeneity in a region abundant in natural resources. The sample is composed of 27 countries in the Latin America and the Caribbean region for which data are available in the World Development Indicators.

The results suggest that GDP per capita and trade openness have a statistically significant and negative impact on unemployment of both skilled and unskilled workers. However, countries that have a stronger comparative advantage in natural resources tend to have a smaller impact of trade openness on unemployment, and the sign may even be reversed: countries very rich in natural resources may experience increases in unemployment when they open up to trade.

Table 4. The Impact of Trade Openness on Unskilled and Skilled Labor Unemployment

	Unskilled labor unemployment	Skilled labor unemployment
Log of GDP per capita	−0.26*	−0.45*
	(0.06)	(0.11)
Trade openness	−0.32*	−0.98*
	(0.06)	(0.23)
Index of natural resources	0.07**	−0.76*
	(0.03)	(0.07)
Trade openness * Index of natural resources	0.23*	0.54*
	(0.03)	(0.20)
R-squared	0.63	0.64
Number of observations	126	126

Source: Authors' estimations.
Note: The estimator is OLS with country and year. Standard errors corrected for correlation before and after trade reforms are provided in parenthesis.
* Significant at the 1 percent level.
** Significant at the 5 percent level.

Impact on Formal-Informal Employment and the Consequences on Poverty

Almost half the Latin American labor force works in the informal sector. Moreover, informal employment rose in some countries in the region, such as Colombia and Peru, in the 1990s, while trade reforms were implemented. However, it is unlikely that trade liberalization contributed to the increase in informality, as has been claimed by many analysts.[33] Sectors with a larger exposure to trade (measured by the ratio of export and imports to GDP) tend to have higher rates of formality (De Ferranti and others 2002). Moreover, natural resource–based sectors, in which many Latin American countries have a comparative advantage, do not tend to show higher rates of informality, and there is little evidence of a shift toward outsourcing with informal firms after trade opening (De Ferranti and others 2002). Given that informality is concentrated in the nontraded sector, the increase in informality is more likely to be due to currency overvaluation that pushed the economy toward nontraded activities in the 1990s. Figure 10 presents evidence for the cases of Brazil and Mexico.

The only available micro-evidence on the link between trade reform and transitions between formal and informal sectors is the paper by Goldberg and Pavnick (2003), which focuses on the trade liberalization experiences of Brazil and Colombia. They find no significant impact of trade liberalization on informal employment in Brazil. For Colombia they obtain some weak evidence that the trade liberalization of the late 1980s resulted in increased informality, but after the labor market reforms of the 1990s, they find that the continuous opening of the Colombian economy did not lead to more informality. This result highlights the importance of considering the different institutional setups under which reforms take place.

Regardless of whether trade reform leads to more informal employment or not, one may wonder whether increases in informality are associated with more poverty. Marcouiller, Ruiz de Castilla, and Woodruff (1997) find evidence of a formal sector wage premium in El Salvador and Peru, but not in Mexico once they control for individual worker characteristics (and selection). In the case of Mexico, they find a wage premium in the informal sector.

This inconclusive evidence is complemented by a study of employment transitions in Mexico by Maloney (1999). He finds little evidence of segmentation between the informal and formal sectors. Only 30 percent of workers who moved into the informal sector did so involuntarily. Those who voluntarily moved saw an increase in income of close to 30 percent. The nonincome aspect of the decision to move between formal and informal employment is also important and sometimes neglected when purely focusing on wage income (Marcouiller, Ruiz de Castilla, and Woodruff 1997). On the one hand, the presence of benefits in the formal sector may increase the value of formal employment. On the other hand, independence and flexibility in the informal sector may increase the value of informal employment for those transitioning, even though wages may be lower (Bosch and Maloney 2005).

To conclude, regardless of whether trade reform contributed to shifting workers into informality or not, it is unlikely that this would have had any significant direct impact on poverty. It may, however, have an indirect impact on poverty due

FIGURE 10. Evolution of Relative Formal/Informal Sector Sizes and Wages, Brazil and Mexico

a. Brazil

b. Mexico
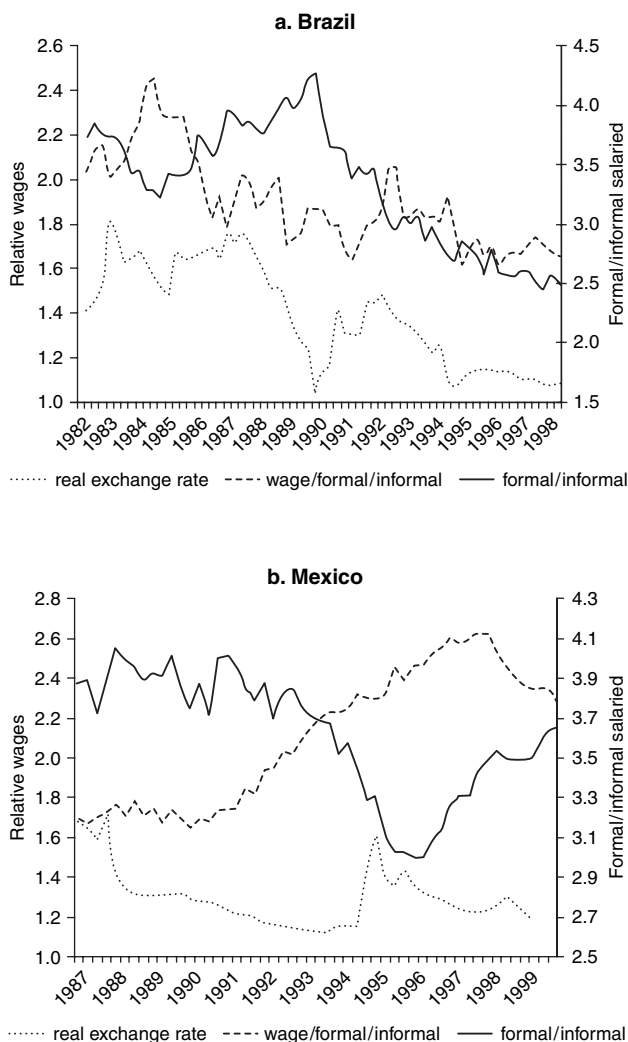
Source: De Ferranti and others 2002.

Note: The left y-axis measures the formal wage to informal wage ratio (no units); the right y-axis measures the ratio of formal to informal employees (no units). The y-axis also measures changes in the real exchange rate.

to the higher income volatility and lower protection against adverse shocks in the informal sector.

Impact on Income Volatility and Poverty

There was a decline in Latin America's aggregate income volatility that coincided with the period of trade reforms in most countries.[34] But this was probably due more

to better macroeconomic policies than to trade liberalization, as argued earlier. The theoretical literature has suggested various channels through which trade reform might affect individual income risk. Most of them, but not all, suggest that trade liberalization may increase income risk. First, the increase in foreign competition leads to a reallocation of factors of production across firms and sectors that can increase income risk. Second, some have argued that increased foreign competition increases demand elasticities for goods produced domestically and therefore the derived labor demand elasticities; this implies that any given shock may lead to larger variations in wages and employment. On the other hand, a given shock may be better absorbed in a bigger market. Therefore, a more open economy may experience lower income volatility than a closed economy—unless the closed economy is subject to fewer shocks than the global economy. Thus, the answer to whether trade liberalization leads to more or less income volatility is necessarily empirical.

Until very recently there was only anecdotal evidence that linked trade reforms to individual income volatility (see Winters, McCulloch, and McKay 2004). Krebs, Krishna, and Maloney (2005) fill this gap. They estimate time-varying parameters of individual income risk for Mexico during the 1987–8 period, built industry level and time-varying estimates of income risk, and correlated them with tariff levels and changes in tariffs. They find no statistically significant impact of tariff levels on income risk. In other words, workers in sectors with lower tariffs do not necessarily experience higher or lower income risk. However, they find that changes in tariffs do generate higher income risk: a tariff reduction of 5 percent raises the standard deviation of the persistent shocks to income by about 25 percent. Such an increase in income risk can have important consequences on already vulnerable households, increasing the need for safety nets at the time of trade reforms. This again underlines the importance of accompanying trade reforms with adequate policies and institutions. The medium- and long-run consequences of increased income volatility are discussed in the next section.

Medium- and Long-Run Effects of Trade Policy on the Income of the Poor

In the longer run, the economy will continue to adjust to the new incentives. It is likely that these adjustments will become increasingly important to determine the long-run impact of trade reforms on poverty. These adjustments refer, for example, to human capital investment decisions. Faced with changed wages for skilled and unskilled labor, individuals may review their decisions. For instance, if the skill premium increases with trade, there will be incentives to increase the average educational attainment. This implies that individuals will become more educated, with positive private and aggregate effects. But education policies need to follow to ensure that everyone can indeed invest in education as trade reform increases the incentives to invest on it.

In terms of production decisions, if prices of certain crops remain higher and production is sustainable and profitable, farmers may decide to acquire the knowledge that is needed for effective cultivation or may decide to upgrade the capital stock required to start production (such as oxen charts, ploughs, or high-yield seeds). Similarly, firms may exploit the new trading opportunities by investment in physical capital

and investing in research and development (R&D) to increase productivity. Or firms may adjust the quality of their goods. These responses may lead to further growth in labor demand and further changes in wages and household welfare.

The potential increases in income risk may also have long-run consequences in the absence of credit and insurance markets. Households facing higher income volatility are likely to invest less in education and may be more likely to require children to drop out of school when faced with important negative shocks. This can lead to persistence in low education levels among poor families (Perry and others 2005). Well-developed credit and insurance markets and conditional cash transfers—such as *Oportunidades* in Mexico—can help solve these problems (De Janvry and others 2006).

Some of these long-run impacts are often ignored in the discussion. This is probably because there is not enough variation in the data to have a sense of how long-run decisions respond to changed trade opportunities. But even if scarce documentation of these impacts exists, one needs to emphasize their importance. Long-run changes imply further household adjustments, and household adjustments call for policies that cushion the exposure to negative shocks and boost the impact of positive ones. This is especially true if the aggregate effects of trade liberalization on growth are positive. Thus, even if trade liberalization may increase inequality and even poverty in the short run, the positive long-run effects on growth are likely to lead to poverty reduction in the long run. Some evidence in a large panel to support this point is provided in Perry and others (2005).

The Importance of Complementary Policies

The literature on trade and growth has long argued that trade reform is not a silver bullet; other policies are needed for countries to develop. More recently, the literature has argued that the impact of trade reform on growth itself may depend on other policies, regulations, and institutions. For example, Banerjee and Newman (2004) present a model in which lack of financial development and sluggish factor mobility result in losses in poor countries when opening up to trade, as unproductive sectors are wiped out by foreign competition but the capital and labor attached to them fail to divert to more efficient uses. Acemoglu and Zilibotti (2001) show that access to imported intermediate inputs and capital goods does not lead to productivity improvements in developing countries that fail to improve their human capital (to adopt the new technologies) and to enforce intellectual property rights (to encourage the development of technologies best suited to their skill mix).

The empirical evidence quickly followed. Bolaky and Freund (2004) show that trade does not lead to higher growth in economies with excessive business and labor regulations. Increased openness is, if anything, associated with a lower standard of living in heavily regulated economies. Excessive regulations restrict trade-induced growth because resources are prevented from moving into the most productive sectors and to the most efficient firms within sectors. In addition, in highly regulated economies, increased trade is more likely to occur in the "wrong" goods: that is, goods where comparative advantage does not lie. Their results imply

that regulatory reform is not only beneficial per se, but it also enhances the benefits of trade liberalization.

Chang, Kaltani, and Loayza (2005) present some interesting panel evidence (Bolaky and Freund present a cross section) on how the growth effect of openness depends on a variety of structural characteristics. For this purpose, they use a growth regression specification that interacts a proxy of trade openness with proxies of educational investment, financial depth, inflation stabilization, public infrastructure, governance, labor-market flexibility, ease of firm entry, and ease of firm exit. They find that the growth effects of openness are positive and economically significant in the presence of a relatively flexible labor market and firm entry and exit regulations. The estimates for other interactions were not robust across specifications.

Perhaps surprisingly, the literature on how other policies, institutions, or regulations may affect poverty and income inequality outcomes before and after trade reforms is almost nonexistent. It is clear, however, that as in the case of GDP growth, the impact of trade reform on the income of the poor could be boosted or even change sign in the presence of different institutional setups and complementary reforms. De Ferranti and others (2005) present some evidence.[35]

In the discussion that follows, we illustrate the key interrelationship between trade reforms and other policies by undertaking two exercises. First we provide micro-level evidence that suggests that the presence of other reforms may affect the way in which trade liberalization affects wage inequality. This is done by focusing on the differential impact of tariff changes on wages and on wage inequality in two different episodes of trade liberalization of the Argentine economy: the liberalization of the 1970s and early 1980s on the one hand, and the trade liberalization of the 1990s on the other. Second, we provide some cross-country evidence by merging the datasets of Chang, Kaltani, and Loayza (2005) with those of Dollar and Kraay (2002). This allows us to see the extent to which other policies affect the impact of trade reforms on the relative income of the poor within Latin America and the Caribbean.[36]

Complementary Reforms and Wage Inequality[37]

Argentina undertook two trade reforms in the last three decades. The first (failed) episode occurred in the late 1970s, and the second in the early 1990s. These two trade reforms have particular features that make them different, such as initial levels of tariffs. But the two major differences, perhaps, were the nature of the other reforms that took place at the same time,[38] and the entry of China and India in world markets as an important competitor for unskilled labor-intensive products. In what follows, we exploit these differences in concurrent reforms and entry of a potential competitor in world markets to better understand how a given reduction in tariffs can affect the skill premium in different ways, depending on other circumstances that characterize the economy.

The analysis builds on a recent paper by Galiani and Porto (2005). They built an unusual historical dataset of tariffs and wages spanning the 1974–2001 period in Argentina. This comprises almost 30 years of data on sector-level tariffs (at the

three-digit level of the ISIC classification) and individual wages. They regress the log of the wage of individual i, in industry j at time t ($\ln w_{ijt}$) on a number of individual characteristics (x_{ijt}) and the log of the tariff in industry j at time t, $\ln \tau_{jt}$. That is,

$$\ln W_{ijt} = x_{ijt}\beta_t + \delta_t \, \text{EDUC}_{ijt} + \alpha \ln \tau_{jt} + \gamma \ln \tau_{jt} \, \text{EDUC}_{ijt} + I_j + Y_t + \mu_{ijt}, \qquad (1)$$

where EDUC are educational dummies (unskilled, semiskilled, skilled), I_j is an industry fixed effect, and Y_t is a survey effect. In this formulation, both the returns to schooling and the returns to age are allowed to vary from year to year. Three definitions of skills are proposed. Unskilled labor comprises workers with at least primary education. Semiskilled labor includes workers with secondary education. Skilled labor is represented by college graduates. By including survey effects and industry dummies, they control for changes in exchange rates (devaluations and appreciations) and industry-specific shocks so that the impacts of tariffs are not confounded by specific shocks or by aggregate shocks (related to policy or business cycle). These fixed effects help control for unobservable effects that may produce a spurious correlation between tariffs and wages.

By comparing their different estimates of α and γ in the 1970s and 1990s, we are able to assess how the impacts of trade on skill premiums depend on other concurrent policies and/or differences in the external environment. The main findings are reported in table 5. The first column lists the results for the liberalization of the 1970s and the second, for the liberalization of the 1990s. The impacts of the trade reforms were different in the two periods. During the first liberalization episode, the average wage reacted positively to tariffs, so that the tariff cuts led to a decline in wages (for potential explanations, see the second section above). In addition, we do not find any impact of the tariff changes on the skill premium, either for the semiskilled or the skilled workers (the interactions of the tariff with the educational dummies are not statistically significant). During the second episode of trade liberalization, during the 1990s, the positive association of tariffs and average wages is still observed. However,

Table 5. Tariff Reforms, Complementary Reforms, and the Skill Premium, Argentina

	Liberalization of the 1970s	Liberalization of the 1990s
Log tariff	0.824*	0.128*
	(0.364)	(0.043)
Log tariff * semiskilled	–0.032	–0.128*
	(0.098)	(0.048)
Log tariff * skilled	0.21	–0.442*
	(0.241)	(0.111)
Time-varying returns to schooling	Yes	Yes
Time-varying return to age	Yes	Yes
Time effects	Yes	Yes
Industry effects	Yes	Yes
R-squared	0.86	0.35
No. of observations	7,922	11,131

Source: Galiani and Porto (2005).
* Significant at the 1 percent level.

in this second period, there are negative and significant interaction terms for semi-skilled and skilled workers.

The estimates suggest the following dynamics of wages after the two tariff reforms. During the 1970s, trade liberalization led to an average decline in wages, with no overall distributional consequences on wage inequality. However, the reforms of the 1990s led to a decline in the wages of the unskilled workers, no significant change in the wages of the semiskilled workers, and an increase in the returns to highly skilled workers.

While part of the estimated differences between the two periods may be due to differences in the tariff changes between the two liberalization episodes or changes in the external environment (the entry of China and India into world markets), another part of the story can be attributed to the differences in concurrent policies that were taking place during the 1970s and 1990s. For example, the openness of the 1990s, together with the privatization of most of the Argentine service sector, could have led Argentine firms to upgrade the quality of their exportable products, thus leading to an increase in the relative demand of skills and in the skill premium. Similarly, the financial reforms could have complemented the new trading opportunities to induce firms to finance and engage in skilled biased technical change. Also, the competition imposed by Chinese products may have pushed Argentina into specializing in more skilled-intensive products and kept the pressure on the wage of unskilled workers. These stories, while not formally proven by our analysis, clearly suggest that the interaction of tariff reforms with other concurrent reforms and events may play a role in the impacts on wage inequality.

The Role of Complementary Policies in Explaining the Impact of Trade Reform on the Income of the Poor: Cross-country Evidence for Latin America and the Caribbean

We combined the datasets of Dollar and Kraay (2002) and Chang, Kaltani, and Loayza (2005) to try to explore the role played by complementary policies in explaining the heterogeneity of the impact of trade reform in Latin America and the Caribbean on the income of the poor. We considered as complementary policies labor market flexibility, entry of firm flexibility, closing of firm flexibility, a governance indicator, and secondary education enrollment (as a proxy for education policies). All these variables were borrowed from Chang, Kaltani, and Loayza (2005). The variable to be explained is the log of average income in the bottom quintile, borrowed from Dollar and Kraay (2002). Control variables include the log of GDP per capita, and country and year dummies. The trade openness indicator is as before the one provided by Wacziarg and Welch (2003). The sample is given by matching of the two datasets, and it contains 18 Latin American and Caribbean countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Uruguay, and Venezuela). There is a maximum of six observations per country. Thus the sample is small and inferences should be made with caution.

Table 6 summarizes the results. The first column suggests that trade openness had a positive but not very significant impact on the income of the poor (conditional on GDP per capita). But as we explore the impact of trade reforms on the income of the poor under different policy environments in the other columns, the coefficient on openness sometimes changes sign and becomes statistically significant. The second column suggests that openness will have a positive impact on the income of the poor in countries with flexible labor laws, but not necessarily in countries with more rigid labor laws.[39] Similarly, the third column suggests that openness will have a stronger and more positive impact on the income of the poor in countries with low barriers to firm entry, whereas flexibility to close firms (fourth column) has no statistically significant impact. Similarly, openness is more likely to have a positive impact on the income of the poor in countries with higher levels of education (fifth column). Also, trade reforms are more likely to positively affect the income of the poor when accompanied by better governance (sixth column). The last column introduces all variables simultaneously, and suffers from multicollinearity, but confirms that openness is more likely to positively impact the

Table 6. The Role of Complementary Policies in Explaining the Impact of Trade Openness on the Income of the Poor

	Log income of the poor	Log income of the poor	Log income of the poor	Log income of the poor	Log income of the poor	Log income of the poor	Log income of the poor
Log GDP per capita	0.93** (0.06)	0.93** (0.06)	0.92** (0.06)	0.92** (0.07)	0.92** (0.07)	0.90** (0.08)	0.90** (0.07)
Openness	0.03 (0.08)	−0.29 (0.17)	−0.48** (0.23)	0.04 (0.08)	−0.43** (0.19)	−0.30* (0.15)	−0.39** (0.17)
Openness*labor market flexibility		0.83** (0.30)					0.57* (0.29)
Openness*firm entry flexibility			0.85** (0.34)				0.42 (0.80)
Openness*firm closing flexibility				0.02 (0.21)			−0.07 (0.25)
Education					0.02 (0.06)		0.01 (0.06)
Openness* education					0.13** (0.04)		−0.09 (0.14)
Openness* governance						0.84** (0.36)	0.77 (0.48)
R-squared	0.62	0.63	0.64	0.60	0.63	0.64	0.98
No. of observations	74	68	72	68	72	72	68

Source: Authors' estimation based on the merger of datasets from Dollar and Kraay (2002) and Chang, Kaltani, and Loayza (2005).
Note: All regressions are with-in country and year dummies (using deviations to the country and year mean and then adding up the overall mean) and standard errors provided in parenthesis are corrected (nonparametrically) for correlation in the error term before and after trade reform in each country.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

income of the poor in countries with labor market flexibility, low barriers to firm entry, and good governance.[40]

Summing Up: Short- and Long-term Effects of Trade Liberalization on Inequality and Poverty

Although the impact of trade reform on poverty, wage inequality, and income inequality was quite varied within Latin American countries, a broad view emerged that trade reforms in the region in the late 1980s and early 1990s were often accompanied by increases in wage inequality and more moderate increases in income inequality. Regardless of whether or not wage and income inequality were rising, trade reform tended to be accompanied by reductions in poverty, mainly through reductions in the cost of the consumption bundle of the poor, as well as moves out of unemployment. This is important because as the income of the poor increases with trade reform, they may be more able to undertake the necessary investments to adjust in the presence of market failures, such as the absence of credit or insurance. Policy complementarities matter (with education, access to credit, insurance, and flexible entry and exit of firms and labor markets) and can also help the poor maximize the new economic opportunities offered by trade reforms.

The increase in wage inequality in Latin America at the moment of trade reform contrasts with what apparently happened when the East Asian Tigers opened up at the end of the 1960s, and with what could have been expected from a simple HO/SS model. We argue in this paper that there is actually no puzzle. Most of the static effects of trade liberalization examined should have been expected to go in the direction of increased demand for skills and thus of wage inequality, given both Latin America's initial structure of protection (that benefited mostly unskilled-intensive sectors) and relative endowments. The region is rich in natural resources, which are often complementary to capital and skills, and not necessarily abundant in unskilled labor. Latin America also has intermediate levels of relative capital endowments (as measured by capital to unskilled labor ratios), especially when compared with countries such as China and India that have a large pool of unskilled workers and were integrating into the world economy at the time of Latin America trade reforms. Quantitatively more important, labor reallocation took place within sectors as product mix changed—more skilled-intensive products/processes appeared and grew at the margin, through outsourcing—and with the emergence of more productive and innovative firms, which normally demand higher skills, in an environment of heightened competition. Faster transfer and adaptation of skill biased technical change further strengthened relative demand for skills. It is thus not surprising to observe a generalized increase in relative demand for skills (especially at the tertiary level) in the years following trade liberalization, which led to higher skill premiums for workers with tertiary education (although not for workers with secondary education, given the sharp increases in secondary enrollments in many countries).

Beyond skill premiums and wage inequality, the direction of other effects discussed is mixed, and they might have had some equalizing effects on household

income distribution. Increases in rents for holders of property rights on natural resources probably contributed to income inequality in most countries, although they also benefited small farmers. Changes in consumer prices appear to have benefited the poor to a greater extent, as would be expected if many of the unskilled-intensive and formerly protected activities were producers of basic goods. This explains why the real income of the poor increased substantially after trade reforms in many countries. In some countries there were temporary spells of unemployment that tended to increase inequality, while in others reductions in unemployment and/or some effects on increased labor participation might have had the opposite effect. Importantly, observed increases in informality cannot be attributed to trade opening. They were mostly due to other events and policies (exchange rate appreciation caused by increased capital flows, capital account opening, and monetary policies) that led to an unexpected initial increase in prices and share of nontradables.

Policy complementarities can ensure that the poor benefit from trade reforms that would otherwise increase poverty. The evolution of adverse effects on skill premiums and wage inequality over time will depend on supply responses in education and training by workers, firms, and governments. A fast response in skill upgrading would reduce inequality effects over time and probably augment positive growth effects. Government actions to increase supply and quality of public education, to help overcome liquidity and informational constraints by poor families and workers, and to evolve toward more competitive and efficient training and remedial education services would play a key role in such a response. Increased access to credit and insurance would also be likely to allow poor households to adjust better to reforms and take full advantage of the new opportunities offered by trade liberalization. More flexible labor markets and entry and exit regulations for firms would also allow productive firms to enter and increase their share in potentially more profitable activities more easily. Finally, increased access to infrastructure, financial services, and technical assistance would facilitate small farmers' adjustment to new challenges and opportunities.

Notes

1. Assuming that net gains exist, which may not be the case in the presence of market failures (such as access to credit or imperfect competition).
2. Chile first liberalized in 1975–6, although this was followed by backtracking after the debt crisis during 1983–5 and liberalization since then. For the purposes of figures showing developments before and after liberalization, we use 1985 here as the date of definitive liberalization. Similarly, we use 1989 as the date for Argentina's definitive liberalization, and not the failed liberalization of the late 1970s.
3. See Wood (1997) for a similar point. Data on skill premiums start in 1983, more than a decade after the Asian Tigers liberalize. It suggests, however, a decline in skill premium for the Rep. of Korea and unchanged skill premiums for Singapore and Hong Kong from 1983 onward (see Willem te Velde and Morrissey 2004).
4. See Krueger (1978); Bhagwati (1978); Choksi, Michaely, and Papageorgiu (1991).
5. See estimates for Argentina, Bolivia, Brazil, and Colombia in Manacorda, Sánchez-Páramo, and Schady (2005).

6. Lora measures trade reform as the average of the average level of tariffs and the average tariff dispersion, although he obtains the same result with a measure of trade openness.

7. Interacting trade openness with GDP per capita.

8. Wood (1995, 1997) was the first to observe this as a potential explanation. It is surprising, though, that apart from Davis, most of the already vast literature (see the survey by Goldberg and Pavcnik (2004)) attempting to explain this apparent puzzle ignores this basic fact and concentrates almost exclusively on other issues that certainly helped explain the puzzle, but were probably less important.

9. Our index of natural resources is based on trade in goods and ignores tourism exports.

10. Results are even more heterogeneous within developing countries in a three-factor world, with some experiencing improved income distribution and some worsened income distribution. Leamer and Levinson (1995) point out that there is currently no empirical identification of international production cones, and hence there is no way to anticipate distributional consequences of trade liberalization in a Davis framework.

11. As discussed above, there is considerable heterogeneity across different natural endowments by countries.

12. Complementarities of oil intensity with capital and skill were not significant, though this may be due to underestimation of capital investments in the sector (especially in exploration).

13. Ethier (1984) shows that in a world with more goods than factors, it is impossible to predict production levels (once zero profits and factor price equalization are assumed). The reason is that the solution to this problem involves f equations and g unknowns, where f is the number of factors and g is the number of goods, and $f<g$. However, in this world with higher dimensions (to quote Ethier), it can be shown that on average there will be price increases for those factors that are intensively used in the production of goods that see their relative price increase and their production expand.

14. One may ask why with such a large skill premium there is no further investment in human capital. One possible answer lies with imperfect capital markets that in the presence of high levels of income inequality do not allow poor individuals to invest.

15. We thank Humberto Lopez for running these regressions. The indexes of natural resources abundance are proxied by net exports per capita of different types of products associated with natural resources.

16. Though Dollar and Kraay (2004) find no effect of trade opening on inequality, table 6 in their study indicates that most Latin American (and African) countries that internationalized ("globalizers") did increase or maintain inequality (except Jamaica and Venezuela).

17. For fuel abundance, results are not statistically significant. We get a qualitatively similar result for high skill abundance (as measured by skill/unskilled labor ratios), but found no statistically significant relationship for capital abundance (measured as the capital to unskilled labor ratio).

18. See Harrison and Hansen (1999) and Revenga (1997) for Mexico; and De Ferranti, Perry, Lederman, and Maloney (2002).

19. For evidence of the lack of labor reallocation in several developing countries, see Revenga (1997), Hanson and Harrison (1999), and Feliciano (2001) for Mexico; Currie and Harrison (1997) for Morocco; and Wacziarg and Wallack (2004) in a cross-country study of trade liberalization.

20. Within-industry increases in the share of skilled workers have been reported for Argentina, Brazil, Mexico, Chile, and Colombia. See Robbins (1996); Sánchez-Páramo, and Schady (2003); Attanasio, Goldberg, and Pavcnik (2004).

21. See Melitz (2003) for a theoretical justification.

22. See Acemoglu (2003).

23. Thoening and Verdier (2003) develop a theoretical model where SBTC is not exogenously given by the fact that more capital-intensive technologies are available, but is due to the

fact that firms exposed to more competition endogenously engage in more skilled biased technological change that requires more skilled-intensive activities to try to avoid imitation by competitors (because less codified technologies require more learning efforts to be handled).

24. For Colombia, see Attanasio, Goldberg, and Pavcnik (2004). For Mexico, see Hanson and Harrison (1999); Robertson (2000, 2004 for pre-NAFTA period). For Morocco, see Currie and Harrison (1997). For Brazil, see Pavcnik and others (2004).

25. See Galiani and Sanguinetti (2003); Galiani and others (2005).

26. Note that increased female participation may have been prompted by reductions in unskilled (male) wages (partly attributed to trade reforms), as households tried to keep their overall income constant.

27. See evidence on this in Perry and others (2005, chapter 2).

28. De Ferranti, Perry, Ferreira, and Walton (2003).

29. See Gourdon, Maystre, and de Melo (2006) for a similar argument.

30. The estimates in Nicita (2004) are based on estimates of pass-through and "Stolper-Samuelson"–type elasticities that try to control for other changes occurring simultaneously in the economy with year dummies.

31. This may seem to contradict the observation that in most countries the skilled to unskilled intensity has increased after unilateral trade liberalization. It does not. One can easily observe an increase in the skilled intensity in all sectors, but the *number* of employment opportunities for unskilled workers may increase considerably more. To see this, assume that an economy moves from employing 10 skilled workers and 100 unskilled workers to employing 15 skilled workers and 140 unskilled workers. The ratio of skilled to unskilled employment increased from 0.100 to 0.107, but the employment opportunities for unskilled workers are eight times larger, and can have a significant impact on poverty.

32. Because Wacziarg and Welch indicator is a dummy, we correct the standard errors for potential correlation across observations before and after trade reform.

33. See, for example, Morley (2000).

34. See De Ferranti and others (2000).

35. This is one of the rationales behind the call for more "aid for trade" in the current WTO round. Trade liberalization may not be enough to positively and significantly affect the livelihood of the poorest segments of the population in the poorest countries. See Hoekman and Olarreaga (2006).

36. Note that even within Latin America there could be significant heterogeneity, as argued earlier, that we will not be able to capture in the cross-country exercise. On the other hand, country studies cannot give a comprehensive view unless there is a broad range of them.

37. We are grateful to Guido Porto for his inputs into this section.

38. While the liberalization of the 1970s consisted mainly of tariff reductions, the 1990s were a period of comprehensive reforms, including financial and banking reforms, deregulation of services, privatization of public enterprises, and labor market regulations.

39. Note that as in Chang, Kaltani, and Loayza (2005), the governance index, and labor market, firm entry, and firm closing flexibility do not enter the regression as stand alone variables, as they have no time variation, and are therefore perfectly collinear with country fixed effects. World Bank (2005) and Chang, Kaltani, and Loayza (2005) argue that there is quite a bit of hysteresis in these variables and therefore a country dummy can be a good enough control for the direct impact of these variables.

40. A word of caution is in order on the interpretation of results. The regressions presented here follow most of the literature and condition the impact on GDP per capita. Thus, the impact of any of these variables on aggregate income is somehow controlled for. For example, if we do not condition the regressions on GDP per capita, we find that education has a strong and statistically significant impact on the income of the poor, but that is apparently captured by GDP per capita.

References

Acemoglu, D. 2003. "Patterns of Skill Premia." *Review of Economic Studies* 70: 199–230.

Acemoglu, D., and F. Zilibotti. 2001. "Productivity Differences." *Quarterly Journal of Economics* 116 (2): 563–606.

Attanasio, O., P. Goldberg, and N. Pavcnik. 2004. "Trade Reforms and Wage Inequality in Colombia." *Journal of Development Economics* 74: 331–66.

Banerjee, A., and A. Newman. 2004. "Notes for Credit, Growth, and Trade Policy." Massachusetts Institute of Technology.

Barro, R. J. 2000. "Inequality and Growth in a Panel of Countries." *Journal of Economic Growth* 5: 5–32.

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

Behrman, J., N. Birdsall, and M. Szekely. 2000. "Economic Reform and Wage Differentials in Latin America." Working Paper 435, Inter-American Development Bank, Washington, DC.

Bhagwati, J. N. 1978. *Foreign Trade Regimes and Economic Development: Anatomy and Consequences of Exchange Control Regimes.* Cambridge, Mass.: Published by Ballinger for the National Bureau of Economic Research.

Bolaky, B., and C. Freund. 2004. "Trade, Regulations, and Growth." Policy Research Working Paper 3255, World Bank, Washington, DC.

Bosch, M., and W. Maloney. 2005. "Labor Market Dynamics in Developing Countries: Comparative Analysis using Continuous Time Markov Processes." World Bank, Washington, D.C.

Casacuberta, C., and N. Gandelman. 2006. "Protection, Openness, and Factor Adjustment: Evidence from the Manufacturing Sector in Uruguay." Policy Research Working Paper 3891, World Bank, Washington D.C.

Chang, R., L. Kaltani, and N. Loayza. 2005. "Openness Can Be Good for Growth: The Role of Policy Complementarities." Policy Research Working Paper 3763, World Bank, Washington, DC.

Choksi, A., M. Michaely, and D. Papageorgiu. 1991. "The Design of Successful Trade Liberalization Policies." In *Foreign Economic Liberalization*, ed. A. Koves and P. Marer. Boulder, Colorado: Westview Press.

Currie, J., and A. Harrison. 1997. "Trade Reform and Labor Market Adjustment in Morocco." *Journal of Labor Economics* 15: S44–71.

Davis, D. 1996. "Trade Liberalization and Income Distribution." Working Paper 5693, National Bureau of Economic Research, Cambridge, Massachusetts.

Davis, D., and P. Mishra. 2005. "Stolper-Samuelson Is Dead, and Other Crimes of Both Theory and Data." In *Globalization and Poverty,* ed. A. Harrison. Chicago: University of Chicago Press.

De Ferranti, D., G. Perry, F. Ferreira, and M. Walton. 2003. *Income Inequality in Latin America: Breaking with History.* Washington, DC: World Bank.

De Ferranti, D., G. Perry, D. Lederman, and W. Maloney. 2002. *From the Natural Resources to the Knowledge Economy.* Washington, DC: World Bank.

De Ferranti, D., G. Perry, W. Foster, D. Lederman, and A. Valdes. 2005. *Beyond the City: The Rural Contribution to Development.* Washington, DC: World Bank.

De Ferranti, D., G. Perry, I. Gill, L. Guasch, W. Maloney, C. Sánchez-Páramo, and N. Schady. 2003. *Closing the Education and Technology Gap.* Washington, DC: World Bank.

De Ferranti, D., G. Perry, I. Gill, L. Sérven, F. Ferreira, N. Ilahi, W. Maloney, and M. Rama. 2000. *Securing Our Future in a Global Economy.* Washington, DC: World Bank.

De Janvry, A., F. Finana, E. Sadoulet, and R. Vakis. 2006. "Can Conditional Cash Transfer Programs Serve as Safety Nets in Keeping Children at School and from Working When Exposed to Shocks? *Journal of Development Economics* 79 (2): 349–73.

Dollar, D., and A. Kraay. 2002. "Growth Is Good for the Poor." *Journal of Economic Growth* 7: 195–225.

———. 2004. "Trade, Growth, and Poverty." *Economic Journal* 114(1): F22–F49.

Ethier, W. 1984. "Higher Dimensional Issues in International Trade." In *Handbook of International Economics,* vol. 1, ed. P. Kenenand R. Jones, chapter 3, Amsterdam: Elsevier.

Feenstra, R., and G. Hanson. 2003. "Global Production Sharing and Rising Inequality: A Survey of Trade and Wages." In *Handbook of International Trade*, ed. E. K. Choi and J. Harrigan, 146–85. Walden, Mass.: Blackwell.

Feliciano, Z. 2001. "Workers and Trade Liberalization: The Impact of Trade Reforms in Mexico on Wages and Employment." *Industrial and Labor Relations Review* 55 (1): 95–115.

Galiani, S., and G. Porto. 2005. "Trends in Tariff Reforms, Trends in Wages, and Trends in Wage Inequality." World Bank and Universidad de San Andres, Buenos Aires.

Galiani, S., and P. Sanguinetti. 2003. "The Impact of Trade Liberalization on Wage Inequality: Evidence from Argentina." *Journal of Development Economics* 72: 497–513.

Galiani, S., D. Heymann, C. Dabus, and F. Tohmé. 2005. "Land-rich Economies, Education, and Economic Development." Universidad de San Andres, Buenos Aires.

Goldberg, P., and N. Pavcnik. 2003. "The Response of the Informal Sector to Trade Liberalization." *Journal of Development Economics* 72: 463–96.

———. 2004. "Trade, Inequality, and Poverty: What Do We Know?" Brookings Trade Forum, 2004. Washington, DC.

———. 2005. "The Effects of the Colombian Trade Liberalization on Urban Poverty." Working Paper 11081, National Bureau of Economic Research, Cambridge, Massachusetts.

Goñi, E., H. López, and L. Sérven. 2005. "Getting Real about Inequality: Evidence from Brazil, Colombia, Mexico, and Peru." World Bank, Washington DC.

Gourdon, J., N. Maystre, and J. de Melo. 2006. "Openness, Inequality, and Poverty: A New Look at the Evidence." Department of Economics, University of Geneva.

Hanson, G., and A. Harrison. 1999. "Trade and Wage Inequality in Mexico." *Industrial and Labor Relations Review* 52 (2): 271–88.

Harrison, A., and G. Hanson. 1999. "Who Gains from Trade Reform? Some Remaining Puzzles." *Journal of Development Economics* 59: 125–54.

Hoekman, B., and M. Olarreaga. 2006. *Global Trade Liberalization and Poor Countries: Poverty Impacts and Policy Implications*. Washington, DC and Paris: Brookings Institution and Institut d'Etudes Politiques.

Krebs, T., P. Krishna, and W. Maloney. 2005. "Trade Policy, Income Risk, and Welfare." Working Paper 1125, National Bureau of Economic Research, Cambridge, Massachusetts.

Krivonos, E., and M. Olarreaga. 2005. "Sugar Prices, Labour Income, and Poverty in Brazil." Discussion Paper 5383, Center for Economic Policy Research, London.

Krueger, A. O. 1978. *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences*. Cambridge, Mass.: Ballinger, for the National Bureau of Economic Research.

Leamer, E., and J. Levinsohn. 1995. "International Trade Theory: The Evidence." In *Handbook of International Economics*, volume 3, ed. G. M. Grossman and K. S. Rogoff, chapter 3. Amsterdam: North-Holland.

Leamer, E., H. Maul, S. Rodriguez, and P. K. Schott. 1999. "Does Natural Resource Abundance Increase Latin American Income Inequality?" *Journal of Development Economics* 59: 3–42.

Lopez, Humberto. 2003. "Macroeconomics and Inequality." Chief Economist Office for Latin America and the Caribbean Region, World Bank, Washington, DC.

Lora, E. 1997. "A Decade of Structural Reforms in Latin America: What Has Been Reformed and How to Measure It." Working Paper 348. Office of the Chief Economist, Inter-American Development Bank, Washington, DC.

Maloney, W. 1999. "Does Informality Imply Segmentation in Urban Labor Markets? Evidence from Sectoral Transitions in Mexico." *World Bank Economic Review* 13 (2): 275–302.

Manacorda, C., C. Sánchez-Páramo, and N. Schady. 2005. "Changes in Returns to Education in Latin America: The Role of Demand and Supply of Skills." Chief Economist Office for Latin America and the Caribbean Region, World Bank, Washington, DC.

Marcouiller, D., V. Ruiz de Castilla, and C. Woodruff. 1997. "Formal Measures of the Informal-Sector Wage Gap in Mexico, El Salvador, and Peru." *Economic Development and Cultural Change* 45 (2): 367–92.

Melitz, M. 2003. "The Impact of Trade on Intra-industry Reallocations and Aggregate Industry Productivity." *Econometrica* 71: 1696–1725.

Morley, Samuel. 2000. *Efectos del crecimiento y las reformas económicas sobre la distribución del ingreso en América Latina*. Santiago de Chile: Comisión Económica para América Latina y el Caribe (CEPAL).

Nicita, Alessandro. 2004. "Who Benefited from Trade Liberalization in Mexico? Measuring the Effects on Household Welfare." Policy Research Working Paper 265, World Bank, Washington, DC.

Pavcnik, N. 2002. "Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants." *Review of Economic Studies* 69: 245–76.

———. 2003. "What Explains Skill Upgrading in Less Developed Countries?" *Journal of Development Economics* 71: 311–28.

Pavcnik, N., A. Blom, P. K. Goldberg, and N. Schady. 2004. "Trade Policy, and Industry Wage Structure: Evidence from Brazil." *World Bank Economic Review* 17 (2): 156–97.

Perry, G., D. Lederman, and R. Suescun. 2002. "Trade Structure, Trade Policy, and Economic Policy Options in Central America." Chief Economist Office for Latin America and the Caribbean Region, World Bank, Washington, DC.

Perry, G., H. Lopez, W. Maloney, O. Arias, and L. Serven. 2005. *Virtuous Circles of Poverty Reduction and Growth*. Washington, DC: World Bank.

Porto, G. 2005. "Agricultural Exports, Wages, and Unemployment." World Bank, Washington, DC.

———. 2006. "Using Survey Data to Assess the Distributional Effects of Trade Policy." *Journal of International Economics* 70 (1): 140–60.

Revenga, A. 1997. "Employment and Wage Effects of Trade Liberalization: The Case of Mexican Manufacturing." *Journal of Labor Economics* 15 (3): S20–S43.

Robbins, D. 1996. "Evidence on Trade and Wages in the Developing World." Technical Paper 119, Organisation for Economic Co-operation and Development (OECD), Paris.

Robertson, R. 2000. "Trade Liberalization and Wage Inequality: Lessons from the Mexican Experience." *World Development* 23 (6): 827–49.

———. 2004. "Relative Prices and Wage Inequality: Evidence from Mexico." *Journal of International Economics* 64 (2): 387–409.

Sánchez-Páramo, C., and N. Schady. 2003. "Off and Running? Technology, Trade, and the Rising Demand for Skilled Workers in Latin America." Policy Research Working Paper 3015, World Bank, Washington, DC.

Sanguinetti, P., R. Arim, and J. Pantano. 2001. "Changes in Production and Employment Structure and Relative Wages in Argentina and Uruguay." Department of Economics, Universidad Torcuato Di Tella, Buenos Aires.

Thoenig, M., and T. Verdier. 2003. "A Theory of Defensive Skill-biased Innovation and Globalization." *American Economic Review* 93 (3): 709–28.

Verhoogen, E. 2004. "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector: Theory and Evidence from an Exchange-Rate Shock." Department of Economics, University of California, Berkeley.

Wacziarg, R., and J. Wallack. 2004. "Trade Liberalization and Intersectoral Labor Movements." 64 (2): 411–39.

Wacziarg, R., and K. Welch. 2003. "Trade Liberalization and Growth: New Evidence." Working Paper 10152, National Bureau of Economic Research, Cambridge, Massachusetts.

Willem te Velde, D., and O. Morrissey. 2004. "Foreign Direct Investment, Skills, and Wage Inequality in East Asia." *Journal of the Asia Pacific Economy* 9 (3): 348–69.

Winters, A., N. McCulloch, and A. McKay. 2004. "Trade Liberalization and Poverty: The Evidence So Far." *Journal of Economic Literature* 62: 72–115.

Wood, A. 1995. "How Trade Hurt Unskilled Workers." *Journal of Economic Perspectives* 9 (3): 57–80.

———. 1997. "Openness and Wage Inequality in Developing Countries: The Latin American Challenge to East Asian Conventional Wisdom." *World Bank Economic Review* 11 (1): 33–57.

World Bank. 2005. *Doing Business Report.* Washington, DC: World Bank.

Comment on "Increasing Inequality in Transition Economies: Is There More to Come?" by Pradeep Mitra and Ruslan Yemtsov, and "Trade Liberalization, Inequality, and Poverty Reduction in Latin America," by Guillermo Perry and Marcelo Olarreaga

JAN SVEJNAR

Comment on "Increasing Inequality in Transition Economies: Is There More to Come?"

This is a careful empirical study that addresses an important set of issues. The authors have carried out surveys and used both survey and secondary data to carry out their analysis. The study is well conceived and executed.

The key finding is that inequality has increased during the transition and the increase has differed across and within groupings of countries. In particular, the increase has depended on the relative importance of changes in the distribution of wages, employment, entrepreneurial incomes, and social safety nets. The authors show that unlike in Central and Eastern Europe (CEE), in Russia there has been a rapid rise in wage inequality, which in turn has had a strong effect on income inequality dynamics. They also find that nontransitional components of inequality (such as equality of opportunities) do not all point in one direction. Thus for instance, faster economic growth in China does not appear to have driven the observed higher inequality there. What seems to have been a dominant common driver of inequality in Central and Eastern Europe, the Commonwealth of Independent States (CIS), and China is wage decompression. Interestingly, Russia has recently reversed the trend of increasing inequality. With an eye to future developments, the authors also document the fact that there has been a decline in the quality of education in the transition economies.

There are several key ideas (hypotheses) that the authors examine in their analysis. The first one is that the transition in CEE and CIS has not yet been completed. This is an important point because many more distant observers routinely assume that the transition is basically over, especially in the CEE economies. Second, the authors argue that there is no single driver of inequality in the transition economies and that China's rising inequality is a developmental phenomenon (notably, the rural-urban divide) rather than a transition phenomenon. If correct, this insight implies that China's experience has a relatively limited relevance for Russia and that faster economic growth in the CIS region need not bring about higher inequality. The third important idea is that inequality can be influenced by policy. This leads the authors to argue that Russia should reduce the size of its informal economy—a proposal that is interestingly at odds with some of the thinking on Latin America, where the informal sector is seen as helping both growth and reduction in inequality (see the paper by Guillermo Perry and Marcelo Olarreaga). Finally, the authors examine the proposition that the decline in the quality of education, unless reversed, spells trouble for the transition economies in the future.

The paper is quite convincing. The authors use surveys and reconstruct evidence on the effects of transition on inequality from numerous studies, including those dealing with China. They extend and apply the 2006 *World Development Report* methodological framework to assess long-term paths of inequality in Russia and they carefully examine the main drivers of inequality in transition. The authors' own estimates are based primarily on consumption data, which makes sense because these data are superior to income data and are also more readily comparable across countries. The secondary data come from various studies and rely mostly on calculated inequality indicators and diverse econometric exercises. An important strength of the study lies in the large numbers of different data points and pieces of evidence that the authors bring together. The weakness is obviously the heterogeneity of quality and methodological approaches in the various surveyed studies. The authors therefore carry out extensive recalculations of their own and add countries (such as low-income members of the CIS) to the existing data. This is in many respects the most valuable part of the analysis because the surveyed studies generate a wide variety of conflicting findings. The main overall weakness of the paper is that despite their effort, the authors are unable to obtain high-quality, panel micro data across many countries.

On the substantive side, there are several important issues that are worth further exploration in future research. First, the authors correctly bring to our attention the need to examine further the determinants of regional variation in inequality and the role of entrepreneurship. Second, while the aggregate data from China show that growth and rising inequality are not simply (contemporaneously) correlated, it is possible that they are correlated with some lags, due to structural features. Understanding this more complicated relationship would be important for both China and the former Soviet bloc and Balkan transition economies.

Third, it will be of interest to explore further the part played by the informal economy. The difference in the perception of the informal sector by the World Bank economists working on Latin America and CEE-CIS is remarkable. While in the CIS

the informal sector is perceived as playing a negative part, in Latin America it is often seen as a positive feature that enhances efficiency and growth. On a related note, it would be interesting to examine whether the Latin American model outlined by Guillermo Perry and Marcelo Olarreaga will increasingly apply to the relatively resource-rich CIS countries as the transitional factors weaken over time.

Fourth, from a policy perspective, it will be of interest to examine what implications on wage versus employment inequality there are in situations where firms adjust wages as opposed to employment. This issue underlies much of the paper but it is not dealt with explicitly. Fifth, it will be desirable to consider more systematically where the findings of this study leave us in terms of the trade-off between "inequality as a determinant of poverty" and "inequality as a factor that provides incentives for effort and risk taking." Finally, it would be worth exploring whether the development process is bringing the transition economies, and developing countries in general, to a common level or range of inequality.

Overall, Pradeep Mitra and Ruslan Yemtsov present us with an impressive study that advances in a major way our knowledge in the area of growth and inequality. The study is extremely rich with data and findings; the reader is almost overwhelmed. At the same time, the authors are transparent in their approach, with the reader being able to realize that data limitations and the variety of conflicting findings make it difficult to draw strong conclusions. This lack of simple discernible patterns and strong conclusions is a testimony to the fact that the relationship between inequality and growth is a complex one.

Comment on "Trade Liberalization, Inequality, and Poverty Reduction in Latin America"

This is a nice study examining the effect of trade liberalization on various measures of inequality and poverty. It parallels in an important way the study by Pradeep Mitra and Ruslan Yemtsov, which focuses on inequality and the transition from plan to market.

There are two key findings in the Perry-Olarreaga paper. First, contrary to ex ante expectations, trade liberalization in the countries of Latin America and the Caribbean (LAC) was mostly accompanied by increases in skill premiums, wage inequality, and in some countries also by overall income inequality. The fact that this outcome was unexpected is important in the context of Francois Bourguignon's keynote address, which stresses the need to inform and persuade the local elites about the nature and outcomes of proposed policies. If policy outcomes turn out to be different than expected, the elites may in the future be reluctant to accept these (externally proposed) policies. The second major finding of the Perry-Olarreaga study is that the effects of trade liberalization on poverty varied across countries, but reforms mostly coincided with reductions in poverty. The authors argue that the decline in poverty may be attributed to a fall in the cost of consumption goods of the poor and the coincidence of short-term unemployment, together with significant overall outflows of people from unemployment.

The analysis suggests that these outcomes have been brought about by several factors. The first factor to be considered in the context of trade liberalization is relative factor endowments, with many Latin American and Caribbean countries being relatively rich in natural resources that are complementary to capital and skills. Moreover, during this period Latin America and Caribbean countries were becoming relatively capital abundant as capital-poor China and India increasingly entered the world markets. Trade is also seen as having accelerated skill-biased technical change and creative destruction. Moreover, it presumably reduced the importance of initial conditions, such as protection, that favored unskilled labor. The paper also stresses the fact that the effect of trade on poverty and inequality depends on other policies, especially those affecting the access to skills and productive assets by the poor. Finally, the authors make the point that with trade liberalization, the poor may have better possibilities to adjust and that the role of the informal sector is not necessarily negative.

Methodologically, the paper surveys evidence from numerous studies on the effects of trade liberalization and provides its own econometric estimates of the interrelationship between trade reforms and other policies. The surveyed studies are mostly econometric exercises based on cross-sectional and time series macro data, but they also contain some studies using micro panel data. The authors own estimates are based on individual annual wage data and (three-digit ISIC) industry tariff data for Argentina during 1975–2001 and country data on average income in the bottom quintile, openness indicators and policies proxied by data on labor market flexibility, entry of firm flexibility, closing of firm flexibility, a governance indicator, and secondary education enrollment (17 Latin American and Caribbean countries; maximum 6 observations per country; N = 68 to 74). The econometric approaches vary across the surveyed studies. The authors' own micro estimates are based on a wage-trade equation that is estimated separately for the liberalization periods of the 1970s and 1990s. The specification is based on education dummy variables corresponding to primary, secondary, and tertiary educational attainment, and it allows returns to schooling and age to vary by year. It controls for factors such as changes in the exchange rate and for industry-specific, but not individual-specific, fixed effects. The authors' macro (country-level) time series estimates are based on an OLS model that interacts a country's openness with indicators of government policies, such as labor market flexibility.

The survey of evidence appears inclusive and balanced. The authors cover both theoretical and empirical studies, with the latter ones generating a variety of findings, often conflicting ones. The authors carry out additional calculations to supplement the existing evidence, but more information about the surveyed studies would be useful (such as about the nature of the data and sample size). The authors' hypotheses are consistent with the main thrust of the survey findings, at least to the extent that one can find systematic and uniform findings. Here the study opens a number of potential avenues for future research. It would for instance be useful to use the observed heterogeneity across Latin American and Caribbean countries in resource endowments to carry out sharper tests of the key hypotheses and extend

the basic analyses reported in tables 1, 2, and 4. It would be also fruitful to estimate equation 1 on the entire data set, include explanatory variables capturing changes in the external environment and policies, and interact these variables with the tariff variable. In addition to carrying out a regression analysis with just a subset of explanatory variables, it would be useful to include all regressors simultaneously (for example, in table 2) and report the effects of openness at the mean values of the relevant variables. Similarly, in interpreting the macro regressions it makes sense to focus on the specifications that include all the explanatory variables (reported in the last column). Finally, the finding that labor market flexibility has no effect is surprising and it would be useful to check its robustness by including the flexibility indicators as explanatory variables on their own, in addition to being interacted.

Overall, this is an important study that provides new, plausible interpretations of observed outcomes. As in the case of the Mitra-Yemtsov paper, data limitations and the variety of conflicting findings make it difficult for Guillermo Perry and Marcelo Olarreaga to draw very strong conclusions—a limitation that will hopefully be overcome with more panel data in the future. From a global perspective, the authors provide important new insights on rising inequality, falling poverty, and the (not necessarily negative) part played by the informal sector.

Comment on "Increasing Inequality in Transition Economies: Is There More to Come?" by Pradeep Mitra and Ruslan Yemtsov, and "Trade Liberalization, Inequality, and Poverty Reduction in Latin America," by Guillermo Perry and Marcelo Olarreaga

ANDRÉS SOLIMANO

Globalization and economic reforms have been reshaping the world economy in the last two decades. At the national level, the standard reform package included macroeconomic stabilization, liberalization of markets, opening to international trade and capital flows, privatization, and other policies. The effect of these policies on economic growth and inequality of income and wealth is a subject of debate and controversy. The papers by Guillermo Perry and Marcelo Olarreaga on Latin America and Pradeep Mitra and Ruslan Yemtsov on China, Russia, and Central Asia and Eastern Europe are new and very valuable contributions to the literature on the topic.[1] This note reviews broad evidence on the behavior of economic growth and inequality following reform in Latin America, Eastern Europe, Russia, and China and offer comments on the two papers mentioned above.

Growth

In most Latin America countries the reform policies of the 1990s were *not* followed by a significant and sustained acceleration of economic growth (except in the case of Chile). In fact, in the last quarter century, the region has been growing at rates that are below the growth record of 1950–80 but higher than in the 1980s, the decade of the debt crisis. In addition to a modest mean, growth has been cyclical with growth expansions in the early 1990s, then a downturn in 1997–98 associated with the aftermath of the Asian crises, and then a new growth acceleration in 2004–5 following a boom in commodity prices (see Solimano 2006). In the last 20 years the best growth performer

has been Chile, which accelerated its growth rate by nearly 2.5 percentage points a year above its historical record of most of the twentieth century.[2] However, the more sustained growth take-off in Chile started in the mid- to late 1980s, a decade after the main reforms were adopted (in the mid- to late 1970s). In the meantime, various crises and policy mistakes took place. The restoration of democracy in the 1990s, along with more aggressive social policies, gave the economic model further social support and political legitimacy. The Chilean case shows that free markets may not, instantly, deliver high growth. Liberal economic policies need to be combined with progressive social policies, internal democratic consensus, and policy continuity across various administrations, to consolidate over time and deliver consistently higher growth.

In Russia and several Eastern European countries, economic reforms were initially followed by big initial contractions in GDP that lasted several years and employment followed by recoveries, although the timing and intensity of various GDP paths varies across countries. The case of China is different. As figure 1 of Mitra and Yemtsov's paper eloquently shows, the paths of GDP per capita (measured in PPP) in Russia and China since 1989 differed greatly, with steady growth in China (a rising line) standing in contrast to a sharp and protracted contraction in Russia in the early 1990s up to 1998, followed by a long recovery afterward.[3] GDP growth cycles in transition economies (particularly in the initial phases of the transition) went well beyond mild (short frequency) business cycles around a well-defined trend. So-called "transformational cycles" have spanned a decade and a half or more.

The last 15 to 20 years of reform in Latin America and postsocialist countries shows a large diversity of policy reforms paths, matched by a diversity of growth outcomes. It is difficult to map growth responses to specific policies within and across countries. Recent research in growth economics is showing that growth rates of output in the same country have little serial correlation: current growth can be a bad predictor of future growth without clear and well-established trends for a while. It is apparent that volatility in growth rates is a large part of the global growth story of the last two to three decades in the international economy.

To shed more light on the causes behind a certain growth path and derive useful lessons for adopting more pro-growth policies, it is useful to focus on the factors that ignite, maintain, or stop growth. Cross-country growth regressions for a large sample of very heterogeneous countries with policy variables as explanatory factors of per capita growth rates (a practice that dominated "policy-oriented" growth economics in the 1990s) may not be that useful, in the end, to understand actual growth dynamics in concrete country circumstances. This suggests the importance of conducting country-specific studies that look at how economic reforms affect critical growth determinants such as savings, investment, and productivity, and then trace the effects of these policies on GDP growth paths.

Inequality and Social Impact

Mitra and Yemtsov show that the economic reforms in Russia, China, and former socialist countries have been accompanied by rising inequality of both per capita

income and wages (increasing Gini coefficients). Perry and Olarreaga also show that, contrary to initial expectations, the trade liberalization undertaken in Latin America in the 1980s and 1990s led to an increase in wage inequality and ambiguous effects on real wages and employment. Gini coefficients show an increase in income inequality in Russia and China following reform policies. Specifically, in Russia between 1987–90 and 2003, the Gini index for per capita income increased from 0.256 to 0.404, a rise of around 15 points: a large increase for the traditionally stable Gini coefficients. In turn, for China, the Gini coefficient of per capita income increased from 0.289 in 1987–90 to 0.395 in 2001: another large increases in inequality. In contrast, the increases of inequality were milder in the Czech Republic and Hungary. Between 1987 and 2003, the Gini coefficient in the Czech Republic increased from 0.197 to 0.234, and in Hungary from 0.214 to 0.268. In Poland the rise in the Gini coefficient over the same period was comparatively higher: from 0.255 to 0.356.

Regarding initial conditions, in Latin America, the economic reforms of the 1990s were applied to countries that already had high levels of inequality (Ginis in the range 0.45 to 0.60). In contrast, former socialist countries at the end of the socialist period had low levels of inequality of income and wealth (with Ginis for per capita income in the range of 0.18 to 0.26) and had undertaken significant previous investments in human capital. China started its reforms with low inequality and good social indicators. The starting conditions for reform regarding inequality were thus very different between Latin America and Eastern Europe, Russia, and Central Asia. In any case, for most of Latin America, the economic reforms have *not* lead to a decline in inequality, which remains stubbornly high.

As economic reforms are complex packages involving several policies, their effects on inequality and social conditions can be mixed. We can identify several components of reform and their likely social effects:

The macro component. In the initial phase of the reform process, several countries had to undertake macro stabilization to reduce inflation, correct currency misalignments, and reduce fiscal and current account imbalances. Shock therapy often leads, initially, to output contraction[4] and cuts in real wages and employment, with adverse effects on the welfare of workers and poor families. However, if stabilization succeeds in bringing down inflation and leads to a recovery of output on a more permanent basis, this should help boost real wages and employment. The short-term impact of macro policies may differ from their medium-term effects.

Retrenchment in the public sector. Economic reforms often seek to reduce the size of the public sector. In many instances this leads to firing of public sector employees and/or the compression of their real wages.[5] The expectation in the design of reform was that people would reallocate to the private sector that was being boosted by market liberalization. However, in several countries as a result of public sector retrenchment and other policies, the economies started to operate with a sort of structural open unemployment besides informal employment. That was the case of Chile in the 1970s and 1980s, and in Argentina, Poland, Russia, and

other postsocialist countries since the 1990s, as a consequence of economic restructuring and reform. The empirical evidence shows that the growth of the private sector takes some time to occur and consolidate. Moreover, the capacity of private firms to create employment is often not enough to absorb the people laid off from the public sector and new entrants to the labor force. The trend for an increase in unemployment after reform is confirmed in Mitra and Yemtsov's analysis for Russia and most other postsocialist countries of Eastern Europe.

Trade reform. This issue is analyzed in both papers, although in more detail in Perry and Olarreaga's study for Latin America, in which they observe an increase in wage premiums and overall wage inequality following episodes of trade liberalization. The authors consider this a "puzzle." Trade liberalization was envisaged to lead to an increase in the demand for unskilled labor, and therefore to increase real wages and perhaps shift income distribution toward labor. In reality, with the eruption of India and China as international super-competitors in goods very intensive in low-wage labor, it became clear that Latin America would have problems successfully competing in world markets in the production of low-wage goods. Given its endowments of natural resources, the "natural niche" for Latin America has been to specialize, relatively, in the production of tradable goods more intensive in natural resources than in labor. Apparently this effect was not foreseen by policy makers at the time trade liberalization took place.

Privatization. This policy has potentially significant effects on wealth distribution, a main determinant of income distribution. Socialist countries had extensive public property during socialism. When they privatized state assets, they generated new patterns of property for housing, land, and shares of capital stock. This was critical to create a new elite of owners (sometimes the managers of socialist firms became the new owners in the postcommunist period). Whether this elite will resemble more a sort of Schumpeterian capitalist class oriented to innovation and investment or will become a segment more inclined to rent-seeking (and eventually corruption) is an open question. Latin America had a traditionally high concentration in the ownership of productive assets, and it is unclear whether privatization in the 1980s and 1990s reduced these trends.

Are Postsocialist Countries Latin Americanizing (reaching an equilibrium of high inequality and unstable growth)?

Is the increase in inequality in postsocialist countries after reform, particularly in Russia and China, evidence that these countries are converging more to unequal conditions typical of Latin America than to more egalitarian conditions typical of Western Europe or Scandinavia? What is the growth record after reform? Is it linked to high inequality? On the first question, the increase in inequality in Russia, China, and some other former socialist countries is significant; the new Gini coefficients for these countries are in the range of 0.35 to 0.40: a bit higher than Western European levels (of around 0.35) but lower than

Latin America levels, in which average Gini coefficients are in the order of 0.50 and above. Part of the increase in inequality in post socialist countries was probably unavoidable. This has been due to the dispersion of wages, as the wage scale during the socialist period was kept very compressed, with little room left for efficiency gains in labor productivity following differential wage incentives. Still, asset concentration after privatization and the formation of large and powerful economic conglomerates, particularly in Russia and perhaps in other countries, may lead to concentration of wealth and incomes that may be hard to revert, as favored affluent elites will resist policies to reduce inequality. This is a lesson to keep in mind: once a certain income and asset distribution gets stuck in society, it becomes a "stable equilibrium" that is hard to modify except under very special economic and political circumstances, such as big economic crises that lead to radical reforms or political revolutions. In fact, inequality in Latin America is particularly robust and stable over time, with the roots of inequality going back to its colonial period several centuries ago.

Regarding the response of growth following the adoption of economic reform, the success stories have been China, Chile, India, and a few others. The more common pattern in Latin America and Eastern Europe and Russia is irregular growth. Stable and sustained growth seems harder to achieve than suggested by optimistic expectations entertained at the start of the reform policies. Without a doubt, growth economics and comparative development remain exciting although complex topics with very important implications for the fortunes of many people around the world.

Notes

1. The paper on Latin America focuses more on trade reform and its social effects, whereas the paper on former socialist countries looks at a broader set of factors that affected inequality, wages, unemployment, and growth in China, Russia, and other transition economies.
2. As is well known, Chile adopted, in the mid-1970s, economic reforms of the sort that were later followed in countries of Latin America and postsocialist economies in the mid-1970s, under very special political and economic circumstances.
3. A further question here is the sustainability of the post-1998 GDP growth recovery in Russia, given the fact that it has been accompanied by still relatively reduced investment over GDP ratios.
4. Another feature of IMF programs is a tendency to overshoot current account targets (by compressing imports).
5. In Chile in the mid-1970s, more than 100,000 public employees lost their jobs in one year under the military regime and unemployment climbed to near 20 percent.

Reference

Solimano, Andrés, ed. 2006. *Vanishing Growth in Latin America. The Late Twentieth Century Experience.* Northampton, MA: Edward Elgar Publishing.

Economic Space

Comparing the Evolution of Spatial Inequality in China and India: A Fifty-Year Perspective

KIRAN GAJWANI, RAVI KANBUR, AND XIAOBO ZHANG

In the second half of the last century, both India and China underwent major transitions and moved to more liberalized economies. This paper relates the observed patterns in regional inequality to major events during this period. Because of China's institutional barriers to migration, regional inequality is much higher than in India. Also, China's decentralization and opening up are closely related to the observed regional inequality— particularly the inland-coastal disparity—since the reform period. In India, from the age of the Green Revolution to the period of economic liberalization, the evolution of regional comparative advantage has shifted from the quality of land to the level of human capital as India integrates with the international market. Therefore, India's states have become clustered into two clubs: one more educated and the other less educated.

Constituting more than one-third of the entire world's population and 6 percent of world gross domestic product (GDP), China and India play a major role in the future of the world economy. This paper seeks to understand and compare regional inequality in these countries, providing useful information for helping their future path and knowledge that can be applied to aid the development paths of other developing economies.

The most populated country and the second largest economy in the world,[1] China has achieved tremendous successes in the last 30 years. With growth in GDP of around 9 percent per year since the 1970s, China's achievements in poverty reduction have accounted for nearly three-quarters of developing countries' poverty reduction in the last 20 years (World Bank 2005a).

Despite such successes, however, difficulties still exist. According to the US$1 per day poverty line, approximately 100 million Chinese are considered income poor, and tend to be concentrated in the interior regions (World Bank 2005a).[2] Under the lower official poverty line, the total number of absolute poor has stayed stagnant at around 28 million— if not increased (CNBS 2004). Rising inequality may play a part in explaining the recent disappointing performance in poverty reduction.

Rapid growth does not guarantee that the poor can share the bigger pie if the distribution becomes more skewed (Ravallion and Chen 2004). China's struggle with regional inequality is one major concern in its very impressive list of achievements in the past decades.

India, the world's second most populous country, with a GDP in 2004 of $691 billion, is the fourth largest economy in the world.[3] After instituting major economic reforms in the early 1990s, India has proceeded along a path of strong economic growth, averaging 6.8 percent annual GDP growth since 1994. Yet problems of poverty prevail. Over 25 percent of the population—approximately 260–290 million people—live below the poverty line, half of whom are concentrated in three of India's poorest states: Uttar Pradesh, Bihar, and Madhya Pradesh (World Bank 2005b). Three-quarters of the poor live in rural areas. Many empirical studies have found increasing regional inequality[4]—particularly since 1991 when the economic reforms of liberalization and deregulation were instituted—in contrast to the predictions of economic theory that regional disparity in a federal economy will decrease with globalization (Elizondo and Krugman 1992).

Rising regional inequality will slow the trickle-down effect of growth on poverty reduction (Bhanumurthy and Mitra 2004). From the point of view of poverty reduction, it is important to understand the patterns and causes of China and India's regional inequality, as they still have the largest pockets of poor people in the world.

A comparison of regional inequality in the two countries also has merits on the academic front. According to the prevailing growth theory of convergence, differences in growth across regions should decrease over time as the rates of returns to capital and labor equalize across regions and sectors. However, results of tests of convergence have been full of debate, in large part because of difficulties in controlling for institutional and cultural differences. We can apply this notion of convergence to a comparison of a cross-section of countries, or to regions within a single country. A comparison of regional inequality in China and India—as the two most populous countries, and nations with large regional variations—makes an especially interesting and important testing ground for the convergence hypothesis. What are the patterns of regional inequality over a long period of time in these two countries? What are the major driving forces behind the observed patterns of economic space? This paper aims to address these questions by linking the evolution of regional inequality with the major development strategies in the two countries.

In the case of China, regional inequality over the second half of the last century was closely associated with major events, as Kanbur and Zhang (2005) find. From the Great Famine of the 1950s through the opening up that began in the late 1980s, key peaks in inequality coincide with these major events. The core idea of this paper is that under different development strategies, a region's comparative advantage may differ. Take *openness* as an example. During the planning era, China had a closed and primarily agrarian economy. Under this scenario, a region's comparative advantage is determined by its land quality. However, after opening up, China's regional comparative advantage needs to be evaluated at a global context. With openness, the rates of returns to labor—particularly skilled labor in the coastal areas—change, as well as returns to land. Consequently, the coastal regions enjoy a comparative

advantage in proximity to the international market and in access to a large pool of well-educated labor. Coupled with the institutional barriers to labor mobility, though abating recently, China's open-door policy has been strongly associated with a widening inland-costal disparity.

Liu (2005) highlights the role of the *hukou* system in China's inequality. China's *hukou* system, also known as the household registration system, restricts living and working only to areas where one has permission, though it has become more flexible since the 1980s. The study shows that obtaining urban *hukou* status before age 15 leads to more time spent in education and improved labor market outcomes. Showing that one major cause of rural-urban inequality is low education and low returns-to-education in rural areas, Liu argues that the *hukou* system plays a large role in China's inequality. Wan and Zhou (2005) show that geography plays an important but decreasing role, while capital inputs are contributing more and more to China's overall inequality. Their sample uses household data from three provinces and three villages within each province, and they follow a decomposition of inequality using Shorrocks' (1999) method with regression analyses.

India has also liberalized its economy recently. In absence of restrictions on migration, does the same story unfold in India? Following up on the spirit of Kanbur and Zhang (2005) on China, this paper uses a similar data series to look at the evolution of regional inequality in India in the latter half of the twentieth century. Over this period, India had a fascinating history. After achieving independence from British rule in 1947, the Indian economy has changed and developed in a multitude of ways. From the first five-year plan in 1951, to the 1991 liberalization reforms, to the tenth five-year plan in 2002, India has been through border wars with China and Pakistan, massively increased agricultural production through Green Revolution technologies, and embarked on an ambitious decentralization plan. While these events have surely played major roles in India's economic growth patterns and spatial income distribution, few studies have focused on the development of inequality in India over the last 50 years.

Most studies of regional inequality in India are generally centered on short time series or a snapshot of cross-sections. Das and Barua (1996) find that interstate inequality is rising in agriculture, services, and the unorganized sector from 1970 to 1992. Their analysis shows that "the Indian economy continues to develop only at the cost of raising regional disparities" (p. 385). However, their dataset extends only to 1992, failing to capture the effects of the 1991 liberalization reforms. Noorbakhsh (2003) and Jha (2004) come closest to the analysis in this paper. Noorbakhsh (2003) conducts a spatial decomposition of India's inequality, examining the influences of rural/urban areas, poverty, literacy, human development, child labor, and child mortality, though only covering the years roughly between 1981 and 2000. He concludes that "[p]olarisation seems to be taking place around the dimensions of literacy, female literacy, poverty and composite indices of human development and human poverty, though not exclusive to these dimensions" (p. 27). Jha (2004) takes a longer view, considering inequality in India since 1951 and presenting an excellent overview of India's history covering this time period. Using data from 1957 to 1997, Jha focuses particularly on the effect of the 1991 liberalization reforms on poverty

and inequality. Examining inequality and poverty after 1991, he finds that inequality has generally risen with India's increased liberalization. However, the analyses do not engage in spatial decomposition analyses as done presently. Also in this paper, we extend the analysis to the year 2003.

In sum, using data from the national and state or provincial levels over nearly a half century in China and India, this paper examines the patterns of regional inequality and relates them to the major stages of development. The spatial decomposition of regional inequality in China is focused along rural-urban and inland-coastal components. For India, we examine the spatial decomposition along the lines of rural-urban, inland-coastal, north-south, literacy, and land quality.

The next section walks through the major events of the two countries over the latter half of the twentieth century. The third section compares the patterns of regional inequality in India and China and explores their major causes. The fourth section concludes. Data and technical details are contained in the appendix.

A Walk through History

China[5]

The history of communist China can be broken down into the following six periods: 1949–56, revolution and land reform; 1957–61, the Great Leap Forward and the Great Famine; 1962–65, post-famine recovery; 1966–78, the Cultural Revolution and transition to reform; 1979–84, rural reform; and 1985–present, decentralization, and opening up to trade and foreign direct investment (FDI).

Table 1 lists values for different inequality measures over the entire range of the data, while figure 1 illustrates that the peaks of inequality occurred during three periods: the Great Famine in the late 1950s, the Cultural Revolution of the 1960s and 1970s, and booming global integration starting in the 1980s.

From the beginning of the time series in 1952, we can see that inequality was initially low, but began rising during the Great Leap Forward and the Great Famine, peaking in 1960. Though inequality fell in the period following the Great Famine, it rose again during the Cultural Revolution, peaking in 1976. While inequality again fell during the rural reform period, it then began to increase in the mid-1980s and has continued on an increasing path since. This steadily increasing inequality coincides precisely with China's opening up to trade and foreign direct investment, and decentralization efforts. The Gini coefficients and measures of overall, interprovincial inequality (Generalized Entropy values) presented in table 1 show that inequality measures from 2000 onward are the *highest* of all preceding years.

Measures of decentralization and openness are also given in table 1, from which we can see both values taking a leap in 1985, coinciding with the third and continual upswing in Chinese inequality. China's implementation of a more decentralized structure provided incentives for local governments to aim for strong economic growth. Due to historical disadvantages of certain regions, however, this decentralized structure led to disparate growth rates across regions and, therefore, to worsening regional inequality. Additionally, largely agricultural regions have less of a revenue base vis-à-vis those regions with industrial and more diverse economic compositions.

TABLE 1. Inequalities, Openness, and Decentralization in China

Year	Gini[a]	Using GE			Openness[c]	Decentralization[d]
		GE[b]	Rural-urban[b]	Inland-coastal[b]		
1952	25.9	10.9	72.3	2.4	9.5	25.9
1953	26.4	11.5	76.1	3.0	9.8	26.1
1954	24.8	10.1	79.1	2.9	9.9	24.7
1955	23.4	8.9	73.3	1.1	12.1	23.5
1956	25.1	10.3	79.6	0.7	10.6	29.6
1957	26.0	10.8	73.8	0.2	9.8	29.0
1958	26.6	11.3	80.8	0.9	9.8	55.7
1959	32.3	16.5	80.1	0.9	10.4	54.1
1960	32.5	16.8	73.7	1.8	8.8	56.7
1961	30.7	14.9	77.5	1.4	7.4	55.0
1962	29.3	13.6	73.2	0.6	7.0	38.4
1963	28.0	12.7	73.1	0.6	6.9	42.1
1964	28.7	13.6	74.5	0.8	6.7	42.9
1965	28.1	12.9	72.7	0.4	6.9	38.2
1966	27.2	12.1	73.0	0.3	6.8	36.9
1967	27.2	12.1	78.6	0.1	6.3	38.7
1968	27.7	12.4	76.3	0.4	6.3	38.7
1969	27.8	12.9	78.5	0.8	5.5	39.3
1970	28.4	13.1	75.4	0.6	5.0	41.1
1971	28.3	13.1	77.0	0.6	5.0	40.5
1972	28.0	13.1	83.2	1.0	5.8	43.7
1973	27.7	12.9	83.3	1.2	8.1	44.4
1974	28.5	13.6	83.2	1.4	10.5	49.7
1975	28.9	14.0	82.3	1.8	9.7	50.1
1976	29.2	14.6	85.6	2.2	9.6	53.2
1977	29.1	14.5	85.8	2.4	8.5	53.3
1978	28.0	13.6	89.3	2.0	9.8	52.6
1979	27.4	12.9	87.3	2.0	11.3	48.9
1980	26.8	12.0	82.7	3.5	12.6	45.7
1981	25.9	10.9	78.9	4.5	15.1	45.0
1982	23.7	9.0	77.8	5.0	14.5	47.0
1983	22.6	8.2	76.0	6.0	14.4	46.1
1984	22.6	8.1	74.6	7.3	16.7	47.5
1985	23.3	8.6	76.4	7.1	23.0	60.3
1986	24.0	9.2	75.0	7.9	25.3	62.1
1987	24.9	9.8	73.7	8.1	25.8	62.6
1988	25.5	10.3	72.5	9.0	25.6	66.1
1989	26.1	10.6	68.8	8.8	24.6	68.5
1990	26.9	11.4	70.8	6.5	29.9	67.4
1991	27.5	12.0	69.9	5.4	33.4	67.8
1992	28.9	13.0	66.2	5.8	34.2	68.7
1993	30.2	14.4	70.4	4.8	32.6	71.7
1994	30.5	14.6	65.1	5.9	43.7	69.7

(Continues on next page)

TABLE 1. *continued*

Year	Gini[a]		Using GE		Openness[c]	Decentralization[d]
		GE[b]	Rural-urban[b]	Inland-coastal[b]		
1995	30.4	14.6	66.1	7.6	40.9	70.8
1996	29.7	13.9	67.0	8.2	36.1	72.9
1997	30.0	14.2	65.5	8.8	36.9	72.6
1998	30.6	14.9	66.9	9.4	34.4	71.1
1999	31.8	16.1	69.7	10.5	36.4	68.5
2000	33.0	17.4	72.1	10.3	40.1	65.3
2001	33.4	17.9	70.2	11.3	39.0	69.5
2002	34.6	19.3	70.7	11.3	43.1	69.3
2003	35.2	19.9	72.3	13.3	52.1	69.9
2004	35.4	20.3	72.0	11.6	59.9	72.3

*Source:* Authors' calculations. See annex for detailed data source.

a. The *Gini* coefficient measures overall, interprovincial inequality.

b. The *GE* measure gives overall, interprovincial inequality. The GE measure can be decomposed into *within* and *between* group inequality: *rural-urban and inland-coastal* give the percentage of total inequality (measured using GE) that is due to inequality *between* each of these groups.

c. *Openness* is measured using the Trade/GDP ratio: [(exports + imports)/GDP]*100.

d. *Decentralization* is a measure of fiscal decentralization: (Total local government expenditures/Total government expenditures)*100.

FIGURE 1. Regional Inequality in China and India
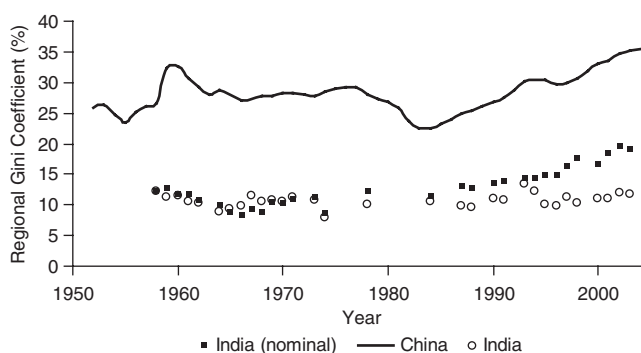
Source: The data for China are from Kanbur and Zhang (2005). The time series for India is calculated by the authors.

The trend toward greater openness in trade started in the mid-1980s, after virtually no changes in activity since the 1950s, as shown from the values in table 1. Since the 1980s, China has also become the leading recipient of FDI among all developing countries, as well as touting annual growth in exports of 11 percent on average. To facilitate fast development and integration into the world economy, China implemented many "coastal-biased" policies, such as special tax breaks and economic zones, to encourage FDI in coastal areas. The result, while leading to very successful development in coastal regions and integration of China in the world market, has been a grossly uneven distribution of gains across provinces. An example makes this point clear: coastal Guangdong changed its labor productivity rank among China's

provinces from fourteenth in 1978 to being one of the top provinces in 2003, while inland Sichuan moved from fifteenth to twenty-third in the same time frame. This is merely an example of a countrywide trend among China's provinces.

India

India's recent history can be divided into three major periods: before 1966, the pre–Green Revolution period, characterized by lower levels of GDP growth; 1966–90, higher levels of growth due in large part to the introduction of Green Revolution technologies; and 1991–present, higher levels of growth due to liberalization reforms (see Jha 2004). This third period was also witness to the implementation of the 73rd Constitutional Amendment, in which India made major strides in formal decentralization at a sub-state level.[6]

Table 2 lists several measures for India's inequality, level of trade openness, and level of decentralization over almost 50 years. In the pre-1966, pre–Green Revolution years, we observe decreasing inequality. The ending of the *Zamindari* system—a feudal-type system in which peasants pay a landlord, who owns all the land, for the right to farm the land—occurred in this period immediately following India's independence (Jha 2004). The observed falling Gini values during this time may possibly be attributed, in part, to gains to poor peasants because they no longer needed to pay fees to a landlord.

Use of dwarf and high-yielding varieties of seeds, and the adoption of irrigation and fertilization techniques starting in 1966, led to the Green Revolution that helped India become self-sufficient in grain production by the late 1970s. Some of the many results of this phenomenal agricultural achievement were a drastic drop in poverty—particularly rural poverty—improved nutrition, and higher incomes. However, due to superior access to water, fertilizer, and farm credit in India's northwestern states, regional inequalities widened as a result (USLOC 2005). From table 2, we see that in 1969, both the Gini and GE values begin an upward trend. Though briefly dipping downwards in 1974 and 1984, this upward trend continued slowly from 1969 through to the late 1990s. The values in table 2 indicate a jump in the inequality measures in 1997, continuing on an upward trend until the end of the data set. This jump in 1997 may be attributed to India's economic reforms of the 1990s, to which we now turn.

Following the seventh five-year plan (1985–90), the 1990–91 crisis hit, provoked by the cumulative effect of political instability at home, the collapse of India's largest trading partner—the Soviet Union—and the Gulf War, which resulted in higher oil prices and affected exports to the Middle East. With growth falling, inflation soaring, and a public sector deficit at nearly 10 percent of GDP, India turned to the International Monetary Fund (IMF) and began major economic policy reforms, centered around liberalization (Roy 2001). The aforementioned upswing in inequality in the mid-1990s potentially illustrates a lagged effect of increased inequality correlated with India's increased openness.

Some say liberalization first started in 1966 with a devaluation of the rupee (Das and Barua 1996). However, despite previous attempts at greater liberalization, heavy protectionist barriers stood in place in India for decades before the early 1990s

TABLE 2. Inequalities, Openness, and Decentralization in India

Year[a]	Gini (nominal)[b]	Gini (real)[b]	GE (real)	Using GE[c]					Openness[d]	Decentralization[e]
				Rural-urban	Inland-coast	North-south	High-low literacy	High-low irrigation		
1958	12.1	11.7	2.1	43.0	2.4	1.7	5.1	10.8	0.7	
1959	12.7	10.7	1.9	35.1	8.2	8.8	3.9	11.3	0.8	
1960	11.8	10.8	1.9	40.2	1.2	2.2	5.2	18.9	0.8	47.9
1961	11.8	10.1	1.6	40.6	2.7	2.2	6.5	12.1	0.8	47.2
1962	10.9	9.8	1.5	51.0	0.0	0.0	13.7	15.0	0.8	48.1
1964	10.0	8.4	1.2	67.7	0.1	0.1	10.3	19.2	0.8	50.0
1965	9.0	9.5	1.5	49.3	2.8	0.1	2.1	19.7	0.8	46.4
1966	8.5	9.8	1.6	42.3	5.6	3.0	0.1	15.7	1.2	45.4
1967	9.4	11.4	2.1	44.7	6.1	5.0	0.6	13.7	1.2	46.4
1968	8.8	10.5	1.8	53.5	6.3	6.8	0.3	15.6	1.1	46.1
1969	10.5	10.7	1.9	52.4	0.4	0.0	6.9	15.7	1.0	45.5
1970	10.3	10.6	1.9	57.8	0.4	0.1	5.0	15.6	1.0	48.6
1971	11.1	11.3	2.0	64.2	0.0	0.4	9.4	15.0	1.0	49.9
1973	11.3	10.8	2.0	51.1	0.4	0.1	9.9	13.6	1.4	49.9
1974	8.6	8.0	1.1	53.2	0.8	0.0	6.3	19.3	2.1	48.3
1978	12.3	10.1	1.6	37.5	0.0	2.5	7.6	12.1	2.7	48.6
1984	11.5	10.5	1.8	61.4	6.7	10.7	21.7	12.8	5.2	47.7
1987	13.2	9.8	1.5	68.0	3.4	4.7	15.3	11.1	5.8	46.0
1988	12.6	9.6	1.5	68.7	3.4	6.4	15.9	9.4	6.6	45.1
1990	13.6	10.9	1.9	68.7	1.1	2.6	10.4	8.3	9.4	46.7
1991	13.9	10.9	1.9	71.1	1.5	2.2	11.4	12.0	11.1	45.9
1993	14.5	13.4	2.8	64.9	6.5	6.9	17.8	10.9	15.7	45.2
1994	14.5	12.2	2.4	66.6	5.1	8.0	18.2	9.4	17.6	47.9
1995	14.7	9.8	1.7	60.1	4.7	13.0	15.8	7.6	21.3	47.2

1996	14.7	9.7	1.6	72.6	2.8	7.7	12.2	11.0	23.6	48.1
1997	16.1	11.1	2.0	60.4	6.4	14.7	19.0	6.0	24.9	50.0
1998	17.6	10.2	1.7	67.3	5.5	9.5	15.6	11.4	26.7	46.4
2000	16.9	11.2	2.0	67.8	5.1	10.9	22.2	9.8	32.1	45.4
2001	18.2	10.8	1.8	69.8	12.1	17.8	24.8	9.9	32.0	46.4
2002	19.7	11.8	2.2	74.4	10.2	15.6	20.5	10.8	35.7	46.1
2003	19.0	11.4	2.1	67.6	9.7	15.9	23.3	7.9	38.2	45.5

Source: Authors' calculations. See annex for data sources.

a. The years are not continuous because in some years the consumption expenditure data are not available.

b. The *Gini* coefficient measures overall, interstate inequality.

c. The *GE* measure gives overall, interstate inequality. The GE measure can be decomposed into *within* and *between* group inequality: *rural-urban*, *inland-coastal*, *north-south*, *high-low literacy*, and *high-low irrigation* give the percentage of total inequality (measured using GE) that is due to inequality *between* each of these groups.

d. *Openness* is measured using the Trade/GDP ratio: [(exports + imports)/GDP]*100.

e. *Decentralization* is a measure of fiscal decentralization: (Total state government expenditures/Total central and state government expenditures)*100.

(IEO 1997). In 1988, 75–80 percent of items imported to India were subject to import restrictions, as compared to less than 5 percent for the Republic of Korea, Malaysia, and Thailand, 10 percent for the Philippines, and 22 percent for Indonesia (Majumdar 2001). Complicated export procedures led India's share of world exports to decline from nearly 2 percent in 1950 to 0.5 percent in 1990. This closed economy created many problems, and resulted in the post-1991 reforms being heavily focused on liberalizing India's economy.

The liberalization brought about by these reforms significantly changed the landscape of India's economy. Theoretically, one may expect to see decreasing inequality as a country becomes more open and liberal with trade. However, Ravallion (2003) reviews the literature on globalization and inequality, showing that empirical studies provide an ambiguous answer regarding the effect of increased liberalization on inequality. The upward swing in inequality illustrated in figure 1 shows the coinciding of liberalization policies and increased inequality in India.

Decentralization was India's other major policy implemented in the 1990s. The enactment of the 73rd Amendment to the Constitution was a major step toward strengthening local governance in India, giving *Panchayati Raj Institutions* (PRIs) constitutional status by specifying a three-tier structure of *Panchayats* and bestowing upon them decision-making power in 29 areas. *Panchayats*—meaning village councils and requiring a minimum of five members elected every five years ("*panch*" means "five")—have been present in Indian society for centuries and traditionally served as the village governments (PCGI 2001; Montes 2002). Currently, India has about 500 district, 6,000 block, and 230,000 village *Panchayats*.[7] While the creation of three levels of PRIs was mandatory for all states meeting certain requirements, each state can exercise discretion in choosing which areas to assign to the PRIs, as well as how the PRIs will be funded.

Developing a theoretical framework, Bardhan and Mookherjee (2000) examine the role of *decentralization* on anti-poverty program delivery and, subsequently, interregional equality. Their model illustrates a potential for increased political capture in poorer regions, resulting in decentralization leading to greater inequality. Preliminary work by Gajwani (2004) finds empirical support for this claim, showing significantly less gain from decentralization for poorer states vis-à-vis wealthier states.

To the extent that decentralization can lead to increases in a country's openness,[8] the effects of decentralization on inequality in China and India may be two-fold. If openness actually leads to increases in inequality, and decentralization alone may be expected to lead to increases in inequality (as per Bardhan and Mookherjee 2000) *and* increases in openness, the *overall* effect of decentralization may lead to greatly worsening inequality.

Patterns and Correlates—Comparing China and India

Having briefly presented the relevant history of China and India since the mid-twentieth century, this section compares the patterns of regional inequality and relates them to each country's major events. Table 1 reports two commonly used

inequality measures: the Gini coefficient and GE index when $c=0$,[9] based on real expenditures in China. In addition, rural-urban and inland-coastal polarization measures are listed, which equal the percentage of between-group inequality in overall GE. Concerning the discrepancy between nominal and real inequality (see Milanovic 2005), we present both nominal and real Gini coefficients for India in table 2. Figure 1 plots the real regional Gini coefficient in China, and the nominal and real regional Gini coefficients in India.

Several findings are apparent from the comparison in figure 1. First, in terms of levels, China's regional inequality has been consistently higher than India's. The degree of restrictions on migration might be a key reason for the observed pattern. Fully removing the institutional barriers to migration in China is a slow process, while India has never created institutional barriers to prevent rural people from migrating to cities.

Second, nominal and real inequalities follow each other quite well until 1994. From 1994 onward, they diverge, with real inequality levels consistently lower than nominal values. However, from the year 2000 onward, they move in the same direction, albeit with a gap in between. Considering the heated debate on the comparability problem between the fifty-fifth round (1999/2000) of the NSS survey and previous surveys (Deaton and Kozel 2005), it is necessary to check whether the discrepancy is due to a comparability problem or our adjustment of the price index. Table 3 compares Gini coefficients based on five different sets of expenditures. The second and third columns are the nominal and real inequality measures reported in table 2. The figures in the fourth and fifth columns are based on 'inequality adjusted' and 'inequality and inflation adjusted' expenditures from the *National Human Development Report 2001* (PCGI 2002). Kijima and Lanjouw (2003) make a concerted effort to adjust the 1999/2000 survey to restore comparability with

TABLE 3. Gini Coefficients in India based on Nominal and Real Consumption Expenditures

Year	Nominal	GKZ-adjusted[a]	NHDR– inequality adjusted[b]	NHDR– inequality and inflation adjusted[b]	KL[c]
1984	11.5	10.5	10.7	10.7	—
1994	14.5	12.2	13.3	10.4	—
2000	16.8	11.2	14.9	11.9	8.9

Source: Authors' calculations.

Note: The figures are calculated based on unadjusted and adjusted per capita expenditure data. The nominal expenditures are those reported directly in the NSS surveys. Özler, Datt, and Ravallion (1996) have made every effort to adjust the expenditure data for the period of 1958 to 1993. We expand their series by adjusting the expenditures using the CPI data from the *Indian Labour Journal* since then. *The National Human Development Report 2001* (PCGI 2002) also reports the "inequality adjusted" and "inequality and inflation adjusted" expenditures at the state level with a rural-urban breakdown. Kijima and Lanjouw (2003) adjust the 2000 NSSO data to make it more comparable with previous NSSO rounds of household survey data. However, they do not report the data in Jammu and Kashmir. Therefore, the Gini coefficient for the last column is based on 15 states as opposed to 16 states in other columns.

a. GKZ = The adjusted figures by the authors of this study.

b. NHDR = *National Human Development Report.*

c. KL = Kijima and Lanjouw (2003).

previous surveys. The last column is calculated based on their adjusted expenditures. However, they do not report the data in Jammu and Kashmir, which is included in the calculations in other columns.

All of the inequality measures based on adjusted expenditures are less than the nominal measures. In terms of magnitude, the GKZ-adjusted values are closest to the NHDR inequality and inflation-adjusted values. The Gini coefficient based on the adjusted expenditures by Kijima and Lanjouw (2003) is 8.9, lower than any other estimation. The comparison reinforces Milanovic's (2005) observation about the existence of a discrepancy. But because the GDP data do not have a rural and urban divide, the two findings are not totally comparable. Therefore, whether the nominal or real expenditures/GDP are more accurate for measuring inequality remains an open question. To maintain consistency with the analysis of China, we use real inequality measures for India throughout the remaining analysis.

Third, patterns of regional inequality in China are more variable than in India, particularly before 1978. The second half of the twentieth century witnessed the Communist Revolution, the Great Leap Forward, the Great Famine, the Cultural Revolution, and the economic reforms in China, with three peaks of inequality coinciding with these major events. India, being a democratic regime, has not undergone such extreme events as in China, and therefore exhibis a smoother pattern in regional inequality during this period.

Fourth, the acceleration of regional inequality coincides with the timing of economic liberalization in the two countries. China's opening up started after the success of rural reforms in the mid-1980s, while India's economic liberalization has sped up after 1991. This result reinforces the findings by Milanovic (2005), which are based on regional GDP data.

Next we look at the components of between-group inequality along different dimensions. Following the policy debate in China, table 1 reports rural-urban and inland-coastal polarizations: the ratio of between-group inequality to total inequality as defined in the appendix. In India, the debate on inland-coastal disparity is not as pronounced as in China. A more diversified classification, such as north-south, and high literacy and low literacy states, has appeared in the policy arena. Therefore, table 2 presents decompositions along more dimensions than in China.[10]

Figure 2 further plots rural-urban polarization indexes in China and India over a long time period. Before the early 1980s, China's rural-urban polarization was consistently higher than that of India. In the 1950s, in order to carry out the heavy-industry development strategy, China implemented a strict *Hukou* system to limit migration, creating an enormous rural-urban gap; China's rural-urban gap is one of the highest in the world (Eastwood and Lipton 2000). With the success of rural reforms from the late 1970s to the middle 1980s, farmers' incomes significantly increased. Therefore the gap has narrowed and leveled off at around 60 since then. During almost the same period, India started the reform process and the rural-urban inequality rose to a level similar to China's.[11]

Fiscal decentralization and trade liberalization are the two most important aspects of the economic liberalization policies in the two countries over the past two decades.

We employ two policy variables—the degree of fiscal decentralization and the degree of openness—to examine their relationship with the patterns of regional inequality. Figures 3 and 4 graph the evolution of decentralization and regional inequality in China and India. Both figures show a pattern of co-movement between fiscal decentralization and regional inequality. It seems that greater decentralization increases regional inequality during the economic transition from a planned economy to a market economy. Under a central planning system, the central government has large powers to allocate and utilize financial revenues to achieve the goal of equity at the expense of efficiency. With economic reforms, the central government has granted local governments more autonomy in allocating their resources and more responsibilities, but perhaps at the cost of equity.

When a spatially large country opens up, certain regions with geographic advantages will benefit more from easy access to the international market. In China's case, the coastal region has attracted most of the foreign direct investment (Zhang and Zhang 2003). In India, the policy debate has been mainly focused on the north and

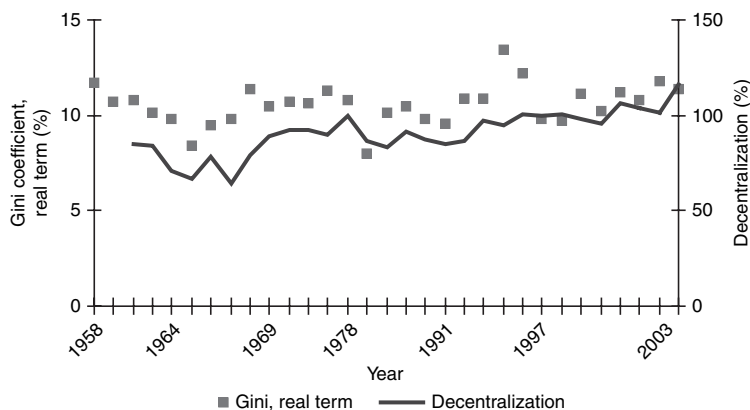**FIGURE 2. Rural-Urban Inequality in India and China**
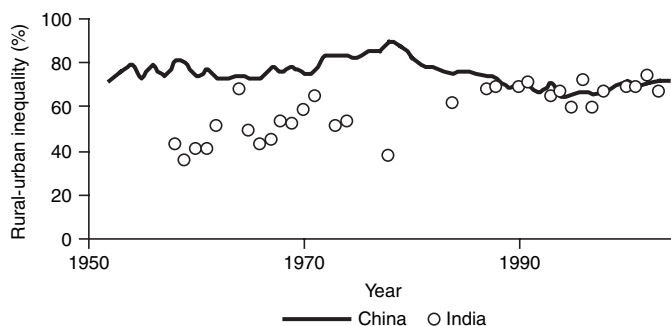
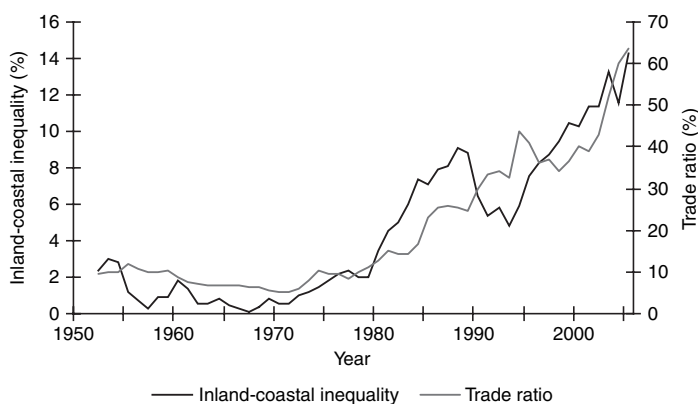*Source:* Authors' calculations.

FIGURE 3. Decentralization and Regional Inequality in China
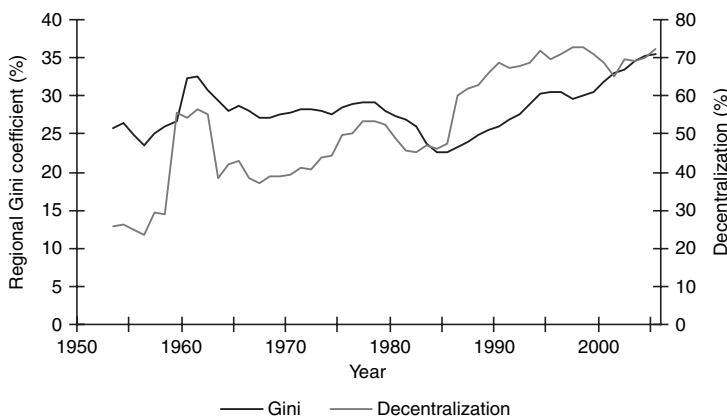
Source: Kanbur and Zhang 2005.

FIGURE 4. Decentralization and Regional Inequality in India
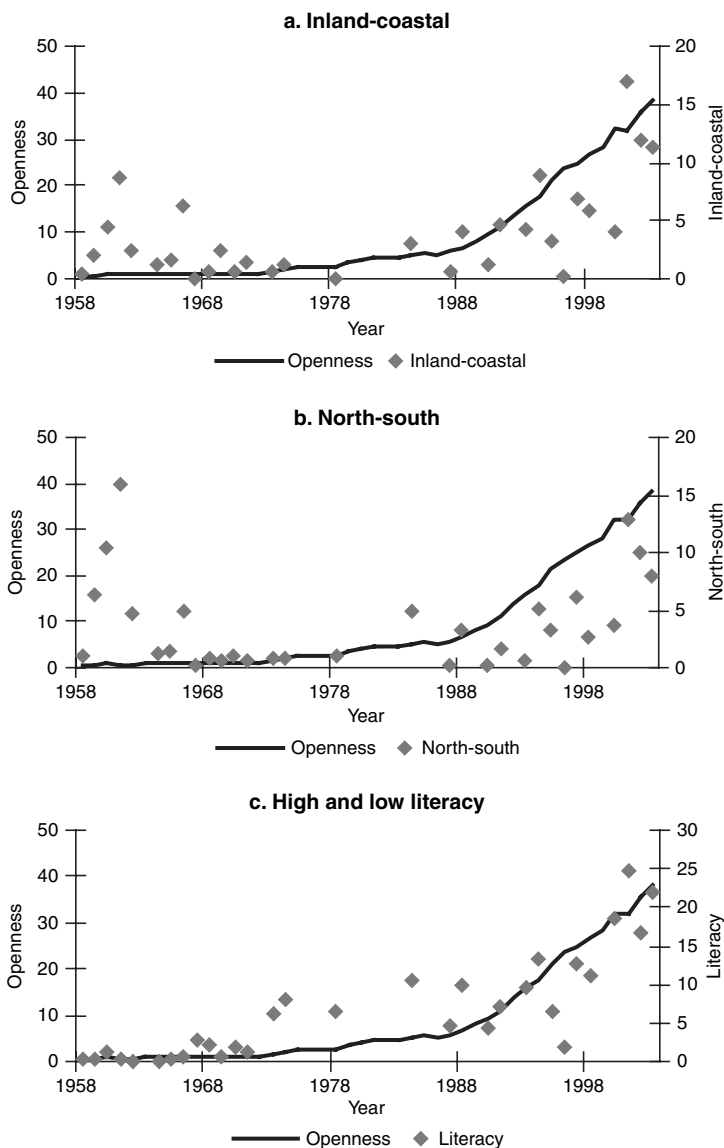

Source: Authors' calculations.

FIGURE 5. Openness and Inland-Coastal Inequality in China

Source: Kanbur and Zhang 2005.

south. Figures 5 and 6 illustrate the correlates of openness and inland-coastal inequality in China and India, respectively.[12] The correlation between openness and inland-coastal inequality in China appears to be strong. Both series were stagnant through the early 1980s and then took off. The relationship is less obvious in India's case. India's trade patterns are different from China's, in that India's service sector plays a larger role than the manufacturing sector. In a country dominated by trade in manufactured goods, such as China, nearness to a port becomes a critical factor. However, in countries with intensive trade in the service sector, the physical geographic requirement may become less important than the soft human capital, as may be the case in India.

Figure 6 also presents evidence of openness and north-south inequality in India.[13] The pattern is similar to the inland-coastal inequality. The widening polarization between the south and the north since the early 1990s may be due to differences in initial education levels: the literacy rate in the south was 54 percent, compared to

FIGURE 6. Openness and Polarization along Different Dimensions in India

a. Inland-coastal

b. North-south

c. High and low literacy

Source: Authors' calculation.

39 percent in the north in 1981.[14] The southern people, being more educated, are better placed to exploit new economic opportunities in the wake of globalization. When decomposing inequality into two groups based on whether the literacy level is above or below the national average, it appears the correlation between literacy polarization and openness is stronger than the inland-coastal and north-south polarizations (figure 6).[15]

During the era of the Green Revolution, land quality may have been a more important factor in determining a region's comparative advantage, but in an increasingly

FIGURE 7. The Contributions of Inequalities in Literacy and in Land Quality to Overall Regional Inequality in India
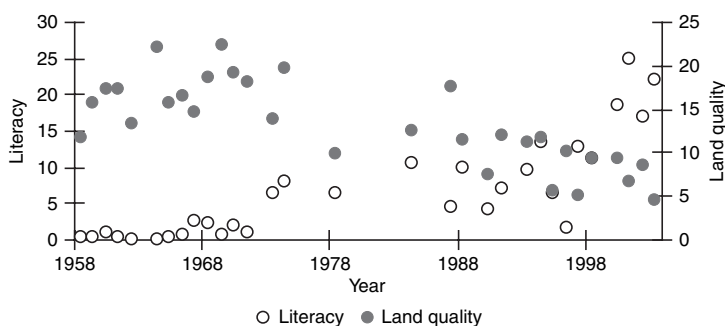
Source: Authors' calculations.

integrated world, the rate of returns to education in India may have risen. To test this idea, we further classify Indian states into those with a value below the Indian average and those above based on the ratio of irrigated land in total arable land in 1970.[16] Figure 7 presents the polarization measures for literacy and irrigated land. In general, land quality plays a more dominant role than literacy in affecting the overall regional inequality prior to the mid-1980s: the ending of the Green Revolution period. However, literacy has since become a more prominent divide. This result is consistent with the finding of Noorbakhsh (2003) that polarization has primarily taken place in the dimension of literacy since the 1980s.

Conclusion

This study examines patterns of regional inequality and tries to comprehend the driving forces behind its changes in China and India, using data covering most of the latter half of the twentieth century. We find that the evolution of inequality matches different political-economic periods in history.

By decomposing inequality into components due to inequality between rural-urban, inland-coastal, northern-southern, high-low literacy, and high-low irrigation areas, we see a shift in the contributions to inequality in China and India. Disparities between rural and urban areas are accounting for a decreasing share of provincial inequality in China, while the inland-coastal divide is playing an increasingly larger role. The rapid increase in China's inland-coastal disparities in the 1980s and 1990s is correlated with the increasing openness and decentralization reforms of that period. In India, along with the transition from the Green Revolution to economic liberalization, the determinants of regional comparative advantage have also shifted from the quality of land to the level of human capital, thereby defining the landscape of regional inequality along different dimensions. Therefore, India's states have become clustered into two clubs: one more educated and the other less educated.

The empirical findings are also relevant to the ongoing debate on globalization's effects on regional inequality in developing countries. Convergence or divergence of

a nation's economy is dependent not only upon its domestic polices but also upon its openness. The results here show that openness has led to changes and increases in regional inequality by providing more favorable conditions for growth for coastal and better-educated regions. The implication for policy is the need to pay careful attention to those regions that are less able to take advantage of gains from openness. In China, this refers to inland regions, while in India this means less educated regions.

Annex: Data and Measures

The China Data

All data and calculations are shown in table 1. GDP values over the entire period 1952–2004 come from the *China Statistical Yearbook* (CNBS 2006). The per capita consumption data (at the provincial level) from 1952 to 1998 come from *Comprehensive Statistical Data and Materials on 50 Years of New China* (CNBS 1999), while various issues of the China Statistical Yearbook provide the consumption data for later years. The consumption expenditures are comparable across years. For details on the construction of the data series, see Kanbur and Zhang (2005, data appendix).

Population data were used as weights in order to calculate the inequality measures. Data on total and rural population from 1952 to 1977 come from *Comprehensive Statistical Data and Materials on 50 Years of New China* (CNBS 1999) and *Regional Historical Statistical Materials Compilation* (1949–1989) (CNBS 1990). Data of total and rural population from 1978 to 1998 are from *Comprehensive Agricultural Statistical Data and Materials on 50 Years of New China* (CNBS 2000). Values for total and rural population after 1998 come from *China Statistical Yearbooks* and *China Agricultural Statistical Yearbooks* (CNBS 1999–2005).

Decentralization is approximated as the ratio of local to total government expenditures, representing an estimate of *fiscal* decentralization.[17] The 1952 data come from *Comprehensive Statistical Data and Materials on 50 Years of New China* (CNBS 1999), while the 1953–2000 data are available in the 2001 edition of the *China Statistical Yearbook* (CNBS 2001). Data after 2000 are from the 2006 edition of *China Statistical Yearbook* (CNBS 2006).

Measuring China's openness to trade was done with the commonly used Trade/GDP ratio. Data on total exports and imports from 1952 to 1998 come from *Comprehensive Statistical Data and Materials* on 50 *Years of New China* (CNBS 1999), while values for 1999 to 2004 are found in the 2006 edition of *China Statistical Yearbook* (CNBS 2006).

The India Data

All data and calculations are presented in table 2. GDP data for 1957–2003 come from the *Handbook of Statistics on Indian Economy* (2005, table 2), available from the Reserve Bank of India Web site (http://www.rbi.org.in). The population data—used for weighting the inequality measures—come from the Census of India publications for every ten-year interval from 1951 to 2001. Values in between

each interval are interpolated by assuming constant growth in each of the nine intervening years.

It has been noted in the literature (Milanovic 2005) that inequality measures based on *real* and *nominal expenditures*, in particular over a long time period, may result in discrepancies. By comparing inequality measures based on nominal and real per capita expenditures in India, Milanovic (2005) finds that the real-based regional inequality is higher than that calculated from nominal GDP. Therefore, we consider both nominal and real expenditures at the state level for India. There are 16 states in our sample. With rural and urban components for each state, we have 32 observations per year for 31 years from 1957 to 2003. Several missing values are interpolated to ensure that each year has the same number of states.

We obtained India's nominal per capita monthly expenditure data from Özler, Datt, and Ravallion (1996) and the *National Sample Survey Organization* (NSSO) for the entire 1957–2003 time series (http://mospi.nic.in/mospi_nsso_rept_pubn.htm). These expenditure data come from the NSSO household surveys and are presented at the state level, and are available for most of the years from 1957 to 2003, dependent upon the schedule of the NSSO. The data for the period of 1957–94 are obtained from the World Bank's *A Database on Poverty and Growth in India* (Özler, Datt, and Ravallion 1996). Summary reports can be downloaded directly from the NSSO Web site, where we obtained the expenditure data for the years of the survey between 1995 and 2003.

For measures of real expenditures, we use nominal expenditures and state-level Consumer Price Index (CPI) measures for rural and urban areas. The CPI for Agricultural Laborers (CPIAL) is used to deflate expenditures in rural areas, while the CPI for Industrial Workers (CPIIW) is used for urban expenditures. These price indices data come from Özler, Datt, and Ravallion (1996) for the years in between 1957 and 1994, and from the *Indian Labour Journal* for 1995–2003.

India's fiscal decentralization is measured as the ratio of total state expenditures to central government expenditures. All expenditure data are available from the online database *Indiastat* (indiastat.com).

The Trade/GDP ratio was again used to measure India's openness to trade. Data on total exports and imports for the entire 1952–2003 range were obtained from the International Monetary Fund's *International Finance Statistics* online database (http://ifs.apdi.net/imf/about.asp).

The state-level irrigation data are from Fan, Hazell, and Thorat (1999) and the state-level literacy data are from *National Human Development Report 2001* (PCGI 2002).

Measures

We use per capita consumption expenditure data at the provincial/state level with a rural and urban divide over a long time period: the China data cover 1952–2000, while the India data cover most of the years from 1957 to 2003. Therefore, we are measuring regional inequality by holding all the observations the same within each unit.

Applying population weights to data on per capita consumption/expenditure, we obtain a measure of real per capita consumption/expenditures.[18] Using all of the

information gathered, we construct two measures of inequality: the standard Gini coefficient of inequality, and a measure from the decomposable generalized entropy class (GE) of inequality measures (Shorrocks 1980, 1984).[19] The benefit of using this latter measure is that it is *additively decomposable*, allowing inequality across groups to be broken down into *within-group* inequality and *between-group* inequality.

A member of the decomposable GE class of inequality measures is defined as:

$$I(y)= \begin{cases} \sum_{i=1}^{n} f(y_i)\left\{\left(\dfrac{y_i}{\mu}\right)^c -1\right\} & c \neq 0,\, 1 \\[2em] \sum_{i=1}^{n} f(y_i)\left(\dfrac{y_i}{\mu}\right)\log\left(\dfrac{y_i}{\mu}\right) & c = 1 \\[2em] \sum_{i=1}^{n} f(y_i)\log\left(\dfrac{\mu}{y_i}\right) & c = 0 \end{cases} \tag{A-1}$$

In equation A-1, y_i is the ith income measured in local currency unit, μ is the total sample mean, $f(y_i)$ is the population share of y_i in the total population, and n is total population. For parameter c less than 2, the measure is transfer sensitive, in the sense that it is more sensitive to transfers at the bottom end of the income distribution than those at the top. The key feature of the GE measure is that it is additively decomposable. For K exogenously given, mutually exclusive and exhaustive, groups indexed by g:

$$I(y) = \sum_{g}^{K} w_g I_g + I(\mu_1 e_1, \ldots, \mu_K e_K)$$

$$\text{where } w_g = \begin{cases} f_g\left(\dfrac{\mu_g}{\mu}\right)^c & c \neq 0,\, 1 \\[1.5em] f_g\left(\dfrac{\mu_g}{\mu}\right) & c = 1 \\[1.5em] f_g & c = 0 \end{cases} \tag{A-2}$$

In equation A-2, I_g is inequality in the gth group, μ_g is the mean of the gth group, and e_g is a vector of 1s of length n_g, where n_g is the population of the gth group. If n is the total population of all groups, then $f_g=n_g/n$ represents the share of the gth group's population in the total population. The first term on the right-hand side of equation A-2 represents the within-group inequality. The second term is the between group, or inter-group, component of total inequality. For simplicity, we present results in this paper only for $c = 0$. The within-group inequality part in equation A-2 represents the spread of the distributions in the subgroups; the between-group inequality indicates the distance between the group means. Following Zhang and Kanbur (2001), we define the ratio of the between-group inequality in total

inequality as a polarization index. In other words, it measures the contribution of the between-group inequality.

Notes

1. In purchasing power parity (PPP) terms, China's economy is the second largest in the world (World Bank 2005c).
2. The US$1/day poverty line was established by the World Bank, and is measured in 1985 PPP prices; it was updated to US$1.08/day in 1993 prices (Soubbotina 2004). If we consider *consumption* levels below $1/day instead of *income* levels below $1/day, the number of poor in China rises to around 160 million (World Bank 2006a).
3. In purchasing power parity (PPP) terms, India's economy is the fourth largest in the world (World Bank 2005c).
4. See, for example, Das and Barua (1996); Rao, Shand, and Kalirajan (1999); Kurian (2000); Jha (2000); Roy and others (2000).
5. This section is largely from Kanbur and Zhang (2005).
6. India's 73rd Constitutional Amendment was proposed in 1992, passed by both houses of Parliament in 1993, and required each state to detail its plans for decentralizing powers to the three tiers of *Panchayats*. Most states held their first elections in 1995 or after.
7. See Mahal, Srivastava, and Sanan (2000) for a detailed description of functions, duties, and other features of each level of each state's *Panchayats*.
8. Alesina and Spolaore (1997) present a theoretical argument of a positive link between openness and decentralization, demonstrated empirically by Alesina, Spolaore, and Wacziarg (1997) and Gajwani (2004). Garrett and Rodden (2001) find support for a negative link.
9. c is a parameter defined in GE measures of inequality. It represents the weight given to differences in incomes at different parts of the income distribution, and can take on any value. A value of $c=0$ means differences in incomes in the lower tail of the income distribution are given more weight than differences between incomes in the upper tail of the distribution.
10. Although there are some discrepancies in nominal and real inequality measures, the decomposition analyses based on nominal and real expenditure give rather consistent findings. To save pages, we report only decompositions based on real expenditures. The results for nominal ones are available upon request.
11. The polarization measure does not show much difference between the two countries in late years although China's rural-urban gap in terms of mean expenditures in rural and urban areas is much higher. The reason is that China's within-rural and within-urban inequalities are also much larger. It should be noted that the polarization measure is defined as the ratio of mean difference to overall inequality.
12. The coastal states include Andhra Pradesh, Gujarat, Maharashtra, Karnataka, Kerala, Orissa, Tamil Nadu, and West Bengal.
13. The southern states include Andhra Pradesh, Gujarat, Maharashtra, Karnataka, Kerala, and Tamil Nadu.
14. Calculated by the authors based on literacy data at the state level from *National Human Development Report 2001* (PCGI 2002).
15. The literacy data is for 1981 and available from *National Human Development Report 2001* (PCGI 2002).
16. These are the earliest data at the state level that we can find.
17. In the literature, three broad types of decentralization are generally referred to: administrative, fiscal, and political decentralization. For an in-depth discussion of each type, see, for example, von Braun and Grote (2002) and Litvack and Seddon (2000).

18. Because of considerations of data availability, we use per capita *consumption* measures for China and per capita *expenditure* measures for India.
19. Details of calculations using this measure can be found in Kanbur and Zhang (2005).

References

Alesina, Alberto, and Enrico Spolaore. 1997. "On the Number and Size of Nations." *The Quarterly Journal of Economics* 112 (4): 1027–56.

Alesina, Alberto, Enrico Spolaore, and Romain Wacziarg. 1997. "Economic Integration and Political Disintegration." Working Paper 6163, National Bureau of Economic Research, Cambridge, Massachusetts.

Bardhan, Pranab, and Dilip Mookherjee. 2000. "Decentralizing Anti-Poverty Program Delivery in Developing Countries." Working Paper, Department of Economics, University of California, Berkeley.

Bhanumurthy, N. R., and Arup Mitra. 2004. "Economic Growth, Poverty, and Inequality in Indian States in the Pre-reform and Reform Periods." *Asian Development Review* 21 (2): 79–99.

CNBS (China National Bureau of Statistics). 1990. *Historical Statistical Materials for Provinces, Autonomous Regions, and Municipalities 1949–1989 (Quanguo Gesheng Zizhiqu Zhixiashi Lishi Tongji Ziliao Huibian).* Beijing: China Statistical Publishing House.

———. 1999. *Comprehensive Statistical Data and Materials on 50 Years of New China (Xin Zhongguo wushinian Tonji Ziliao Huibian).* Beijing: China Statistical Publishing House.

———. 2000. *Comprehensive Agricultural Statistical Data and Materials on 50 Years of New China (Xin Zhongguo Wushinian Nongye Tonji Ziliao Huibian).* Beijing: China Statistical Publishing House.

———. 2004. *China's Rural Poverty Report 2003.* Beijing: China Statistical Press.

———. Various years. *China Statistical Yearbook (Zhongguo Tongji Nianjian).* Beijing: China Statistical Publishing House.

Das, S. K., and Alokesh Barua. 1996. "Regional Inequalities, Economic Growth, and Liberalization: A Study of Indian Economy." *Journal of Development Studies* 32 (3): 364–90.

Deaton, Angus, and Valerie Kozel. 2005. "Data and Dogma: The Great Indian Poverty Debate." *World Bank Research Observer* 20 (2): 177–99.

Eastwood, Robert, and Michael Lipton. 2000. "Rural-Urban Dimensions of Inequality Change," University of Sussex. http://www.sussex.ac.uk/Units/economics/dp/Eastwood.pdf.

Economy Watch. 2005. *Indian Economy Overview.* http://www.economywatch.com/indianeconomy/indian-economy-overview.html.

Elizondo, Raul Livas, and Paul R. Krugman. 1992. "Trade Policy and the Third World Metropolis." Working Paper W4238. National Bureau of Economic Research. http://ssrn.com/abstract=227068.

Fan, Shenggen, Peter Hazell, and Sukhadeo Thorat. 1999. *Linkages between Government Spending, Growth, and Poverty in Rural India.* Research Report 110. International Food Policy Research Institute, Washington, DC.

Gajwani, Kiran. 2004. "Decentralization, Openness, and State-Level Gains: Theory and Evidence in India." Unpublished masters thesis, Cornell University.

Garrett, Geoffrey, and Jonathan Rodden. 2001. "Globalization and Fiscal Decentralization." Prepared for delivery at the conference "Globalization and Governance," La Jolla, California, March 30–31. http://www.international.ucla.edu/cms/files/globdec.pdf.

IEO (Indian Economy Overview). 1997. *Indian Economy Basics.* http://www.ieo.org.

Jha, Raghbendra. 2000. "Growth, Inequality, and Poverty in India: Spatial and Temporal Characteristics." *Economic and Political Weekly* 35 (11): 921–8.

———. 2004. "Reducing Poverty and Inequality in India: Has Liberalization Helped?" In *Inequality, Growth, and Poverty in an Era of Liberalization,* ed. Giovanni Andrea Cornia. Oxford, U.K. and New York: Oxford University Press. http://rspas.anu.edu.au/economics/publish/papers/wp2002/wp-econ-2002-04.pdf.

Kanbur, Ravi, and Xiaobo Zhang. 2005. "Fifty Years of Regional Inequality in China: A Journey Through Central Planning, Reform, and Openness." *Review of Development Economics* 9 (1): 87–106.

Kijima, Yoko, and Peter Lanjouw. 2003. "Poverty in India during the 1990s: A Regional Perspective." Policy Research Working Paper 3141. World Bank, Washington, DC.

Kurian, N. J. 2000. "Widening Regional Disparities in India: Some Indicators." *Economic and Political Weekly* 35 (7): 538–50.

Litvack, Jennie, and Jessica Seddon. 2000. "Decentralization Briefing Notes." World Bank Institute Working Papers. World Bank, Washington, DC.

Liu, Zhiqiang. 2005. "Institution and Inequality: The *Hukou* System in China." *Journal of Comparative Economics* 33 (1): 133–57.

Mahal, Ajay, Vivek Srivastava, and Deepak Sanan. 2000. "Decentralization and Public Sector Delivery of Health and Education Services: The Indian Experience." Discussion Papers on Development Policy No. 20. Center for Development Research (ZEF), Bonn. http://www.eldis.org/static/DOC7872.htm.

Majumdar, Mukul. 2001. "Forty Years of Planning." Professor's lecture notes from course, "ECON475: Economy of India," Cornell University, Fall 2001.

Milanovic, Branko. 2005. "Half a World: Regional Inequality in Five Great Federations." *Journal of the Asia Pacific Economy* 10 (4): 408–45.

Montes, Raphael Jr. 2002. "Panchayats: Decentralization to the Grassroots." In *Decentralization and Power Shift: An Imperative for Good Governance. A Sourcebook on Decentralization Experiences in Asia,* vol. 1., ed. Alex B. Brillantes, Jr. and Nora G. Cuachon, 56–63. Manila: Asian Resource Center for Decentralization.

Noorbakhsh, Farhad. 2003. "Spatial Inequality and Polarization in India." CREDIT Research Paper 03/16. http://ssrn.com/abstract=482481.

Özler, Berk, Gaurav Datt, and Martin Ravallion. 1996. *A Database on Poverty and Growth in India.* Poverty and Human Resources Division Policy, Research Department, World Bank, Washington, DC. http://www1.worldbank.org/prem/poverty/data/indiadata.htm.

PCGI (Planning Commission, Government of India). 2001. *Report of the Task Force on Panchayati Raj Institutions.* New Delhi: Planning Commission of India.

———. 2002. *National Human Development Report 2001.* New Delhi: Planning Commission of India. http://planningcommission.nic.in/reports/genrep/reportsf.htm.

Rao, M. Govinda, T. Shand, and K. P. Kalirajan. 1999. "Convergence of Incomes Across Indian States: A Divergent View." *Economic and Political Weekly* 34(13): 769–78.

Ravallion, Martin. 2003. "The Debate on Globalization, Poverty, and Inequality: Why Measurement Matters." Policy Research Working Paper 3038. Development Research Group, World Bank. http://www.opas.org.br/servico/Arquivos/Sala5321.pdf.

Ravallion, Martin, and Shaohua Chen. 2004. "Learning from Success: Understanding China's (Uneven) Progress against Poverty." *Finance and Development* December: 16–9.

Roy, Jayanta. 2001. "India: Progress after 1991 Reforms and Challenges Ahead." Speaker's lecture notes from seminar, Department of Economics, Cornell University, Fall 2001.

Roy, P. K., Shanta Venkatraman, Basanta K. Pradhan, and M. R Saluja. 2000. "Rural-Urban Disparities: Income Distribution, Expenditure Patterns, and Social Sector." *Economic and Political Weekly* 35 (28–29): 2527–39.

Shorrocks, Anthony F. 1980. "The Class of Additively Decomposable Inequality Measures." *Econometrica* 48: 613–25.

———. 1984. "Inequality Decomposition by Population Subgroups." *Econometrica* 52: 1369–85.

———. 1999. Decomposition Procedures for Distributional Analysis: A Unified Framework Based on the Shapley Value." Unpublished manuscript, Department of Economics, University of Essex.

Soubbotina, Tatyana P. 2004. "Poverty and Hunger." Chapter 6 in *Beyond Economic Growth: An Introduction to Sustainable Development,* 2nd ed. WBI Learning Resources Series. Washington, DC: World Bank.http://www.worldbank.org/depweb/english/beyond/global/beg-en.html#toc.

USLOC (United States Library of Congress). 2005. *The Green Revolution.* http://countrystudies.us/india/104.htm.

von Braun, Joachim, and Ulrike Grote. 2002. "Does Decentralization Serve the Poor?" In *Managing Fiscal Decentralization,* ed. Ehthisham Ahmad and Vito Tanzi, 92–119. London: Routledge.

Wan, Guanghua, and Zhangyue Zhou. 2005. "Income Inequality in Rural China: Regression-Decomposition Using Household Data." *Review of Development Economics* 9 (1): 107–20.

World Bank, 2005a. "China Country Brief," http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CHINAEXTN/0,,contentMDK:20610209~pagePK:1497618~piPK:217854~theSitePK:318950,00.html.

———. 2005b. "India Country Brief," http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0,,contentMDK:20195738~menuPK:295589~pagePK:1497618~piPK:217854~theSitePK:295584,00.html.

———. 2005c. "PPP GDP 2004," http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP_PPP.pdf.

———. 2006a. "China Quick Facts." http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CHINAEXTN/0,,contentMDK:20680895~menuPK:318976~pagePK:1497618~piPK :217854~theSitePK:318950,00.html.

Zhang, Xiaobo, and Ravi Kanbur. 2001. "What Difference Do Polarisation Measures Make? An Application to China." *Journal of Development Studies* 37 (3): 85–98.

Zhang, Xiaobo, and Kevin H. Zhang. 2003. "How Does FDI Affect Regional Inequality within a Developing Country? Evidence from China." *Journal of Development Studies* 39 (4): 47–67.

Comment on "Comparing the Evolution of Spatial Inequality in China and India: A Fifty-Year Perspective," by Kiran Gajwani, Ravi Kanbur, and Xiaobo Zhang, and on the presentation "Can Economic Policy Overcome Geographic Disadvantage in Eastern Europe and the Commonwealth of Independent States?" by Karolina Ekholm

ALAN GELB

India, China, Eastern Europe, and the Commonwealth of Independent States (CIS) have all experienced major shifts in the location of production and the opportunities for employment, and one of the benefits of this session is to bring together these disparate experiences. Changes in the spatial distribution of economic activity, income levels, and inequality are to be expected, as economic liberalization and reform enhance the values of some locations and factors of production and diminish the value of others. Indeed the paper on China and India by Xiaobo Zhang, Kiran Gajawani, and Ravi Kanbur (see this volume) and the presentation on Eastern Europe and the CIS by Karolina Ekholm* at the conference provide many useful insights.[1] However, they approach the subject in different ways, providing deeper analysis of the factors underlying regional shifts in India than in China, and more emphasis on regional income differences in Europe than on tracking the impact of changes over the last decade across Eastern Europe and the CIS. Ideally, one would like to see a common methodology and approach toward measuring and accounting for these effects. This remains, however, a topic for a future comparative study.

Karolina Ekholm's presentation on Europe and the CIS presents a good picture of regional differences across Western Europe and some countries in Central and Eastern Europe (CEE), and also discusses a range of factors that might account for

these differences. It also makes a critical distinction between the long-run equilibrium, where incomes are adjusted to geography, and the transitional period, where location could influence the speed of catch-up, but possibly in different ways. Incomes in the CEE/CIS region have possibly not yet adjusted to their long-run equilibrium, but even so, more than a decade of adjustment should have produced some indications. It is less clear from the presentation how "peripheral" the CEE/CIS region is, and whether major centers, such as Moscow, create appreciable subregional effects through local "economic gravity." It would also be interesting to explore the degree to which oil- and gas-led development has shaped the pattern of regional inequality within large countries. Russia itself is deserving of such a study. The presentation also suggests that adjustment to accession in high-income countries is falling symmetrically on both workers and firms. I doubt this: accession has provided many opportunities for firms to invest in formerly socialist countries, to take advantage of cheaper labor.

Comparison of India and China shows some remarkable differences. At the end of the twentieth century, China's Gini index of regional inequality was 37, relative to an overall Gini of around 45; India's was 17, relative to an overall Gini of almost 33. While the Gini is not strictly decomposable, this suggests that regional differences account for the vast bulk of China's high overall inequality, but are far more muted in India, where local inequality is more severe. Although the paper notes the interesting transition in India from land-driven to skills-driven inequality, it is not clear whether this might also apply in China or why these two large countries should differ so much. Is China's continuing control on migration the only reason for widening inequality? Or is there perhaps a confluence of factors in China—location-related transport costs, skill levels, policies, and incentives—that align along coastal-inland lines? More research is needed on the multiple possible causes of regional inequality, and how they align or diverge across regions. The Investment Climate surveys undertaken by the World Bank across a number of regions in both India and China might be helpful in this respect. We have recently started to look at the pattern of lags in total factor productivity for manufacturing firms behind a common stochastic production possibility frontier. This does suggest a smaller productivity tail in coastal areas such as Shanghai than in interior cities, but the difference is less than one might expect. One would also like to see how well Chinese data take migration into account, considering the "floating population" of some 100 million.

To what extent does regional divergence reflect policies rather than innate factors such as location? This is not too clear from the paper and presentation. Ekholm appears to argue that there is no clear evidence that patterns in Western Europe are shaped by policy differences. This may be true overall, but it does not mean that there are no useful policy lessons from catch-ups. Would Dublin, for example, have been considered in core Europe 15 or 20 years ago? A number of policies emerge for lagging regions; these include improving the business climate and trade liberalization. These may be appropriate as general growth-enhancing policies: the question is which if any policies are *especially* important to lagging regions? For example, should they regulate to the level of the richer regions? Anders Åslund's keynote

address, presented to this conference, suggests not. Should infrastructure be built to enhance connectivity within the lagging regions, or to enhance their connections with richer regions? Some research on China suggests that connecting up the lagging interior provinces with the more dynamic "middle" provinces will have the largest impact. Should incentives aim to develop areas of "critical economic mass" in poor regions, especially sparse ones? There is some evidence, including from Africa, that suggests the importance of agglomeration effects, but this is still a debated issue.

Note

1. See "Can Economic Policy Overcome Geographic Disadvantage in Eastern Europe and the Commonwealth of Independent States?" by Karolina Ekholm, http://info.world bank.org/etools/BSPAN/PresentationView.asp?PID=1698&EID=819.

Comment on "Comparing the Evolution of Spatial Inequality in China and India: A Fifty-Year Perspective," by Kiran Gajwani, Ravi Kanbur, and Xiaobo Zhang

THIERRY MAYER

The paper presented in this session measures and tries to explain the changes in intranational regional inequality after transition.* It presents fascinating empirical evidence on the widening spatial disparities inside countries that have experienced vast and often brutal changes in their economic structure, focusing on patterns inside China and India. Authors Xiaobo Zhang, Kiran Gajawani, and Ravi Kanbur raise the following basic questions: do radical changes in economic systems trigger increasing regional imbalances? Among the various changes experienced by those countries, what are the real causes of increasing spatial inequality? And finally, what should and can be done in terms of public policy to curb the divergence observed?

Shocks and Internal Geography as "Testing Material" for the Economic Geography View of Development

Professionally speaking, empirical economists like brutal changes in the economic environment, especially when unexpected, since they furnish a source of variation in the data that can potentially be used to identify phenomena and test theoretical mechanisms they have in mind to describe the way a society should react to such shocks. Transition economies seem at first sight to be very good to us on this ground since they constitute natural experiments of drastic changes that are usually well identified in time and space.

An obvious set of theories to evaluate with those experiments is the one trying to explain the development path of countries. Among the many views that have been proposed, three have been particularly popular and debated among scholars recently: the physical geography view, the economic geography (often called New

Economic Geography, or NEG) view, and the institutions view. While the first proposes that "bad" climatic, topographic, and disease environments have a direct negative impact on production techniques and the adoption of innovations, the second understands geography as the export capacity of the territory, and its attractiveness as a location base for domestic and foreign investors. The institutional view recently has been emphasized as one of the leading factors of long-term economic growth, and most notably how different countries protect property rights. Recent empirical work has made the institutions view quite strikingly dominant among development economists (Acemoglu, Johnson, and Robinson 2001; Easterly and Levine 2003; Rodrik, Subramanian, and Trebbi 2004), leaving physical geography to have mostly an indirect role in the shaping of institutions. Trade economists have found the economic geography view also quite successful empirically, and able to explain a substantial amount of variance in cross-country GDP per capita, even when institutional differences are controlled for (Redding and Venables 2004).

One of the nice things about studying the fortunes of different regions inside transition economies is that it seems to isolate the economic geography view as the only relevant explanatory framework. Transition mostly does not involve changes in physical geography, and certainly not differently across regions, so this channel can be ruled out. The two remaining paths, however, move together. Institutions change drastically, and the economic geography too, since liberalization of trade policy, combined sometimes with regional agreements with neighbors, completely changed the size and orientation of external trade of those countries in a very short period of time. Whether lower risks of expropriation for investors or a better insertion in the world trading network were most important in promoting growth of a country is not easy to determine. However, the institutional changes presumably took place uniformly at the national level, while increased imports and exports affect the various regions inside a country in a very different way. Put simply, it seems hard to attribute the growing divide between coastal and hinterland regions in China to diverging institutions, while it seems natural to test economic geography predictions on it.

And so economists have done. A recent and interesting example is Redding and Sturm (2005), which is also related to the paper presented here. They look at the impact of separation and reunification of Germany on the dynamics of western German cities that were close to the border compared to those that were more remote and therefore less subject to be affected by the shock. This example is interesting since there is no substantial difference in institutions following the separation that can explain the strong divergence between the two parts of western Germany. Their estimates show that the cumulated handicap in growth rate for border cities is around one-third of the growth of nonborder cities in western Germany of the 40 years of separation. Those cities also recovered after reunification, although at a slower pace. The facts that the effect of the border on growth paths is diminishing with distance from the border and is bigger for small cities are totally consistent with NEG predictions. Furthermore, when introducing a market potential variable in the regression, the authors wash out entirely the impact of the border on the different growth performances of cities. Market potential changes are very likely to be *the* cause of lower growth for those cities, through a reduction of their trading opportunities. The reduction of trade flows following the

creation of borders has also been documented for transition economies by Fidrmuc and Fidrmuc (2003) and Djankov and Freund (2002).

What Do We Learn from the Examples Presented Here . . . and What Is Left Unanswered?

Let me start by exploring why peripheral countries/regions might suffer from handicaps in their growth path according to NEG theories. Since the market potential of those areas is low, prospective profits are low for investors. Those regions will therefore attract only a small amount of foreign direct investment (FDI), and will have lower returns to factors employed by increasing returns industries locally (or any combination of the two effects in this type of theory). Lack of FDI can be particularly damaging in those countries that should rely very much on it for transfer of up-to-date technology and knowledge. Low FDI translates into low technological transfers to local firms, even if the evidence of such spillovers from FDI is probably less conclusive than was originally thought (Görg and Greenaway 2004). And indeed, low market potential reduces the amount of FDI received by a region. To illustrate this, I take data from Head and Mayer (2004), which constructs a theory-consistent measure of market potential for EU regions, called Real Market Potential, and see how it influences Japanese FDI. In figure 1, I graph the total number of greenfield investments against this RMP measure (indexed with respect to Brussels, and omitting city-regions Hamburg and Berlin).

FIGURE 1. Japanese FDI and European Regions' Market Potential, 1985–95
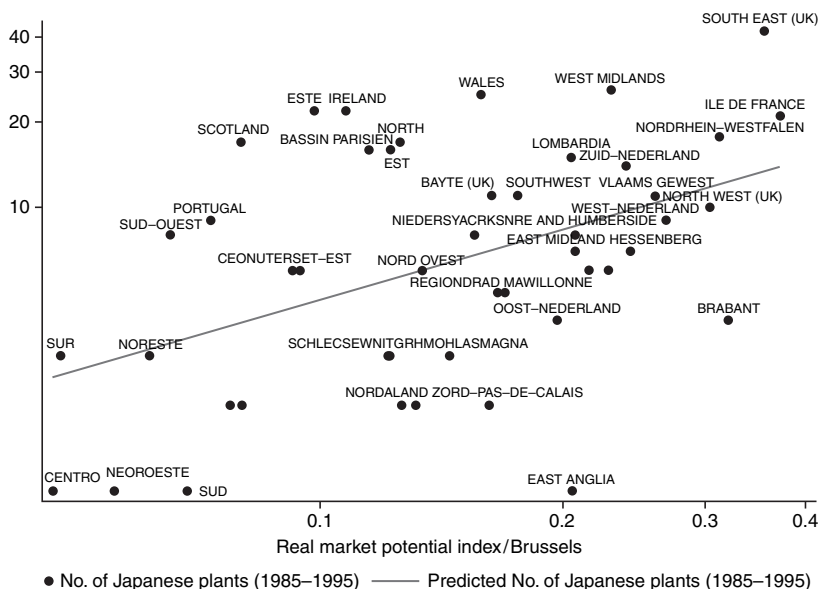
Source: Author's calculations based on data from Head and Mayer (2004).

FIGURE 2. Wages and Market Potential in European Regions, 1988–92
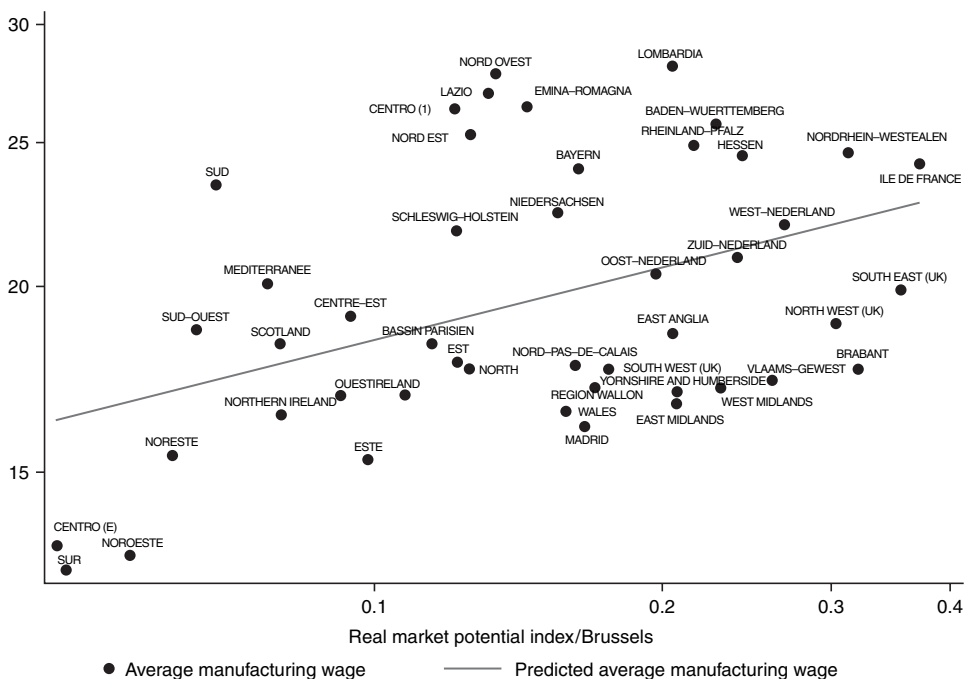
Source: Author's calculations based on Head and Mayer (2006).

There is a clear attractive power of RMP on foreign investors. At least part of this attractive power will end up in higher wages for immobile factors in those regions in equilibrium, so that profits are equalized across regions and firms do not have any incentives to change location. Figure 2 illustrates this result, known as the wage equation, graphing average manufacturing wages against the same measure of RMP. Again, high market potential regions are places where returns (to labor this time) are higher. Strikingly, even the estimates of the relationship are very similar. For instance, Breinlich (2005) and Brülhart, Crozet, and Koenig (2004) are reported to find a coefficient of 0.15, and my own simplistic regression line in figure 2 has a coefficient of 0.16! Those coefficients have implications for estimates of the elasticity of substitution in those models; they are predicted to be the inverse of the Constant Elasticity of Substitution (CES). Values of the CES between 5 and 7 are good according to the NEG theories, since they imply reasonable price-cost margins in the model.

Market potential is therefore a good predictor of economic success. Deviation from the prediction is also interesting, however. It signals countries or regions that fail to reach the potential attractiveness and growth performance that their economic geography would predict. What are the reasons behind those abnormal failures or successes? There are a lot of capitals or central city-regions in the set of positive outliers. This could come from mismeasurement of market potential, but I do not think so, since more complete measures end up with the same conclusion, which seems to suggest rather an important role for different types of agglomeration economies that take place within large cities, should it be technological spillovers or

human capital externalities. Institutions could be part of the explanations of the divergence from predictions. Cultural-type explanations, such as the North-South divide suggested, could also be interestingly tested, perhaps using the type of data used by Tabellini (2005).

There are broadly two types of policies that can help those countries/regions with a poor initial economic growth performance: the ones that reduce their peripherality, since there seems to be a robust relationship between market potential and economic performance; and the ones that, holding market potential constant, help them reach their growth potential. Graphically, the first type of policy involves a shift in the North-East direction in a figure like figure 2, while the second type involves a vertical shift. The second type of policy is hard to specify precisely since there is no regression analysis explaining deviations from market potential prediction to base it on. Whether institutional issues, cultural characteristics, or problems linked to knowledge accumulation are more relevant is hard to say at this stage.

On the first type we can be more confident, though. This argument is firmly grounded in NEG theory since at least Martin and Rogers (1995). Reducing trade costs between central and peripheral regions has the possibility of deteriorating the position of the periphery, while reducing them *inside* the periphery can only benefit it. I think, however, that there are *more* benefits to those *peripheral regional agreements* than this direct effect, especially for the cases studied in the paper.

First, by attracting more FDI, it is likely that peripheral regions will be keener to undertake institutional reform, since foreign investors would likely be an additional force pushing to lower corruption, raise the level of protection of property rights, and reduce the level of institutional uncertainty in general. Thus the initial increase in FDI brought by increased RMP might trigger more investors after institutional improvements, as well as FDI that can yield more spillovers due to increased security.

An additional benefit might come from the geopolitical consequences of such regional agreements. Many of the countries studied in the paper have been involved in repeated military conflicts with their neighbors. Most of those conflicts had very little relation with trade or FDI; however, trade patterns can affect the incentives to resolve peacefully a conflict that arose for unrelated reasons, such as territorial, ethnic, or ideologically related disputes. Two countries that depend a lot on each other for their external trade will face a higher opportunity cost from a military conflict, since they would lose a large amount of gains to trade. Following the same logic, a country opening up to trade with distant countries lowers the costs of going at war with its neighbors. Peripheral countries signing a regional trade arrangement should therefore see their probability of going at war decline. The more peaceful environment resulting from the agreement would in turn reassure foreign investors about the security of their investment in the long run. In addition to this effect through the redirection of trade, regional agreements provide a forum of discussion among governments that can be used to discuss and settle issues other than trade-related ones, and again favor peace. Martin, Mayer, and Thoenig (2005) show that all those effects are quantitatively important, especially the last one. The discussion forum aspect of regional trading arrangements seems particularly important in reducing the probability of armed conflicts.

A last remark on migration: favoring migration from peripheral to central countries might be detrimental to the former, by reinforcing centripetal forces. However, there is a contrasting effect. Migrants tend to favor trade between the origin and the destination countries mostly because they transmit information on trade opportunities. That effect might raise the market potential of peripheral countries.

Xiaobo Zhang, Kiran Gajawani, and Ravi Kanbur study regional inequality within the two most prominent emerging countries in the world, India and China. The authors try to explain the relationship between several liberalization shocks and the ensuing growth in regional disparities in those two countries. The data covers a very long period of time, from the end of World War II to current years.

Zhang, Gajawani, and Kanbur state that China's constantly higher degree of regional inequalities is due to higher restrictions on migration compared to India. With differences in real wage between regions, workers should move toward high-wage regions. The impact of this migration is twofold. First, it tends to equalize nominal wage by raising supply of labor in high-wage regions and lowering it in the periphery. However, those migrants will now also consume in the central regions, which raises further its market potential. This should raise attractiveness of the central region for firms, raising factor prices further. (Note that in this type of model, real wages move in the same direction as nominal ones since new firms reduce the price index in the center.) Whether one mechanism dominates the other depends essentially on parameters of the sector: its trade costs, increasing returns, and size in the overall economy. Since there is no empirical evidence supporting either view, it is hard to decide if the claim of Zhang, Gajawani, and Kanbur can be believed. In fact, recent evidence by Au and Henderson (forthcoming), using a structural model of the economic geography of China, shows that Chinese cities are if anything undersized, mostly due to restrictions on migration. Hence, more prudence on the causes of the spatial inequality gap between China and India seems warranted.

It is also a bit unclear what the authors have in mind in terms of an underlying model linking openness with inequality. The authors' primary argument is that China and India experienced major liberalization reforms over time; the recent ones mostly involving increased openness combined with increased decentralization. Should we expect increasing or decreasing spatial inequality following reform? The authors seem to have in mind a framework where trade liberalization plus decentralization would favor concentration because it favors skill-intensive activities, and that skilled labor is concentrated in the coastal regions. This seems quite contradictory with traditional trade theory arguments except if the authors have in mind an outsourcing mechanism along the lines of Feenstra and Hanson (1996), by which low-skilled activities in rich countries need relatively high-skilled labor in China. An alternative framework might simply be that openness benefits regions with high market potential: that is, the ones on the coast. For China, we already know from Au and Henderson (forthcoming) and Amiti and Javorcik (2005) that this is indeed the case. To conclude, I think two relatively important questions are left unanswered:

First, is the same mechanism taking place in India (are the gaining regions the ones with high market potential)? The authors seem to suggest otherwise, based on the

fact that the spatial inequality is less correlated with trade openness than in the Chinese case. But rather than a global measure of inequality, we would need to know here which region wins, and which one loses precisely in the process. The key switch expected is that internal market potential matters less, and the external market potential matters more. In some cases, this might mean less agglomeration (think about the Mexican example); in others, it will mean more agglomeration and disparities (China typically).

Second, is the supply of skilled labor that exogenous? Redding and Schott (2003) demonstrated that skilled labor supply might respond to high market potential, if it is one of the factors employed in increasing returns sectors. This might therefore trigger internal migration or higher accumulation rates of human capital in central regions.

References

Amiti, M., and B. Javorcik. 2005. "Trade Costs and Location of Foreign Firms in China." Research Discussion Paper 4978, Centre for Economic Policy (CEPR), London.

Au, C., and V. Henderson. Forthcoming. "Are Chinese Cities Too Small?" *Review of Economic Studies*.

Acemoglu, D., S. Johnson, and J. Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91 (5): 1369–1401.

Breinlich, H. 2005. "Economic Geography and Industrialization." Centre for Economic Performance, London School of Economics.

Brülhart M., M. Crozet, and P. Koenig. 2004. "Enlargement and the EU Periphery: The Impact of Changing Market Potential." *The World Economy* 27 (6): 853–75.

Djankov, S., and C. Freund. 2002. "Trade Flows in the Former Soviet Union, 1987 to 1996." *Journal of Comparative Economics* 30 (1): 76–90.

Easterly, W., and R. Levine. 2003. "Tropics, Germs, and Crops: How Endowments Influence Economic Development." *Journal of Monetary Economics* 50: 3–40.

Fidrmuc, J., and J. Fidrmuc. 2003. "Disintegration and Trade." *Review of International Economics* 11 (5): 811–29.

Feenstra, R. and G. Hanson. 1996. "Foreign Investment, Outsourcing, and Relative Wages." In *The Political Economy of Trade Policy: Papers in Honor of Jagdish Bhagwati,* ed. Robert C. Feenstra, Gene M. Grossman, and Douglas A. Irwin, 89–127. MIT Press.

Görg, H., and D. Greenaway. 2004. "Much Ado About Nothing? Do Domestic Firms Really Benefit from Foreign Direct Investment?" *World Bank Research Observer* 19: 171–97.

Head, K., and T. Mayer. 2004. "Market Potential and the Location of Japanese Investment in the European Union." *Review of Economics and Statistics* 86 (4): 959–72.

———. 2006. "Regional Wage and Employment Responses to Market Potential in the EU." *Regional Science and Urban Economics* 36 (5): 573–94.

Martin, P., and C. Rogers. 1995. "Industrial Location and Public Infrastructure." *Journal of International Economics* 39: 335–51.

Martin, P., T. Mayer, and M. Thoenig. 2005. "Make Trade not War?" Discussion Paper 5218, Centre for Economic Policy Research (CEPR), London.

Redding, S., and P. Schott. 2003. "Distance, Skill Deepening, and Development: Will Peripheral Countries Ever Get Rich?" *Journal of Development Economics* 72 (2): 515–41.

Redding, S., and D. Sturm. 2005. "The Costs of Remoteness: Evidence from German Division and Reunification." Discussion Paper 5015, Centre for Economic Policy Research (CEPR), London.

Redding, S., and A. Venables. 2004. "Economic Geography and International Inequality." *Journal of International Economics* 62 (1): 53–82.

Rodrik, D., A., Subramanian, and F. Trebbi. 2004. "Institutions Rule: The Primacy of Institutions over Integration and Geography in Economic Development." *Journal of Economic Growth* 9 (2): 131–65.

Tabellini, G. 2005. "Culture and Institutions: Economic Development in the Regions of Europe." Innocenzo Gasparini Institute for Economic Research (IGIER), Milan. Mimeo.

Governance

The Institutional Determinants of State Capabilities in Latin America

ERNESTO STEIN AND MARIANO TOMMASI

This paper is part of an agenda that aims to move the discussion away from universal policy recipes toward a focus on the determinants of policy-making capabilities, including the ability to reach societal consensus as a foundation for the credibility and effectiveness of public policies. In this paper we explore the politico-institutional determinants of good public policies.

The paper draws from a framework that argues that desirable policy characteristics depend on the behavior of political actors in the policy-making process (PMP), with emphasis on the ability to cooperate over time. Better policies are likely to emerge if the participants in the PMP can cooperate to uphold agreements and sustain them over time.

The paper presents some empirical indicators for the dependent variable—the quality of public policies—and for several organizational and behavioral measures of the workings of political institutions for 18 Latin American countries. Preliminary results suggest that effective public policies are facilitated by political parties that are institutionalized and programmatic, legislatures that have sound policy-making capabilities, judiciaries that are independent, and bureaucracies that are strong. Additionally, we find no simple direct effect of some variables emphasized in previous literature, such as the electoral system. This suggests that the effects of institutional rules on equilibrium behavior are likely to be configural. Equilibrium political behavior leading to high-quality policies and state capacities tend to develop over time as the result of ongoing behavior of many political actors.

Motivation

For the last few decades, Latin America has experimented with a wide range of policies and reforms. Yet the success of those reforms and, more generally, the quality of public policy, has varied considerably. Slowly, the development community is coming to take a more nuanced view of the validity of universal policy recipes. This paper is part of that movement, and puts the emphasis on some more basic

"capabilities" of polities that affect the ultimate quality of public policy. Even within the Latin American context, some countries seem able to maintain the basic thrust of their policies for long periods of time, thus creating a predictable and stable policy environment, while other countries experience frequent changes in policies, often with every change in administration. Some countries can adapt their policies rapidly to changes in external circumstances or innovate when policies are failing, while other countries react slowly or with great difficulty, hanging on to inappropriate policies for long periods of time. Some countries can effectively implement and enforce the policies enacted by congress or the executive, while others take a great deal of time to do so or are ineffective. Some countries adopt policies that focus on the public interest, while in others, policies are filled with special treatment, loopholes, and exemptions.

What determines the ability of countries to design, approve, and implement effective public policies? To answer this question, the agenda to which this paper belongs brings to bear an eclectic and interdisciplinary approach, tapping both economics and political science. Instead of focusing on the substance and orientation of particular policies, we concentrate on the critical processes that shape these policies, carry them forward from idea to implementation, and sustain them over time. Our starting point is the premise that the processes of discussing, negotiating, approving, and implementing policies are at least as important as the specific content of the policy itself. We draw on a wealth of background research produced by a network of researchers across Latin America, which provides insights about the workings of the policy-making process and its impact on policy outcomes.

In a technocratic approach toward policy making, policies are objects of choice by benevolent policy makers. Anyone interested in fostering better social outcomes would simply need to identify policies that would induce those better outcomes and communicate those policies to policy makers. Such an approach has several shortcomings. One of them is that it takes policies as exogenous: that is, as originating from outside the system. This paper is part of an agenda that examines the processes by which countries discuss, decide, and implement public policies over time. Accordingly, we treat policies (as well as some characteristics of policies) as largely endogenous. Policies are viewed as the outcome of the policy-making process. This paper focuses on the characteristics and determinants of policy-making processes, with particular emphasis on the workings of political institutions, as well as on their impact on policy outcomes.

Focusing the study on institutions and processes does not imply denying the importance of other, more structural variables on the configurations of polities, policy making, and policies. Social and economic structures give rise to different configurations of actors in different countries at different times; these societal and economic actors exercise influence not only on the making of policy but also on the making of institutions. Background country studies coordinated by these authors pay attention to the important role of such structures in each case.[1] The history of policy making in Venezuela cannot be understood without reference to the political economy of an oil economy; policy making in Argentina cannot be understood without reference to the complex relations between the national government and the provinces—which in turn

are affected not only by the formal institutions of that federal republic, but by underlying economic and social structures throughout the country; and so on.

These important underlying forces cannot be ignored by anyone attempting to understand (let alone influence) the workings of these polities. Yet, since it is impossible to do everything at once, this paper focuses mainly on the aspects of these complex polities that are more directly related to the formal political and policy-making institutions. We believe this is a particularly timely focus, given that the democratization processes of most Latin American countries over the last few decades have increased the importance of political institutions, and given that such institutions are the focus of much debate (and in some cases, reform) in many countries in the region.

Recent "institutional" studies have highlighted the fact that (economic and political) institutions are themselves a product of human choice at some point. Some of the most dynamic current lines of inquiry trace the origins of institutions back to colonial times.[2] This paper takes an intermediate view with respect to the issue of endogeneity or exogeneity of institutions. We recognize that institutions are endogenous to past arrangements and occurrences, and to some extent to more recent configurations of political power, socioeconomic structures, and other deep determinants. This paper focuses on the *impact* of particular configurations of political institutions on policy-making processes, and hence on policies. Political institutions are being debated and even reformed in many countries in the region. These debates are not just blunt exercises of power. Instead, they are informed by a discussion of the possible effects of reform on political practices and outcomes. Hence, we try to take a middle way, attempting to increase the awareness about the importance of political practices and institutions in the process of making policy—without falling into a totally deterministic mode in which everything that happens is determined by forces absolutely beyond the control of individual or collective actors.

The paper is part of an agenda aiming to provide guidance and orientation to politicians, policy makers, organizations, and social actors interested in participating in the debate about improving policies and institutions to foster development goals. Increased awareness of policy-making processes and their institutional foundations might help the promotion, design, and implementation of policy reforms that are more likely to achieve desired development objectives, given the particular political institutions and practices of each country. It might also illuminate the discussions about reforming political institutions.

In studying these issues, we draw from an extensive literature in political science about the effects of alternative arrangements of institutions on many important political and policy outcomes.[3] These alternatives include whether the political regime is presidential or parliamentary; whether the state is centralized or decentralized; whether the electoral system is majoritarian or proportional; whether parties are weak or strong, numerous or few; and so on. Since each country has a specific configuration of all these and several other important characteristics, we tend to emphasize the interactions among all these variables. Some findings here and in previous work suggest that these interactions are nonadditive, in the sense that the effect of one particular institutional rule or characteristic depends on the whole array of institutional rules and characteristics.

Part I: Framework

While this agenda takes a rather eclectic approach, drawing insights from different disciplines, it has a guiding framework, which we sketch here.[4] The framework is summarized graphically in figure 1. In keeping with the nature of the methodology, and for ease of explanation, it is best to start from the dependent variable (some key features of public policies) and work back to its political and institutional determinants.

The Dependent Variable: Characteristics of Public Policies

Policies are complex undertakings. Taking any particular "policy reform" to fruition is a process that involves multiple actors through many stages of the policy process. It requires specific responses from economic and social agents, and therefore necessitates several forms of cooperation and positive beliefs about the durability and other properties of the policy. That is, policies require a lot more than a magical moment of special politics to introduce "the right policy" in order to produce effective results.

A universal set of "right" policies does not exist. Policies are contingent responses to underlying states of the world. What might work at one point in time in a given country might not work in a different place or in the same place at another time. In some cases, some particular characteristics of policies or the details of their implementation might matter as much as the broad type of policy. For instance, Dani Rodrik (1995) analyzed six countries that implemented a set of policies that shared the same generic title—"export subsidization"—but had widely different degrees of success. Rodrik relates their success to such features as the consistency with which the policy was implemented, which office was in charge, how the policy was bundled (or not) with other policy objectives, and how predictable the future of the policy was.

One important characteristic of policies that has been widely recognized in recent work on macroeconomics, trade policy, regulation, and other areas of economics is policy credibility.[5] The effects of policies on the final economic and social outcomes of interest depends on the actions and reactions of economic and social agents, who

FIGURE 1. Political Institutions, the Policy-Making Process, and Policy Outcomes
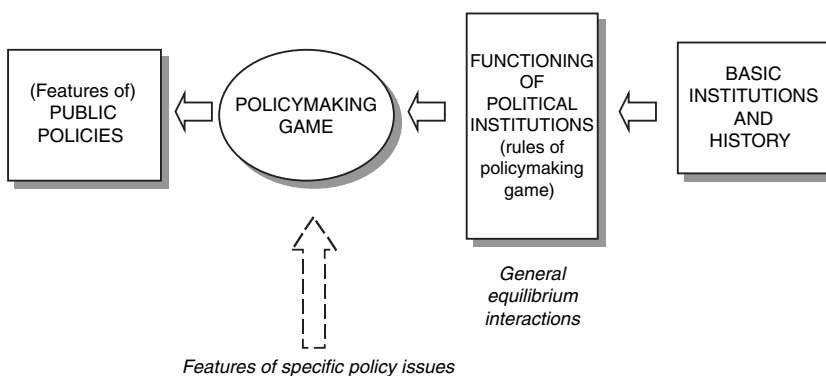
Source: Spiller and Tommasi 2003.

take into account their expectations about the future of the policies in question before deciding their responses. As Rodrik explains, in reference to trade reform, "It is not trade liberalization per se, but *credible* trade liberalization that is the source of efficiency benefits. The predictability of the incentives created by a trade regime, or lack thereof, is generally of much greater importance than the *structure* of these incentives. In other words, a distorted, but *stable* set of incentives does much less damage to economic performance than an uncertain and unstable set of incentives generated by a process of trade reform lacking credibility."[6]

It is for these reasons that the policy outcome to be explained in this paper is not the content or type of policies (whether some particular taxes are high or low, for instance), but certain characteristics or key features of public policies that affect their quality. For operational purposes, we have defined and attempted to measure several such characteristics, listed below, but future work should identify and attempt to measure others.

The features of public policies examined include:

- *Stability*–the extent to which policies are stable over time

- *Adaptability*–the extent to which they can be adjusted when they fail or when circumstances change

- *Coherence and coordination*–the degree to which polices are consistent with related policies, and result from well-coordinated actions among the actors who participate in their design and implementation

- *The quality of implementation and enforcement*

- *Public regardedness*–the degree to which policies pursue the public interest

- *Efficiency*–the extent to which they reflect an allocation of scarce resources that ensures high returns.

Part II of the paper discusses these characteristics in more detail, presents measures of them for most countries in Latin America, along with an overall index of the quality of public policies (based on these characteristics), and establishes some links between the quality of public policies and various measures of welfare and economic development. It then relates these policy properties with variables characterizing the workings of political institutions.

The Policy-Making Process

The process of discussing, approving, and implementing public policy is referred to as the *policy-making process* (*PMP*). In democratic systems such as those in Latin America, these processes play out on a political stage featuring a variety of political *actors* (or *players*, in the parlance of game theory). Players in this *game* include official state actors and professional politicians (presidents, party leaders, legislators, judges, governors, bureaucrats), as well as business groups, unions, the media, and other members of civil society. These actors interact in different *arenas*, which may

be formal (such as the legislature or the cabinet) or informal (the street), and may be more or less transparent.

The PMP can be understood as a process of bargains and exchanges (or transactions) among political actors. Some of these exchanges are consummated on the spot or instantaneously (they are spot transactions). In many other cases, current actions or resources (such as votes) are exchanged for promises of future actions or resources (they are *intertemporal transactions*). The type of transaction that political actors are able to engage in will depend on the possibilities provided by the institutional environment. Issues of credibility and the capacity to enforce political and policy agreements are crucial for political actors to be able to engage in intertemporal transactions.

The behavior of political actors in these exchanges, and the nature of the exchanges themselves (for example, support for the government in a crucial policy issue in exchange for a job in the public bureaucracy; or support for reform in a particular policy area in exchange for concessions in a different policy area), depends on their *preferences*, on their *incentives*, and on the *constraints* they face. It also depends on the *expectations* they have regarding the behavior of other players. These interactive patterns of behavior constitute what in the parlance of game theory are called *equilibria*. Thus the characteristics of public policies depend on the equilibrium behavior of policy actors in the policy-making game.

The behavior of political actors in the policy-making process, shaped by their preferences, incentives, and constraints, will depend, in turn, on the workings of political institutions (such as congress, the party system, or the judiciary) and on more basic institutional rules (such as electoral rules and constitutional rules) that determine the roles of each of the players, as well as the rules of engagement among them.

Policy-making processes, like policies, are very complex. Multiple actors with diverse powers, time horizons, and incentives interact in various arenas. There are diverse rules of engagement, which can have an impact on the way the game is played. For these reasons, it is not possible to fully understand these processes by focusing on a few institutional characteristics (such as whether the country is presidential or parliamentary, or whether the electoral rules are of the plurality of proportional representation variety). The institutional set-up must be understood in a systemic way (or, in economic jargon, in *general equilibrium*).

Such a systemic view can be accomplished only by means of detailed country studies, which take into account a variety of key institutions and their interaction, as well as historical and cultural legacies (such as fundamental cleavages, shared values, and whether a country has a history of stable democracy or has suffered frequent constitutional interruptions). This is the reason behind 13 country studies from an Inter-American Development Bank research network project on "Political Institutions, Policy-Making Processes, and Policy Outcomes" that play an important role in the arguments of this paper.[7]

To characterize the workings of the PMP in specific settings, the following questions were asked in each of the countries studied:

- Who are the key actors that participate in the PMP?

- What powers and roles do they have?

- What are their preferences, incentives, and capabilities?

- What are their time horizons?[8]

- In which arenas do they interact, and what are the characteristics of those arenas?

- What is the nature of the exchanges/transactions they undertake?

The information gathered from the country studies was complemented through a series of studies focusing on the comparative role that some key actors play in the PMP across Latin America.[9] Political actors and arenas covered by those studies include political parties and the party system, legislatures, presidents, cabinets, bureaucracies, judiciaries, regional actors, business interests, the media, workers unions, social movements, and sources of technical expertise ("knowledge actors"). In each case, the studies focused on the key roles (both formal and informal) played by these actors in the PMP, their preferences, incentives, and institutional capabilities, and the way in which they interact with other actors in different arenas.

Policy-Making Processes and Policy Outcomes: The Role of Cooperation

One insight of this paper and of the broader agenda is that important features of public policies depend crucially on the ability of political actors to reach and enforce intertemporal agreements: that is, to cooperate. In political environments that facilitate such agreements, public policies will tend to be of higher quality, less sensitive to political shocks, and more adaptable to changing economic and social conditions. In contrast, in settings that hinder cooperation, policies will be either too unstable (subject to political swings) or too inflexible (unable to adapt to socioeconomic shocks); they will tend to be poorly coordinated; and investments in state capabilities will tend to be lower.[10]

Under what conditions is cooperation more likely? Drawing on intuitions from game theory, it can be argued that cooperative outcomes are more likely if:

- There are good "aggregation technologies" so that the number of actors with direct impact on the policy-making game is relatively small.

- There are well-institutionalized arenas for political exchange.

- Key actors have long time horizons.

- There are credible enforcement technologies, such as an independent judiciary or a strong bureaucracy, to which certain public policies can be delegated.

These conditions are associated with some characteristics of key players and arenas such as congress, the party system, the judiciary, and the bureaucracy. These intuitions about the determinants of cooperation help guide the analysis of some of the main policy actors and arenas in part II of the paper.

Part II starts by discussing and measuring the characteristics of policies that constitute the dependent variable. The rest of the paper attempts to identify aspects of the workings of the PMP that affect those characteristics of policies. According to the framework discussed above, effective public policies require political actors with

relatively long horizons, as well as institutionalized arenas for the discussion, nego-tiation, and enforcement of political and policy agreements. Part II constructs some empirical counterparts of such characteristics, looking into the incentives of executives, the policy-making capabilities of congress, the independence of judiciaries, and the development of civil service systems, and relates them to the characteristics of policies, using statistical techniques.

Part II: Cross-Country Evidence

We provide here a cross-sectional view on some of the way in which (political) institu-tions influence political behavior and policy-making processes, and hence the qualities and characteristics of public policies. This is complementary to other analytical cuts on the same issues, such as studies of the general aspects of policy making in specific countries, cross-country case studies of policy making in specific sectors, comparative cross-country analysis of the workings of specific pieces of the institutional landscape, and historical analyses of the evolution of some institutions in some countries.[11]

Characteristics of Public Policies in Latin America

We start this part by providing cross-country evidence on the dependent variable, the quality of public policies. The next section relates this dependent variable with several institutional variables coming out of our framework.

We draw on two main sources of data. The first is the Executive Opinion Survey of the World Economic Forum *Global Competitiveness Report* (GCR), which covers more than 100 countries and has been published annually since 1996. The second is an opinion survey conducted at the Inter-American Development Bank. Building on intuitions developed in the project looking at policy making in 13 countries, and drawing from the notion of state capabilities developed in Weaver and Rockman (1993), the survey questioned more than 150 experts in 18 Latin America countries, including public policy analysts, economists, political scientists, and former policy makers, regarding the capabilities of the state and characteristics of policies in a number of dimensions.[12]

Stability

Some countries seem capable of sustaining most policies over time. In other coun-tries, policies are frequently reversed, often at each minor change of political winds (whether a change in administration or even a change in some key cabinet member or senior bureaucrat). Having stable policies does not mean that policies cannot change at all, but rather that changes tend to respond to changing economic condi-tions or to failure of previous policies, rather than to political changes. In countries with stable policies, changes tend to be incremental, building upon achievements of previous administrations, and tend to be done through consensus. In contrast, volatile policy environments are characterized by large swings and by lack of consul-tation with different groups in society. Our framework associates policy stability

with the ability of political actors to strike and enforce intertemporal agreements that allow certain fundamental policies ("*politicas de estado*") to be preserved beyond the tenure of particular officeholders or coalitions. Thus the notion of policy stability is closely linked to the notion of policy credibility.

Our measure of policy stability relies on both the GCR Survey and the State Capabilities (SC) Survey. In addition, a variable on policy volatility based on the Fraser Index of Economic Freedom was used. That index, which has been published regularly since 1974 by the Fraser Institute, measures the degree to which policies and institutions of countries contribute to economic freedom (including dimensions such as the size of government, the protection of property rights, and freedom of international exchange). Given the focus on policy stability, we are not interested here in the level of economic freedom, but rather in its volatility. There are six components of the Policy Stability Index: (1) the standard deviation of the Fraser Index of Economic Freedom;[13] (2) the extent to which legal or political changes have undermined firms' planning capacity (from the GCR); (3) the extent to which new governments honor the contractual commitments and obligations of previous regimes (from the GCR); (4) the capacity of the state to set and maintain priorities among conflicting objectives (from the SC Survey); (5) the extent to which governments ensure policy stability (from the SC Survey); and (6) the extent to which the state makes and maintains international commitments (from the SC Survey).

All the variables included in the Policy Stability Index were normalized to vary on the same scale (from 1 to 4, with 4 indicating greater stability) and each of them was given a similar weight.[14] The third column of table 1 presents the values of the Stability Index for the 18 countries in our sample.

Adaptability

It is desirable for countries to be able to adapt policies to changing economic conditions and to change policies when they are obviously failing. However, governments sometimes abuse the discretion to adapt policies by adopting opportunistic, one-sided policies that are closer to their own preferences or those of narrow constituencies. This can result in policy volatility, as policies may shift back and forth as different groups alternate in power. In political environments that are not cooperative, political actors often agree to limit such opportunism by resorting to fixed policy rules that are difficult to change. This limits policy volatility, but at the cost of reducing adaptability. This is sometimes done by embedding policies such as pension benefits or intergovernmental transfers into the constitution. In other cases, a political system regularly generates gridlock, making it difficult to achieve change. Whatever the reason, countries with low policy adaptability will be unable to respond to shocks adequately, or may get stuck in bad policies for extended periods of time.

Our index of policy adaptability has two components, both from the State Capabilities Survey. The first asks about the extent to which there is innovation when policies fail. The second asks about the extent to which governments ensure policy adaptability. Given the lack of questions in international surveys such as the GCR that are closely related to the concept of policy adaptability, this measure is not as reliable as that corresponding to policy stability, as well as some of the other indices of public policies

TABLE 1. Features of Public Policies in Latin American Countries

Country	Adaptability	Stability	Implementation and enforcement	Coordination and coherence	Public regardness	Efficiency	Policy Index
Argentina	2.3	1.8	1.7	1.7	2.1	1.5	1.9
Bolivia	2.5	2.1	1.9	2.2	2.1	1.7	2.1
Brazil	2.7	3.0	2.2	2.6	2.2	1.9	2.4
Chile	3.0	3.4	3.0	3.0	3.0	2.9	3.0
Colombia	2.7	2.8	2.2	2.1	2.1	1.9	2.3
Costa Rica	2.3	3.0	2.4	2.3	2.5	2.1	2.4
Dominican Republic	2.4	2.2	2.0	2.1	1.9	1.7	2.1
Ecuador	2.2	1.9	1.8	1.8	1.8	1.6	1.8
El Salvador	2.6	2.7	2.2	2.2	2.2	2.1	2.3
Guatemala	2.3	2.0	1.7	1.9	1.9	1.6	1.9
Honduras	2.4	2.6	2.0	2.1	2.0	1.7	2.1
Mexico	2.5	2.8	2.2	2.2	2.2	2.2	2.3
Nicaragua	2.3	2.0	1.8	1.6	1.8	1.8	1.9
Panama	1.9	2.4	2.1	1.4	1.9	1.5	1.9
Paraguay	1.8	2.1	1.6	1.8	1.6	1.5	1.7
Peru	2.2	2.3	2.1	2.0	2.2	1.7	2.1
Uruguay	2.5	3.0	2.3	2.1	2.2	1.9	2.3
Venezuela	1.9	1.6	1.8	1.2	2.1	1.2	1.7

Source: Authors' compilation.

Note: The key features of public policies are classified using cluster analysis such that dark gray represents a "high" value of that particular variable, light gray is "medium," and white is "low."

discussed later. The assessment of each country with regard to policy adaptability is presented in the second column of table 1.

Coordination and Coherence

Public policies are the outcome of actions taken by multiple actors in the policy-making process. Ideally, different agents acting over the same policy domain should coordinate their actions to produce coherent policies. However, this is not always the case. In some countries on certain issues, policy making involves a large number of agencies that do not communicate adequately with one another, leading to what Cox and McCubbins (2001) have called "balkanization" of public policies. Lack of coordination often reflects the noncooperative nature of political interactions. It may occur among different agencies within the central government; between agencies in the central government and others at the regional or municipal level; or even among agents that operate in different stages of the policy-making process (such as when the complications that the bureaucracy might face during the implementation phase of a given policy are not taken into account during the design and approval stage of policy making).

Our measure of coordination and coherence has two components, both from the State Capabilities Survey. The first question asks about the extent to which new policies are consistent with existing policies. The second question asks whether different policy makers operating over the same (or over a related) policy domain coordinate their actions effectively. Country assessments are presented in the fourth column of table 1.[15]

Quality of Implementation and Enforcement

A policy could be very well designed, sail through the approval process unchanged, and yet be completely ineffective if it is not well implemented and enforced. In many countries in Latin America, the quality of implementation and enforcement is quite poor. This is associated in part with the lack of capable and independent bureaucracies, as well as the lack of strong judiciaries. To an important degree, the quality of implementation and enforcement will depend on the extent to which policy makers have incentives and resources to invest in their policy capabilities.

This study's index of implementation and enforcement was constructed with four components: (1) the extent of enforcement of the minimum wage (from the GCR); (2) the extent of control on tax evasion (from the GCR); (3) the consistency of environmental regulation (from the GCR); (4) the extent to which the state ensures effective implementation of public policies (from the State Capabilities Survey). Country assessments are presented in the fifth column of table 1.

Public Regardedness

This dimension, suggested by Cox and McCubbins (2001), refers to the extent to which policies produced by a given system promote the general welfare and resemble public goods (that is, are public regarding) or whether they tend to funnel private benefits to certain individuals, factions, or regions in the form of projects with concentrated benefits, subsidies, or tax loopholes.[16]

This study's measure of public regardedness has four components: (1) the extent to which public officials tend to favor the well-connected in their policy decisions

(GCR); (2) the extent to which social transfers effectively reach the poor as opposed to the rich (GCR); (3) the ability of the state to impose losses on powerful actors (from the State Capabilities Survey); and (4) the extent to which the government represents diffuse unorganized interests, in addition to concentrated organized interests (from the State Capabilities Survey). Country assessments are presented in the sixth column of table 1.

Efficiency

A key aspect of good policy making is the ability of the state to allocate its scarce resources to those activities in which they have the greatest returns. This feature of policies is somewhat related to public regardedness since, to the extent that policy makers unduly favor specific sectors to the detriment of the public interest, they will be moving away from the most efficient allocation of resources.

Our index of efficiency has two components: (1) whether the composition of public spending is wasteful (GCR); and (2) whether resources are targeted where most effective (from the State Capabilities Survey). The characterization of countries along this policy dimension is presented in the second to last column of table 1.

The Overall Index of Quality of Public Policy

The preceding pages have identified a number of key features of public policies: stability, adaptability, coordination and coherence, quality of implementation and enforcement, public regardedness, and efficiency. While there may be other relevant characteristics of public policies that have not been included in the analysis, in combination these should provide a good picture of the quality of policy making in the countries in question.

The various indices could be combined in different ways to come up with an overall index of quality of public policies. This study gives the same weight to each of the key features discussed. That is, it uses the simple average of the different indices. However, the specific method used to aggregate the individual indices into the overall index of quality of public policies (or Policy Index) is not driving the results,[17] or the grouping of countries in the categories shown in the last column of table 1. As in the case of the individual indices, the groupings were done using cluster analysis. In this case Chile, which was significantly above the rest of the countries in the overall Policy Index, could be placed in a category of its own ("very high").

Figure 2 utilizes those subcomponents of our index of quality of policies that come from international data sets, and places the Latin American countries in the international context. The picture we get from figure 2 is consistent with our general assessment. (The correlation between our overall Policy Index and the index using only the international data for the countries in Latin America is 0.91.) Latin American countries as a group do not rank well in indexes of policy quality. Chile ranks high in the international comparison. A few countries (Uruguay, Costa Rica, Mexico, El Salvador, and Brazil) appear around the median of the world. A set of countries including Colombia is in the second quintile from the bottom, and then there is a pack of countries at the lowest end of the distribution.

An important assumption behind the development of these indices was that the features of policies being measured, such as stability, adaptability, and the quality of

FIGURE 2. Quality of Policies—Latin American Countries in the World Context
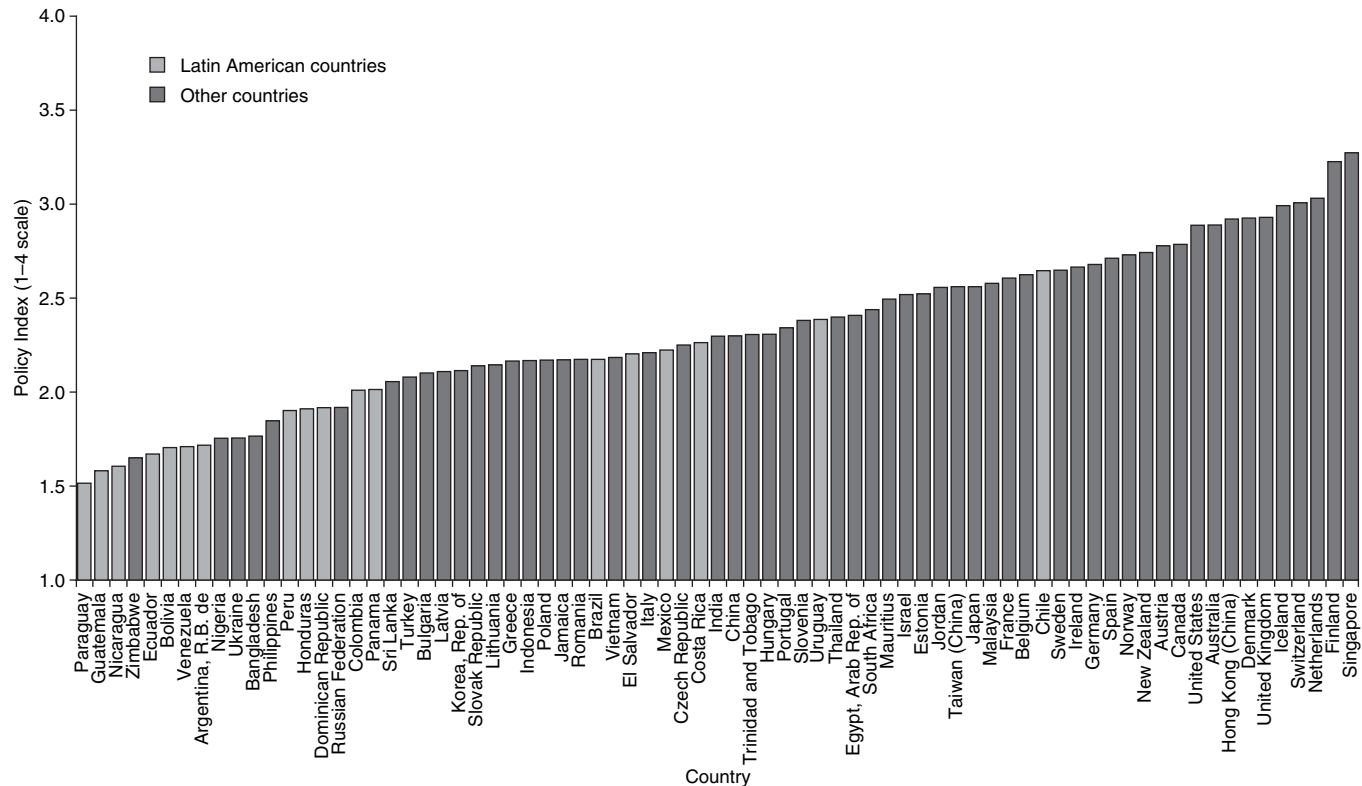
Source: Authors' compilation.

Note: The figure presents the international components of the Policy Index.

implementation, should be important ingredients for economic development. Table 2 provides some evidence in support of this hypothesis by showing the association that exists between the different features discussed, as well as the overall Policy Index, and a number of measures of economic development.

The measures of economic development used are the following:

- Per capita GDP growth, in U.S. dollars at purchasing power parity, between 1980 and 2002 (from the World Bank's World Development Indicators).

- The change in the value of the UNDP's Human Development Index (HDI) between 1980 and 2002. The HDI combines various measures of literacy and life expectancy with GDP per capita, in order to measure a country's achievement in terms of human development.

- The reduction in poverty rates between 1980–90 and 1995–2000 (from the World Bank's World Development Indicators).

- Two different measures of welfare, developed by the World Bank, that combine measures of income with different measures of income inequality, suggested by Amartya Sen and Anthony Atkinson, respectively.[18]

Table 2 presents the correlations between the different components and the overall Policy Index with each of these five measures of welfare. The top panel presents these links for the case of Latin American countries, using the indices that combine international data with the State Capabilities Survey. The lower panel does a similar exercise for a wider sample of developing countries, using international data only. In each cell, the number on top presents simple correlations, while the number on the bottom presents partial correlations, controlling for the effects of initial (1980) per capita GDP, in order to account for potential convergence effects.[19]

The Policy Index is positively associated with each of the measures of development. In 14 out of 16 correlations, the association is statistically significant. In some cases, the correlations are very high. Correlations tend to be higher for the Latin American sample, where the similarities among the countries are greater. The level of significance is higher for the developing country sample, however. This is not surprising, given the increase in the sample size. The individual indexes also correlate well with most of the welfare measures used (with the possible exception of poverty reduction in the Latin American sample, a point that might demand further exploration).

Relating Political Institutions and Policy Outcomes

The framework presented in part I of this paper emphasized that good policy making can be facilitated if political actors have relatively long horizons, and if arenas for the discussion, negotiation, and enforcement of political and policy agreements are relatively encompassing and well-institutionalized. This section follows that lead, and explores some of the characteristics of key political actors and arenas that might enhance good policy making. It is worth noting that the statistical exercises below are severely limited by the small sample size, and should be interpreted as suggestive evidence, in need of further exploration.

TABLE 2. Features of Public Policies and Economic Development

	Stability	Adaptability	Coordination and coherence	Implementation and enforcement	Public regardedness	Efficiency	Policy Index	No. obs
Latin American countries								
GDP per capita growth	0.643 ***	0.543 **	0.722 ***	0.653 ***	0.573 **	0.674 ***	0.700 ***	18
	0.453*	0.445 *	0.505 **	0.545 **	0.287	0.512**	0.509 **	18
Human Development Index (change)	0.202	0.602 ***	0.186	0.519 **	0.199	0.375	0.376	18
	0.418 *	0.782 ***	0.428 *	0.711 ***	0.464 *	0.592 ***	0.614 ***	18
Poverty reduction	0.467 *	0.455	0.427	0.322	0.353	0.372	0.439 *	17
	0.339	0.377	0.268	0.235	0.177	0.226	0.300	17
Welfare Index (Sen)	0.791 ***	0.685 **	0.950 ***	0.688 ***	0.839 ***	0.856 ***	0.871 ***	16
	0.649 ***	0.610 *	0.800 ***	0.590 **	0.639 ***	0.739 ***	0.730 ***	16
Welfare Index (Atkinson)	0.791 ***	0.630 **	0.949 ***	0.635 ***	0.817 ***	0.826 ***	0.843 ***	16
	0.647 ***	0.548 *	0.796 ***	0.528 **	0.605 **	0.704 ***	0.695 ***	16
Developing countries								
GDP per capita growth	0.489 ***	—	—	0.261 *	0.193	0.467 ***	0.420 ***	52
	0.491 ***	—	—	0.331 **	0.236	0.476 ***	0.445 ***	47
Human Development Index (change)	0.215	—	—	0.585 ***	0.485 ***	0.249 *	0.400 ***	52
	0.199	—	—	0.567 ***	0.476 ***	0.283 *	0.393 ***	47
Poverty reduction	0.511 ***	—	—	0.332 **	0.222	0.448 ***	0.461 ***	42
	0.514 ***	—	—	0.327 **	0.202	0.445 ***	0.450 ***	37

Sources: World Development Indicators, various years; Gasparini 2003; authors' compilation.

Note: Simple correlations between policy qualities and political variables are shown in the first row of each subgroup. Partial-out correlations (controlling for GDP per capita of 1980) are shown in it a second row of each subgroup. — = not available.

* Significant at 10 percent.
** Significant at 5 percent.
*** Significant at 1 percent.
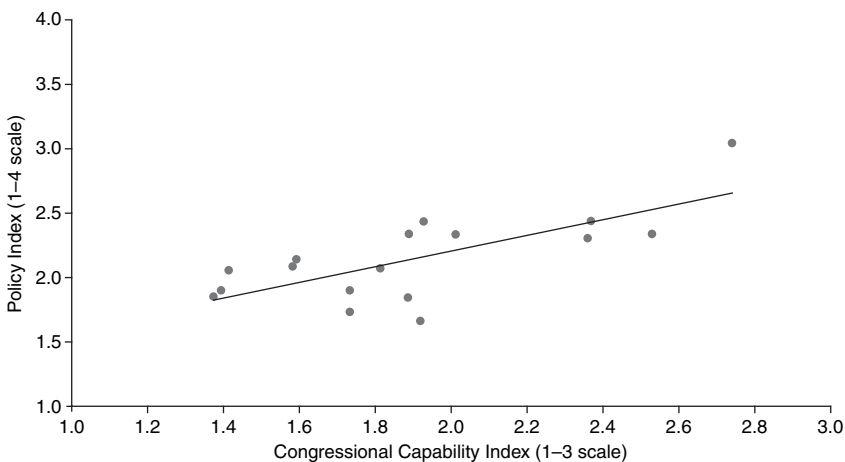
The Policy-Making Capabilities of Congress

Legislatures are critical to the functioning of democracy. Given its constitutional responsibility, the national legislature is the most natural arena for the discussion, negotiation, and enforcement of political agreements. Legislatures include broader representation than the executive branch, and as such they might serve as an arena for intertemporal political agreements among broader societal interests. A legislature made up of professional legislators, with technical capabilities for discussing and overseeing policies, and with adequate organizational structures, could facilitate the development of relatively consensual and consistent (stable) policies over time.

We have constructed an index that attempts to capture the extent to which congress, as an institution, has the capabilities to serve this policy-making function, with focus on some aspects of congress as an organization, as well as on some characteristics of legislators. The index, which is presented in table 3, includes such variables as the strength and specialization of congressional committees, the confidence that the public has in congress as an institution, the level of education and legislative experience of legislators, their technical expertise, and the extent to which congress is a desirable career place for politicians. The first five variables are more objective; the last three are subjective, constructed by Sebastian Saiegh (2005), based on the background material of country studies and a variety of secondary sources, mainly a University of Salamanca survey of legislators (PELA, various years).

Figure 3 presents a scatter plot relating the index of policy-making capabilities of congress to the aggregate index of policy qualities. The positive relation between both variables is quite clear. The correlation is 0.699, and it is significant at the 99 percent level of statistical confidence.

While the figure shows a strong association between the Congressional Capabilities Index and the Policy Index, association does not necessarily mean causality. For example, both variables could be explained by a third one, such as the level of economic development. For this reason, we checked whether the link between these variables

FIGURE 3. Congressional Capabilities and the Quality of Policies

Source: Authors' compilation.

Table 3. Policy-Making Capabilities of Latin American Legislatures

Country	Confidence in Congress, average 1996–2004[a]	Effectiveness of law-making bodies[b]	Average experience of legislators (years)	Percentage of legislators with university education[c]	Average number of committee memberships per legislator	Strength of committees	Place to build career	Technical expertise	Congressional Capability Index
Argentina	20.5	1.6	2.9	69.6	4.50	Medium	Low	Low	1.4
Bolivia	19.9	1.8	3.3	78.4	1.66	Medium	Medium	Medium	1.8
Brazil	24.9	3.1	5.5	54.0	0.92	Medium	High	High	2.4
Chile	36.0	3.7	8.0	79.4	1.95	High	High	High	2.7
Colombia	20.3	2.7	4.0	91.6	0.86	High	High	Medium	2.4
Costa Rica	29.9	2.2	2.6	80.4	2.09	High	Medium	Low	1.9
Dominican Republic	—	2.0	3.1	49.6	3.54	Low	High	Low	1.4
Ecuador	13.3	1.7	3.5	83.1	1.26	High	Medium	Low	1.9
El Salvador	27.7	2.1	3.9	64.0	2.44	Medium	High	Low	1.9
Guatemala	19.9	1.8	3.2	68.4	3.24	Low	Medium	Low	1.4
Honduras	30.8	2.6	3.0	73.1	2.34	Low	Low	Low	1.6
Mexico	27.4	2.0	1.9	89.5	2.43	High	Medium	Medium	2.0
Nicaragua	23.1	1.6	3.5	85.6	1.96	Low	Medium	Medium	1.7
Panama	22.5	1.8	5.8	81.3	1.86	Medium	High	Low	2.0
Paraguay	25.0	2.2	5.5	75.4	3.15	Low	High	Low	1.7
Peru	22.1	1.7	5.2	92.9	2.44	Low	Low	Low	1.6
Uruguay	38.2	2.7	8.8	68.4	0.98	High	High	Low	2.5
Venezuela	27.8	1.4	4.9	74.6	0.97	Medium	Medium	Low	1.9

Source: Authors' compilations.

Note: — = not available.

a. Latinobarometer.

b. World Economic Forum 2004–05.

c. PELA 2002.

survives after controlling for the level of income per capita in 1980.[20] It does. Similar checks were conducted for the case of the other links between the Policy Index (and its components) and the other institutional variables used in this section. Table 4 presents information about the correlation of each of the policy characteristics identified above and each of the political and institutional variables discussed. (For each of the variables, simple correlations are presented in the first row, and partial correlations controlling for GDP per capita in the second row.)

Characteristics of Political Party Systems

Parties are organizations whose function is to represent and aggregate diverse interests. As such, they are naturally encompassing organizations that may facilitate political bargains in the policy-making process.

The structure and organization of political parties and party systems in a country can have an important influence on the policy-making process. Political parties can play a direct role in the policy-making process, but they also can play indirect roles through their interaction with various other institutions. For instance, in some countries (like Chile), parties are important actors in defining and articulating broad policy programs and are able to effectively engage in public policy debates, even when they are in the opposition. But characteristics of the party system also affect the policy-making process somewhat more indirectly, such as by influencing the workability of executive-legislative relations, the possibilities for coordination in congress, and/or the incentives of elected officials to cater to narrower or broader sets of societal interests.

This section focuses on some characteristics of parties and party systems that make parties more encompassing policy players, and explores the effects of these characteristics on the quality of public policies. One important characteristic is their degree of institutionalization. More institutionalized parties and party systems, particularly when parties are programmatic, are more likely to encourage long horizons and to prevent individual politicians from behaving opportunistically. They can also facilitate intertemporal bargains, both within a party and between parties, since the commitments made by current party leaders are more likely to be respected in the future. Another characteristic that might facilitate encompassing parties is their relative focus on national issues, as indicated by measures of party system nationalization. How effectively parties play their roles in the PMP will also depend on the main incentives and orientations of key party actors.

Party system institutionalization and programmatic orientation. In well-institutionalized party systems, parties are likely to have longer horizons and more encompassing interests than individual citizens or individual politicians. Parties are collective identities, with an interest in maintaining or enhancing their reputation over time. Well-functioning parties are likely to be able to control the free rider incentives of individual politicians to engage in activities that give them short-term benefits: whether material benefits in exchange for favors to narrow constituencies, or symbolic benefits of indulging in their personal ideological inclinations. Long-lasting, well-institutionalized parties are more likely to be consistent long-term policy players and contribute to generate intertemporal cooperation.

Table 4. Correlations of Institutional and Political Variables with Features of Policies

	Stability	Adaptability	Coordination and coherence	Implementation and enforcement	Public regardedness	Efficiency	Policy Index	No. obs.
Congressional Index	0.740 ***	0.570 **	0.754 ***	0.503 **	0.624 ***	0.614 ***	0.699 ***	18
	0.722 **	0.543 *	0.752 **	0.472 *	0.601 **	0.606 **	0.679 **	18
Party system institutionalization	0.388	0.150	0.315	0.104	0.041	0.287	0.250	18
	0.401	0.164	0.321	0.120	0.054	0.295	0.263	18
Party system nationalization	0.505 *	0.367	0.409	0.313	0.132	0.496 *	0.420	17
	0.625 **	0.493 *	0.481	0.434	0.221	0.584 *	0.533 *	17
Programmatic parties	0.431	0.478 *	0.478 *	0.351	0.385	0.616 **	0.499 *	18
	0.446	0.495 *	0.486 *	0.370	0.401	0.626 **	0.514 *	18
Judicial independence	0.866 **	0.705 **	0.808 **	0.722 **	0.661 **	0.751 **	0.835 **	18
	0.850 **	0.678 **	0.809 **	0.693 **	0.637 **	0.745 **	0.816 **	18
Cabinet stability	0.450	0.362	0.441	0.352	0.472	0.530	0.464	10
	0.442	0.350	0.440	0.339	0.466	0.525	0.456	10
Share of ministers in civil service	0.613	0.312	0.340	0.420	0.200	0.317	0.411	8
	0.669	0.343	0.463	0.400	0.263	0.383	0.467	8
Civil service development	0.524 *	0.562 *	0.542 *	0.536 *	0.631 **	0.452	0.588 *	18
	0.526 *	0.548 *	0.611 **	0.503 *	0.646 **	0.482 *	0.599 **	18
Proportionality of electoral system	–0.040	0.191	–0.210	0.036	–0.110	–0.208	–0.063	18
	–0.065	0.163	–0.224	0.004	–0.139	–0.226	–0.089	18

Table 4. *continued*

	Stability	Adaptability	Coordination and coherence	Implementation and enforcement	Public regardedness	Efficiency	Policy Index	No. Obs.
Effective number of legislative parties	–0.140	0.060	–0.168	0.019	–0.082	–0.261	–0.110	18
	–0.221	–0.018	–0.214	–0.070	–0.165	–0.325	–0.191	18
Partisan powers of the president	–0.028	–0.168	0.040	–0.043	0.034	0.161	0.001	18
	0.029	–0.108	0.070	0.031	0.100	0.207	0.062	18

Sources: Jones 2005; Martìnez and Gallardo 2005; Iacoviello and Zuvanic 2005; World Economic Forum 2004; and authors' compilation.

Note: Simple correlations between policy qualities and political variables are shown in the first row of each subgroup. Partial-out correlations (controlling GDP per capita of 1980) are shown in italics in the second row of each subgroup.

* Significant at 10 percent.
** Significant at 5 percent.
*** Significant at 1 percent.

A relatively small number of parties that are expected to be around for a long time, alternating in government, is more likely to respect some basic rules of inter-action, and to establish somewhat consensual sustained policy stances on crucial issues (known as "*polÍticas de estado*").[21] Interactions among institutionalized parties with a focus on national policy making can also add credibility and predictability to the policy-making system, complementing or even substituting for well-institutionalized legislative bargaining arenas.

Hence party system institutionalization is expected to have positive effects on key features of policies such as stability. Figure 4 presents the association between an index of party institutionalization developed by Jones (2005)[22] and the Policy Index discussed above. The association between these two variables, although positive, is not very tight. The reason is that the impact of this variable is not straightforward.

In some countries, such as Colombia and to some extent Brazil, policies are rela-tively effective, despite the fact that their party systems are not too institutionalized. In these countries, the institutionalization of policy making seems to take place in other arenas such as congress and the bureaucracy. In both cases, parties are more institutionalized in the congressional arena (for instance in their role in policy com-mittees) than in the electoral arena—which is the one better captured in the index of party system institutionalization utilized in this study.

On the other hand, some parties are reasonably institutionalized, but are more focused on maintaining relatively narrowly based (often geographic) support net-works than on the nature of public policies. Figure 5 shows the values of the Policy Index for different configurations of party system institutionalization and the extent to which parties are programmatic (this last variable is also taken from Jones 2005). The first thing to notice is that there are no countries with programmatic parties that are not institutionalized (that is, the upper-left-hand quadrant of the figure is empty).

FIGURE 4. Party System Institutionalization and the Quality of Policies
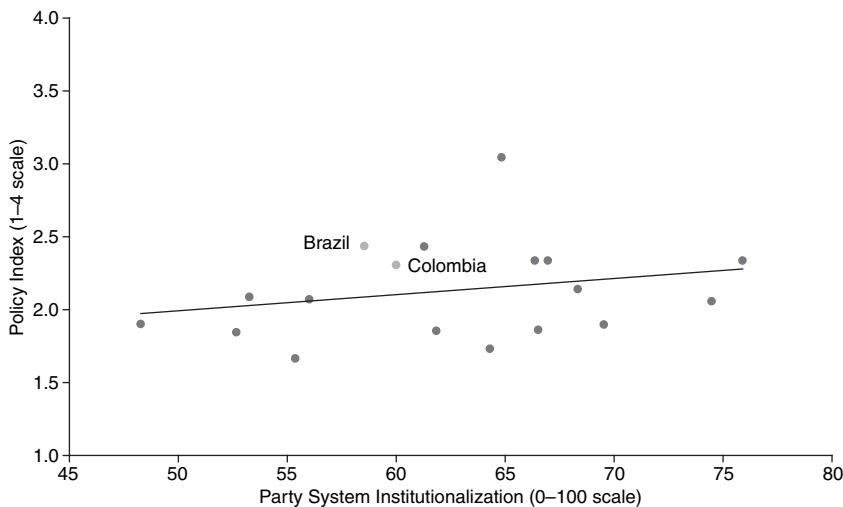
Sources: Authors' compilation; Jones 2005.

FIGURE 5. Party System Institutionalization, Programmatic Orientation, and the Quality of Policies
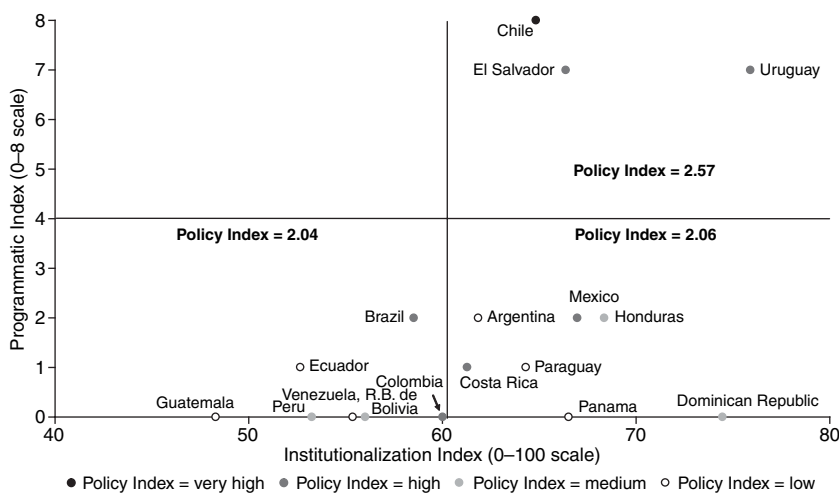
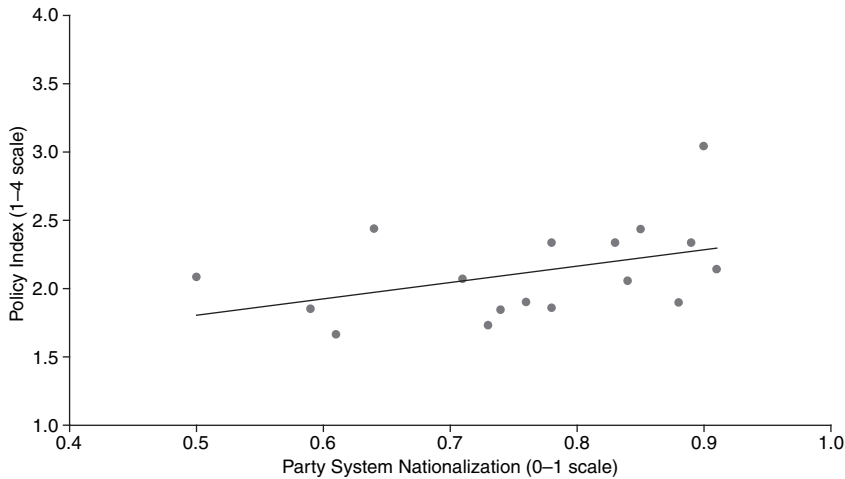Sources: Authors' compilation; Jones 2005.

Note: Boxes show the average value of the Policy Index for the countries in each quadrant. Nicaragua was omitted from this figure because its combined score of programmatic and institutionalization can be misleading.

The figure also suggests that institutionalization does not translate into better policies when parties are not programmatic. Policies are better only when party systems are institutionalized *and* programmatic.[23]

Party system nationalization. In a nationalized party system, parties tend to speak and act with a common national orientation, rather than being divided according to regional or subnational issues and focused upon them. In highly nationalized party systems, national issues are likely to be central in legislators' careers. Under conditions of weak party nationalization, legislators' and politicians' concerns will tend to be less focused on national public policy questions.

More encompassing parties are likely to help generate better national policies. This study utilizes a Party System Nationalization Score from Jones (2005) as index of nationalization of the party system. Figure 6 plots the Policy Index against party system nationalization. The correlation between both variables is 0.420, and it is significant at the 90 percent level. (The correlations are even stronger in the exercise controlling for GDP per capita.)

This result suggests that while having a more geographically decentralized political system may be beneficial in some respects ("getting government close to the people"), it may also have some harmful effects on the quality of national policy making. The potential tension between increasing inclusiveness and representation, on the one hand, and complicating government effectiveness at the national level, on the other, is explored in Stein and Tommasi (2005) and in IDB (2005, chapter 7). Argentina is a case in which a political system that is too strongly anchored in provincial politics and provincial political careers weakens the national policy-making system.[24]

FIGURE 6. Party System Nationalization and the Quality of Policies
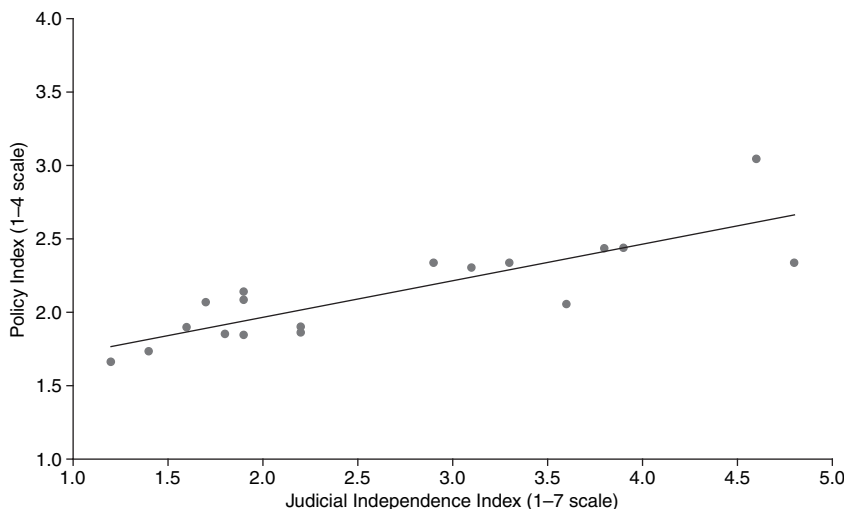

Sources: Authors' compilation; Jones 2005.

Implementation and Enforcement

Policies with good properties are more likely to emerge in more cooperative policy-making environments. Adequate enforcement and implementation facilitate such cooperation and hence strengthen the quality of policies. The judiciary is the most obvious enforcer in the political system. The bureaucracy plays a predominant role in policy implementation and thus some of its characteristics and capabilities are likely to have an effect on the quality of implementation. In addition, the quality of the bureaucracy can also affect the ability of other political actors to bargain and enforce intertemporal policy agreements. In fact, delegation to a competent bureaucracy might in some cases be the way to enforce the intertemporal implementation of political agreements. Ministers and, more broadly, cabinets, also play a key role in the design, discussion, and implementation of public policies in Latin America.

The discussion that follows explores how some characteristics of the judiciary, the cabinet, and the bureaucracy affect the properties of public policies.

The Judiciary. Of all the roles that the judiciary plays in the polity, one is especially important for our framework: the intertemporal enforcement of prior political and policy decisions, as reflected in constitutions and laws. A judiciary that plays this role effectively will improve some properties of public policies, such as stability and quality of enforcement. The Supreme Court or equivalent institution is usually in charge of assuring that the president does not overstep congress, and that neither branch violates the constitution. The judiciary will be less able to perform this role if it is not independent of the executive in power. Figure 7 relates a ranking of de facto judicial independence in Latin America, according to the indices constructed by the World Economic Forum (2003–04)[25] to our Policy Index.

The correlation between those two variables is 0.835, and it is significant at the 99 percent confidence level. Having a rather independent umpire turns out to be

FIGURE 7. Judicial Independence and the Quality of Policies

quite significant for the political game to generate good quality policies. This seems to operate across the board on all policy features analyzed here.

The build-up of an independent judiciary is a complex business, which usually takes a long time. This is suggested by figure 8, which shows a strong correlation of judicial independence with the duration of justices on their benches (0.771, significant at the 99 percent level). Clearly, a Supreme Court whose members change too often is unlikely to build up much independence. Since in most countries it is the president who nominates justices, most Supreme Court justices are likely to be nominated by sitting presidents in countries where the tenure of justices is short. Individual justices who owe their position to the sitting president are less likely to show independence from the executive in their rulings.[26]

The cabinet.   Latin American cabinet ministers, either individually or collectively, play key roles in every stage of the policy process. Characteristics related to the formation, operation, stability, and structure of cabinets are likely to have important effects on the properties of public policies. For instance, a certain degree of cabinet stability is likely to be necessary to promote longer-term policies and to allow ministers to see programs and policy implementation through to completion. Frequent turnover of cabinet ministries is likely to promote a short-term orientation to policy and frequent policy switches. Longer tenures also allow the construction of better relationships with permanent bureaucrats, which are essential to implement policy efficiently. Frequent changes in the cabinet can leave leadership vacuums that may contribute to bureaucratic inertia and even corruption. Longer tenure allows ministers to accumulate valuable expertise specific to the policy area in which they work and to develop political and managerial skills that are likely to improve the quality of their performance in their different policy-making functions.

FIGURE 8. Supreme Court Tenure and Judicial Independence
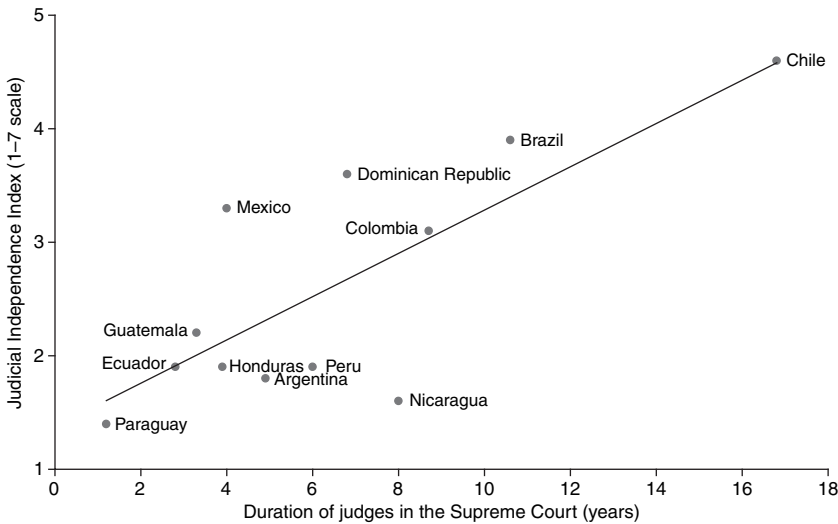
Sources: World Economic Forum 2004; Henisz 2000.

Of the many characteristics of cabinets that might impact on the features of poli-
cies, we focused on two features that are particularly consistent with the emphasis
on long horizons and on institutionalization: the stability/durability of ministers (the
inverse of the number of ministers per portfolio in each administration), and the
fraction of the cabinet (or the top political appointees) that come from a civil service
career (an indicator of institutionalization).[27] As shown in table 4, both variables
have positive correlations with this study's policy features. More stable cabinets are
positively correlated with policy features such as stability, adaptability, and coordi-
nation and coherence. The correlation with the overall Policy Index is 0.464. A large
fraction of top political appointees with civil service background correlates posi-
tively with several of the public policy dimensions discussed earlier, and in particular
with policy stability (correlation of 0.613), as shown in table 4.[28]

The bureaucracy.   A strong and capable bureaucracy is likely to improve the quality
of implementation of public policies. It also has positive feedback effects on other
stages of the policy process. Having a competent and independent bureaucracy onto
which some policy decision making and implementation may be delegated might
facilitate intertemporal agreements, particularly in policy areas that are prone to
politization and political opportunism. In situations in which there is a choice between
rules and discretion, and discretion may lead to political opportunism, delegation to
a technically competent bureaucracy can facilitate adaptability while keeping political
opportunism at bay. Conversely, when a competent bureaucracy is lacking, policies
are more likely to deviate from the public interest. For instance, businesses affected by
economic regulation (or by taxation) are likely to focus their efforts on evading regu-
lation or taxation at the implementation stage. From data in Iacoviello and Zuvanic

(2005), we constructed an index of the development of civil service systems in each of the Latin American countries. This index has a strong correlation with most of the outer features of policy, as shown in table 4. As predicted, a strong bureaucracy seems to prevent the excessive influence of special interests at the implementation stage, leading to public regarding policies. The correlation with the overall Policy Index, depicted in figure 9, is 0.588, significant at the 95 percent level.

Electoral Rules, Party System Fragmentation, and Partisan Powers of Presidents

Several characteristics of presidential democracies (other than the ones emphasized so far in this section) have received considerable attention because of their potential impact on governability (and hence policy making). Some preliminary analysis suggests that several of those predictions do not seem to hold for the measures and countries included in this study, at least at the level of simple and partial correlations. For brevity, only a brief example is discussed here.

The degree of proportionality of representation induced by electoral rules is a feature that has received considerable attention. More proportional electoral rules are expected to lead to better representation, but lower policy effectiveness (Payne and others 2002). More proportional electoral rules, as well as other features of the electoral system, are associated with more fragmented party systems and with presidents with lower partisan powers.[29]

The last three rows of table 4 present traditional measures of these concepts (proportionality of the electoral system, effective number of legislative parties, and contingent of the lower or single chamber in the president's party), and their correlation with policy characteristics. None of these measures seems to correlate significantly with this study's measures of policy effectiveness. This seems to suggest that it is difficult to

FIGURE 9. Development of the Civil Service and the Quality of Policies
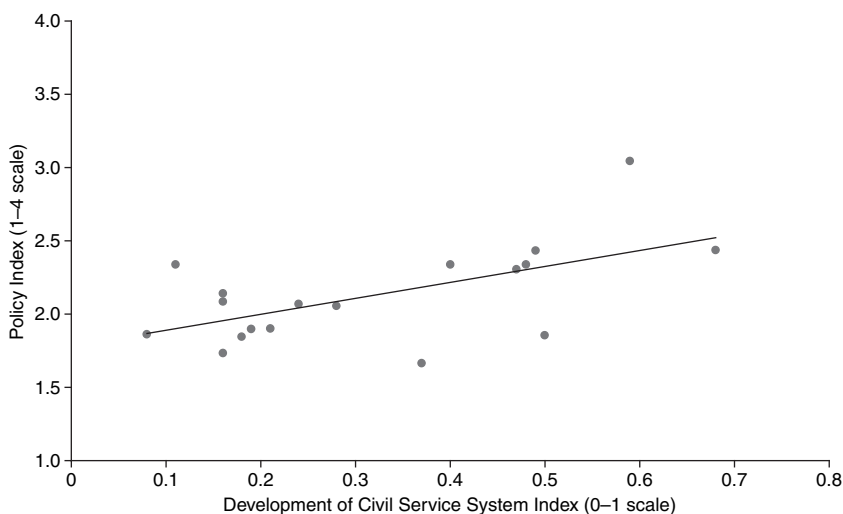
Sources: Authors' compilation; Iacoviello and Zuvanic 2005.

generalize about direct effects of some institutional rules and political configurations on the nature of policy making and the characteristics of policies. As this study's framework suggests, more interactive and nuanced analysis seems to be necessary. That is a strong motivation for the type of country studies advocated here.

Summing Up

Table 5 summarizes the information about some of the main correlations identified in this section. We have ordered the countries as a function of the value of their Policy Index, presented in the second column. The columns that follow present the values of some of the key variables identified in the previous analysis. (We have added a variable called "Incentives of the President," which we have not included in the analysis above because of sample size problems, but which is useful in the interpretation we provide below).[30] Cases in which the country has a relatively high value of the variable in question are shaded in dark grey. Cases of intermediate values are shaded in light grey. Cases of relatively low value are not shaded.

Countries with high values of the Policy Index tend to have high values in many of the institutional variables emphasized by this study. Notice the country that has the highest value of the Policy Index: Chile. All the corresponding cells, with the exception of that corresponding to party institutionalization, are dark grey, indicating high values in each category.[31] At the other end of the spectrum, countries with the lowest values of the Policy Index tend to have mostly white or light grey cells.

More generally, the table clearly shows that some of the main behavioral characteristics are interrelated. The high concentration of dark cells in the upper part of the table suggests that the variables are not independent. For instance, countries with stronger congresses tend to be countries with more independent judiciaries, and also with better policies.

This is not surprising, from the standpoint of this study's theoretical framework and the background country studies. Several of the "institutional" variables, such as having a strong congress heavily involved in policy making, or an independent Supreme Court, are the reflection of the equilibrium behavior of a number of relevant political actors. If a Supreme Court is able to maintain or develop its independence over time, it is because it is in the best interest of other relevant actors (such as the president) not to tinker with the Supreme Court in pursuit of short-term political benefits. Strong congresses and independent judiciaries are not built overnight, but are the outcome of processes of investing in the quality and credibility of such institutions. Such processes are interrelated.

These processes in some cases can lead to equilibria characterized by virtuous dynamics. Executives will not tinker with the composition of the Supreme Court, and this will help increase the Court's independence and reputation. Strong and independent judiciaries will tend to adequately enforce the domain and prerogatives of other institutional arenas such as congress, which will then enhance the incentives of legislators to invest in their individual and collective capabilities, and so forth.

But these processes can also result in vicious institutional dynamics, where the opposite will tend to happen. In such cases, executives may be inclined to tinker with

Table 5. Political Institutions and the Qualities of Policy

Country	Policy Index	Incentives of the president	Congressional Index	Judicial independence	Party system institut.	Party system nationaliz.	Programmatic parties	Development of civil service
Chile	3.04	2.00	2.74	4.60	65	0.90	8.00	0.59
Brazil	2.44	2.00	2.37	3.90	59	0.64	2.00	0.68
Costa Rica	2.43	2.00	1.93	3.80	61	0.85	1.00	0.49
El Salvador	2.34	2.00	1.89	2.90	66	0.83	7.00	0.11
Uruguay	2.34	2.00	2.53	4.80	76	0.89	7.00	0.48
Mexico	2.34	2.00	2.01	3.30	67	0.78	2.00	0.40
Colombia	2.30	2.00	2.36	3.10	60		0.00	0.47
Honduras	2.14	2.00	1.59	1.90	68	0.91	2.00	0.16
Peru	2.09	1.00	1.58	1.90	53	0.50	0.00	0.16
Bolivia	2.07	1.00	1.81	1.70	56	0.71	0.00	0.24
Dominican Republic	2.06	1.00	1.41	3.60	74	0.84	0.00	0.28
Guatemala	1.90	1.00	1.39	2.20	48	0.76	0.00	0.21
Nicaragua	1.90	1.00	1.73	1.60	70	0.88	8.00	0.19
Panama	1.86	1.50	1.96	2.20	67	0.78	0.00	0.08
Argentina	1.85	1.00	1.37	1.80	62	0.59	2.00	0.50
Ecuador	1.84	1.00	1.89	1.90	53	0.74	1.00	0.18
Paraguay	1.73	1.00	1.73	1.40	64	0.73	1.00	0.16
Venezuela	1.66	1.00	1.92	1.20	55	0.61	0.00	0.37

Sources: Jones 2005; Iacoviello and Zuvanic 2005; World Economic Forum 2004; authors' compilations.

Note: In the first column countries are ordered by their Policy Index value. In the following columns the value for each political variable is given and colored accordingly such that dark gray represents a "high" value of that particular variable, light gray is "medium," and white is "low."

the judiciary and to overstep in the domains of congress, lowering the incentives to invest in important legislative careers and on the institutionalization and strengthening of congress.

This discussion suggests that the incentives of presidents, the strength of congress, and the independence of the Supreme Court are likely to be co-determined in equilibrium, and all these things together are likely to have an effect on the quality of policies. This suggests the presence of multiplicity of equilibria. If for any reason a particular political system enters in to a virtuous circle, it is likely to build up its strength over time. The opposite will tend to happen when such virtuous circles do not have time to build or are broken.[32] This suggests that particular historical events or critical political junctures, including personalities and leadership qualities, will matter—inducing *path dependence*.

Studying the way in which such different institutional characteristics are built over time would require theoretically structured (historical) comparative country studies that could pay special attention to the interaction between institutions and the specificities of political cleavages and socioeconomic structures behind the economic and social policies implemented in each country at each point in time. Such studies constitute the next steps in this agenda.

Notes

1. These country studies were conducted as part of the Inter-American Development Bank Research Network project on "Political Institutions, Policy-Making Processes, and Policy Outcomes."
2. See, for example, Acemoglu, Johnson, and Robinson (2001, 2002).
3. These discussions have also been addressed by some important work on political economy by economists. For instance, Persson and Tabellini (2000, 2003) study the impact of different forms of government and electoral rules on a number of fiscal policy outcomes. See also Drazen (2000).
4. An expanded description of this framework is provided in Spiller, Stein, and Tommasi (2003).
5. See, for example, Barro and Gordon (1983); Calvo (1996, section V); Drazen (2000, section II); Levy and Spiller (1996); Rodrik (1989).
6. Rodrik (1989, p. 2). For models formalizing the effects of policies of uncertain duration in several economic contexts, see Calvo (1996, section V) and Calvo and Drazen (1998).
7. The papers can be found at http://www.iadb.org/res/network_study.cfm?st_id=82.
8. Time horizons are very important determinants of political behavior. Actors with long horizons are much more likely to enter into the intertemporal agreements necessary to sustain effective policies. By contrast, actors with short horizons will tend to maximize short-term political and policy benefits, to the detriment of long-term institutional build-up, and of the credibility and quality of policies. This emphasis on time horizons draws inspiration from an important literature on institutional economics, and its application to politics. See, for instance, Dixit (1996) and references there.
9. These papers were background studies for the Inter American Development Bank's 2006 Economic and Social Progress Report (IPES) (IDB 2005).
10. This link between cooperation and features of public policies such as stability, adaptability, and coordination has been modeled by Spiller and Tommasi (2003).

11. For the first, see the countries studies at http://www.iadb.org/res/network_study.cfm? st_id=82. For the second, see for instance Navarro (2005), Bergara and Pereyra (2005), and Lora, Cárdenas, and Mercer-Blackman (2005). For comparative studies of the workings of specific political actors and arenas, see the references in the next section. Historical analyses of the evolution of some institutions constitutes the next step in the agenda.

12. See Stein and Tommasi (2005) for more details on the survey.

13. The series for each country was de-trended before calculating the standard deviation, so that countries that moved steadily toward more (or fewer) free market policies throughout the period were not characterized as having volatile policies.

14. On the basis of the resulting index, cluster analysis techniques were applied to group countries in different categories for this dimension of public policy. The country groupings for this dimension, as well as the other dimensions discussed in the following pages, are reflected in the corresponding column in dark grey (high), light grey (medium), and white (low) in table 1.

15. As in the case of adaptability, however, the index is based on just two questions from the State Capabilities Survey, so the rankings for this category are probably not as reliable as some of the others, which are based on a wider range of variables.

16. This dimension might be tied to inequality, since those favored by private regarding policies might be the members of elites, who are the ones who have the economic and political clout to skew policy decisions in their favor.

17. The correlation between the resulting overall index with an alternative where the different qualities are weighed according to the number of subcomponents in each of them (six in the case of stability, two in the case of adaptability, and so on) is 0.99. See Stein and Tommasi (2005) for more details.

18. See Gasparini (2003) for a discussion of the welfare indices.

19. In the case of partial correlations, the idea is to check whether countries whose Policy Index is higher than expected, given their initial per capita GDP, tend to have development indicators that are also higher than expected, given their initial income.

20. This was done by using partial correlations instead of simple correlations. In the case of partial correlations, the idea is to check whether countries whose Congressional Capabilities Indexes are higher than expected, given their income level, tend to have Policy Indexes that are also higher than expected, given their income level.

21. At the same time, there are cases in which party systems are highly institutionalized and produce relatively effective policies, but at the cost of curbing political participation. Venezuela throughout the 1960s, 1970s, and 1980s is a case in point. See Monaldi and others (2005) and references there.

22. The index incorporates the four dimensions of party system institutionalization identified by Mainwaring and Scully (1995): stability of inter-party competition; extensiveness of party roots in society; legitimacy of parties and elections; and strength of party organization. For more details, see Jones (2005) and IDB (2005).

23. Notice again, that the very small sample size forces us to interpret these results as just suggestive of issues requiring further exploration.

24. See Spiller and Tommasi (2003, forthcoming); Ardanaz, Leiras, and Tommasi (2005).

25. See also Sousa (2005).

26. See, for instance, Iaryczower, Spiller, and Tommasi (2002).

27. See Martínez-Gallardo (2005) and Rauch and Evans (2000).

28. The correlation of fraction of ministers with civil service careers with the overall policy index is 0.411. While it is not statistically significant, this is due to the very small size of the sample of countries (eight) for which cabinet data are available. Statistical significance is too demanding a criterion to impose on such a small sample.

29. See Jones (2005) and Payne and others (2002) for a discussion of the various institutional sources of party system fragmentation and of partisan powers of presidents.

30. See Stein and Tommasi (2005) for more details.

31. While we use the conventional measure of party system institutionalization computed by Jones (2005), we believe that such measure underestimates the actual party system institutionalization in Chile.
32. See Mailath, Morris, and Postlewaite (2001).

References

Acemoglu, Daron, Simon Johnson, and James Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91 (5): 1369–1401.

———. 2002. "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." *Quarterly Journal of Economics* 117 (November): 1231–94.

Ardanaz, Martín, Marcelo Leiras, and Mariano Tommasi. 2005. "Beyond Plaza de Mayo: Provincial Party Bosses in Argentina." Universidad de San Andrés, Argentina.

Barro, Robert J., and David B. Gordon. 1983. "A Positive Theory of Monetary Policy in a Natural-Rate Model." *Journal of Political Economy* 91 (4): 589–610.

Bergara, Mario, and Andrés Pereyra. 2005. "El proceso de diseño e implementación de políticas y las reformas en los servicios públicos." Paper prepared for workshop on "State Reform, Public Policies, and Policy-Making Processes," Inter-American Development Bank, Washington DC, February 28–March 2.

Calvo, Guillermo. 1996. *Money, Exchange Rates, and Output*. Cambridge, Mass.: MIT Press.

Calvo, Guillermo, and Allan Drazen. 1998. "Uncertain Duration of Reform: Dynamic Implications." *Macroeconomic Dynamics* 2 (4): 443–55.

Cox, Gary W., and Matthew D. McCubbins. 2001. "The Institutional Determinants of Economic Policy Outcomes." In *Presidents, Parliaments, and Policy*, ed. Stephen Haggard and Matthew D. McCubbins, 52–8. New York: Cambridge University Press.

Dixit, Avinash K. 1996. *The Making of Economic Policy: A Transaction-Cost Politics Perspective*. Cambridge, Mass.: MIT Press.

Drazen, Allan. 2000. *Political Economy in Macroeconomics*. Princeton: Princeton University Press.

Fraser Institute. Various years. *Economic Freedom of the World*. www.freetheworld.com

Gasparini, Leonardo. 2003. "Different Lives: Inequality in Latin America and the Caribbean." In *Inequality in Latin America: Breaking with History?* ed. David de Ferranti, Guillermo E. Perry, Francisco H. G. Ferreira, and Michael Walton. Washington, DC: World Bank.

Henisz, Withold. 2000. "The Institutional Environment for Multinational Investment." *Journal of Law, Economics, and Organization* 16 (2): 334–64.

Iacoviello, Mercedes, and Laura Zuvanic. 2005. "El rol de la burocracia en el PMP en América Latina." Inter-American Development Bank, Washington, DC.

Iaryczower, Matías, Pablo T. Spiller, and Mariano Tommasi. 2002. "Judicial Independence in Unstable Environments. Argentina: 1935–1998." *American Journal of Political Science* 46 (4): 699–716.

IDB (Inter-American Development Bank). 2005. *The Politics of Policies*, Economic and Social Progress in Latin America and the Caribbean 2006 Report. Washington, DC: IDB.

Jones, Mark P. 2005. "The Role of Parties and Party Systems in the Policy-Making Process." Paper prepared for Inter-American Development Bank workshop on "State Reform, Public Policies, and Policy-Making Processes," Washington, DC, February 28–March 2.

Levy, Brian, and Pablo T. Spiller. 1996. "The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation." *Journal of Law, Economics and Organization* 10: 201–46.

Lora, Eduardo, Mauricio Cárdenas, and Valerie Mercer-Blackman. 2005. "The Policy-Making Process of Tax Reform in Latin America." Inter-American Development Bank, Washington, DC.

Mailath, George, Stephen Morris, and Andrew Postlewaite. 2001. "Laws and Authority." Yale University, Department of Economics, New Haven, Conn.

Mainwaring, Scott, and Timothy R. Scully. 1995. *Building Democratic Institutions: Party Systems in Latin America*. Cambridge, Mass.: Cambridge University Press.

Martínez-Gallardo, Cecilia. 2005. "The Role of Latin American Cabinets in the Policy-Making Process." Inter-American Development Bank, Washington, DC.

Monaldi, Francisco, Rosa Amelia González, Richard Obuchi, and Michael Penfold. 2005. "Political Institutions, Policy-Making Processes, and Policy Outcomes in Venezuela," Research Department, Inter-American Development Bank. http://www.iadb.org/res/laresnetwork/projects/pr231finaldraft.pdf.

Navarro, Juan Carlos. 2005. "The Education Policy-Making Process in Latin America: How It Works and How It Connects with Its Context." Inter-American Development Bank, Washington, DC.

Payne, J. Mark, Daniel G. Zovatto, Fernando Carrillo Flórez, and Andrés Allamand Zavala. 2002. *Democracies in Development: Politics and Reform in Latin America*. Washington, DC: Inter-American Development Bank.

PELA. Various years. "*Proyecto elites parlamentarias en América Latina*." Instituto Interuniversitario de Estudios de Iberoamérica, Portugal, and Universidad de Salamanca, Spain.

Persson, Torsten, and Guido Tabellini. 2000. *Political Economics: Explaining Economic Policy*. Cambridge, Mass.: MIT Press.

———. 2003. *The Economic Effects of Constitutions: What Do the Data Say*? Cambridge, Mass.: MIT Press.

Rauch, James E., and Peter B. Evans. 2000. "Bureaucratic Structure and Bureaucratic Performance in Less Developed Countries." *Journal of Public Economics* 75: 49–71.

Rodrik, Dani. 1989. "Credibility of Trade Reform—A Policy Maker's Guide." *The World Economy* 12 (1): 1–16.

———. 1995. "Political Economy of Trade Policy." In *Handbook of International Economics,* vol. 3, ed. Gene M. Grossman and Kenneth Rogoff. Amsterdam: Elsevier Science.

Saiegh, Sebastián M. 2005. "The Role of Legislatures in the Policy-Making Process." In *The Politics of Policies,* Economic and Social Progress in Latin America 2006 Report. Washington, DC: Inter-American Development Bank.

Sousa, Mariana. 2005. "Judicial Reforms, the PMP, and Public Policy." Inter-American Development Bank, Washington, DC.

Spiller, Pablo T., and Mariano Tommasi. 2003. "The Institutional Determinants of Public Policy: A Transaction Approach with Application to Argentina." *Journal of Law, Economics, and Organization* 19 (2): 281–306.

———. Forthcoming. *The Institutional Foundations of Public Policy: A Transactions Theory and an Application to Argentina.* New York: Cambridge University Press.

Spiller, Pablo T., Ernesto Stein, and Mariano Tommasi. 2003. "Political Institutions, Policy-Making Processes, and Policy Outcomes. An Intertemporal Transactions Framework." Inter-American Development Bank, Washington, DC.

Stein, Ernesto, and Mariano Tommasi. 2005. "Political Institutions, Policy-Making Processes, and Policy Outcomes. A Comparison of Latin American Cases." Inter-American Development Bank, Washington, DC.

Weaver, R. Kent, and Bert A. Rockman. 1993. "Assessing the Effects of Institutions" and "When and How Do Institutions Matter?" In *Do Institutions Matter?* ed. R. Kent Weaver and Bert A. Rockman. Washington, DC: The Brookings Institution.

World Bank. Various years. *World Development Indicators*. Washington, DC: World Bank.

World Economic Forum. Various years. *Global Competitiveness Report*—Executive Opinion Survey. http://www.weforum.org/.

Lowering the Cost of Capital in Emerging Market Economies

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Corporate governance and bankruptcy in emerging market economies should be understood in a broader framework of corporate finance in institutionally weaker environments. In this conceptual paper we provide the outlines of such a framework and identify key trade-offs that can help structure the policy debate. As debt financing from banks is the major source of finance for companies in these economies and bankruptcy is the crucial mechanism for protecting investor rights, corporate governance and bankruptcy reforms are intimately linked. The priorities for these reforms depend critically on the specific institutional context. Consequently, they may differ across countries. In particular, the policy recommendations for emerging market economies are substantially different from those in OECD countries; there is no "one-size-fits-all" solution. Recognizing the need for diverse policy solutions that fit the cultural, political, and economic environment of each particular country, our paper focuses on the core economic principles and mechanisms of corporate governance and bankruptcy in emerging market economies and how they can help us understand the costs and benefits of various policy options.

Introduction

Corporate governance and bankruptcy are central to the policy discussion in emerging market economies (EMEs). In principle, all major corporate governance and bankruptcy issues and solutions in developed economies are pertinent for EMEs. However, many core debates in the United States and other developed countries mainly deal with public corporations with dispersed ownership, and thus are of less immediate concern to

EMEs. For example, issues relating to independent directors and the functioning of boards, executive compensation, hostile takeovers, or shareholder activism, which pervade the financial pages of the *Wall Street Journal* and the *Financial Times*, are not burning issues for most EMEs. Similarly, debates relating to whether debtors should be allowed to remain in possession of the firm after having declared bankruptcy, or whether there should be stricter limits on courts' authority to grant new priority financing, as interesting and pertinent as they are for mature market economies, may not be the priorities of bankruptcy reform for EMEs. Unfortunately but understandably, most of the existing academic literature on corporate governance and bankruptcy deals with such issues.

In contrast, the key corporate governance and bankruptcy issues in EMEs have to do with bank-financed, privately held small- and medium-size firms and with the role of the state in managing the largest corporations. The main corporate governance and bankruptcy concern in EMEs has to do more with credit rationing caused by poor enforceability of debt contracts and asymmetric information than with self-dealing by managers of publicly traded corporations. Banks and the state play a more dominant economic role in EMEs and the issues that are of concern for large, widely held corporations in developed economies mainly show up at the level of bank governance and state intervention. EMEs also face a relatively higher shortage of capital, and governance issues are mainly concerned with the problem of lowering the cost of capital and fostering business investment.

In this paper, we sketch a framework for the analysis of corporate governance and bankruptcy in EMEs and identify trade-offs that can help inform the policy debate. Despite important cross-country differences, lack of enforcement and market failures compounded by government failures are overriding concerns for corporate governance and bankruptcy, implying that these institutions should be analyzed within the same framework.

Corporate Governance, Bankruptcy, and Economic Development

Many if not most emerging market economies are currently enjoying extraordinarily easy access to financial capital. In our view, this situation is in large part a reflection of the extended period of high growth in developed markets. A global downturn is likely to change investors' willingness to absorb emerging market risk. Previous experiences, most recently the Asian and Russian crises in the late 1990s, suggest that it is in these situations that a country's institutions are truly tested.

We shall take as our starting point the common observation that a typical emerging market country has an abundant supply of cheap labor but lacks physical and human capital. The main economic reason why per capita income is low in most developing countries (by the standard of somewhat simplistic neoclassical economic reasoning) is that hourly productivity of the average worker is low. And, hourly productivity is low because physical and human capital are both low. In addition, the technology of production and basic infrastructure in place in most EMEs normally lags significantly behind the more advanced industrial economies.

This reasoning has led many economists to the conclusion that the transition out of underdevelopment can be accelerated by easing the flow of capital from

capital-rich countries, where the marginal return on capital is relatively low, to the capital-deprived EMEs. However, it is remarkable that, even as global financial markets have become increasingly integrated, the capital per worker differentials between high-income and low-income countries remain large. Indeed, as Gourinchas and Jeanne (2006) and others have documented, countries that are not members of the Organisation for Economic Co-operation and Development (OECD) have so far benefited very little from financial integration, with the striking exception of China and other South-East Asian Tigers before the 1997 crisis. Why are capital flows between high-income and low-income countries are so low? Why aren't capitalists grabbing what appear to be free arbitrage gains by moving their investments from high-income to low-income countries?[1]

There are many important obstacles to the flow of capital to EMEs—such as the lack of transport infrastructure, cultural and linguistic barriers, and low education and human capital in the host country—but what appears to be generally true is that differences in capital concentration across countries are larger than regional differences within countries. Thus, country-specific institutional obstacles—the way countries are run; their political and legal systems—are likely to be among the most significant factors hindering the flow of capital to its highest value use.[2] Gourinchas and Jeanne (2006) estimate a country's so-called *capital wedge* (an implicit or explicit country "tax" on capital income). They find that the capital wedge is higher in low-income countries and lower in middle-income countries, including, in particular, the fast-growing economies of China, India, and South-East Asia. What drives the cross-country difference in the capital wedge?

Of course, capital may not flow to developing countries because economic returns are low—for example, human capital is weak or infrastructure is poor—or because macroeconomic risks are high. However, capital flows may also be low because *private returns* to new investment in physical and human capital in emerging market economies are low. Three kinds of factors influence these returns. First, investors must be better protected from expropriation (they must have incentives to provide capital). Second, firms must be efficiently governed (capital provided by investors must be allocated correctly). Third, human capital matched with physical assets must be efficiently used (hence individuals must have incentives to accumulate human capital and not take it out of the country).

These three factors constitute the problem of corporate governance, broadly defined both as protection of investors (Shleifer and Vishny 1997) and as protection of quasi-rents generated by firm-specific investments (Zingales 1998). Indeed, capital income suffers both from the outright expropriation in favor of insiders and other stakeholders and from the waste due to inefficient governance, suboptimal incentives, and internal misallocations. Moreover, the two sides of corporate governance are often interrelated: expropriation of outside investors may be costly for internal efficiency, as discussed in Jensen (2005) and Friebel and Guriev (2005).

Effective corporate governance can also improve allocation of risks and reduce transactions costs of bargaining over rents (Zingales 1998). Both are very important in emerging market economies, where insurance markets are not developed, legal adjudication is costly, macroeconomic imbalances are large, and political risks are high.

As a result, the risk premium in EMEs is higher for investments in both physical capital and human skills. Macroeconomic instability and weak institutions are interdependent. Improvements in the protection of outside investors, governance inside firms, and incentives to accumulate human capital are likely to contribute to more stable economic and political conditions. At the same time, a more stable macroeconomic environment is in itself an important determinant of investment decisions.

The Role of the State in Emerging Markets

The role of the state in EMEs is complex. The often-lower quality of EME governments and more widespread corruption can result in a higher cost of government intervention. Far too often *government failures* reinforce rather than make up for market failures (see Stulz 2005, who argues that the "twin agency" problem of investor expropriation by both insiders and government may fatally undermine investment). When faced with basic government shortcomings, it is tempting to conclude that the path to reform inevitably requires the disengagement of the state from economic management and control. Indeed, a central tenet of development advice of the World Bank, the International Monetary Fund (IMF), and other development agencies has been to encourage privatization around the world as a way of scaling back the role of ineffective and corrupt governments.

As shown in Megginson (2005), in the majority of instances (for which data are available) privatizations have also been liberating and led to faster development and growth both at the firm level and at the level of economy. But there have also been situations where privatization has achieved little and may have been counterproductive (see, for example, Brown, Earle, and Telegdy 2006). One important concern with unbridled privatizations, for example, is that they may replace an admittedly dysfunctional institution (a corrupt and inefficient state owner) with an institutional vacuum. Moreover, the process of privatization itself may be corrupt and may simply magnify an underlying government corruption problem and result in illegitimacy of property rights.

In addition, as there are many more market failures in EMEs, there is a greater scope for the government intervention. In the face of these potential problems, privatization is not necessarily the best way to resolve the initial governance problem of a dysfunctional and corrupt state, at least in the absence of complementary institutional reforms. If politically feasible, a more complex and more painstaking gradual improvement of the workings of government may ultimately be a more successful and sustainable approach to development. If the allocation of investment funds and government procurement is corrupt and inefficient, then perhaps the direct reform of procurement processes and closer oversight of the management of state assets may be a more fruitful reform than the radical and ultimately illusory disengagement of the state from economic affairs through mass privatization. Without a critical mass of private owners, however, it is not clear whether a deep reform of the government can either be called for or effectively monitored by society (Boycko, Shleifer, and Vishny 1995).

Finally, there is a potential role for the state as a facilitator and catalyst of institutional change, but when it cannot disengage from the ownership and management

of individual firms it easily gets bogged down by the sheer resources required. More-over, conflicts of interests arising from the involvement in individual firms may undermine the development impact of any effort to resolve coordination problems.

Our Approach

Not only are there different reasons for the low private returns to capital in many emerging market economies, but different solutions may also be needed. Even in mature market economies, there is no first best solution to the problems of corpo-rate governance and bankruptcy. In reality, there is considerable variation in legal rules and institutions across countries and over time. Optimal corporate governance and bankruptcy institutions are necessarily second best solutions to multiple collec-tive action and moral hazard problems. Since the nature and extent of the collective action and moral hazard problems are likely to vary considerably across firms and countries, the same corporate governance institutions cannot be appropriate for all firms and countries. There is no "one-size-fits-all" solution.

Recognizing the need for diverse policy solutions that fit the cultural, political, and economic environment of each particular country, our paper focuses more on the common economic principles and mechanisms of corporate governance and bankruptcy across EMEs and attempts to identify the costs and benefits of various policy options. It is useful to acknowledge that not only do different environments call for different policy responses (see Skeel 2004), but also that the enforcement of the same law or policy may be very different in different countries (Berkowitz, Pistor, and Richard 2003).

Key Trade-Offs in Corporate Governance in EMEs

Corporate governance is the end result of a complex interaction between a number of mechanisms constraining management of a firm, allowing it to commit to certain corporate strategies and future payouts of profits. Large blockholdings of equity are probably the most direct mechanism. Holders of such blocks need to find ways to commit themselves toward management and investors with minority stakes: for exam-ple, by listing on exchanges offering a strong regulatory framework and potentially opening themselves to takeovers. Governance by commercial banks may also facilitate commitment for managers and controlling owners. However, concentration of own-ership reduces liquidity of equity markets and reduces the power of market for corpo-rate control and the board of directors as corporate governance mechanisms.

In reforming corporate governance, policymakers face a number of important trade-offs and dilemmas.

Developing a Broad Stock Market or Encouraging Delisting?

Stock market development involves protection of minority shareholders, which may reduce mobility in the market for corporate control and slow down ownership consolidation. On the contrary, policies promoting delisting—such as squeeze outs,

freeze outs, and breakthrough rules—encourage more efficient takeovers but undermine broad share ownership (Berglof and Burkart 2003). Insofar as the benefits of concentrated ownership outweigh its costs, mobility in the control market is preferable. This trade-off is especially salient in Central and Eastern Europe, where after very different reform paths, ownership has become increasingly concentrated and stock markets remain shallow (Berglof and Bolton 2002; Berglof and Pajuste 2003). However, investors' willingness to take large control blocks is undermined when controlling owners are made too easy to replace: for example, through rules restricting their ability to exercise their control when faced with a takeover threat, such as in the so-called "break-through" rule discussed in the context of the European Union takeover directive.

Where possible, the trade-off between stock market development and effective governance by controlling shareholders is best resolved at the firm level rather than at the country level. The policies should aim at lowering the costs of self-selection into listed and nonlisted companies. The limited enforcement capacity should then be focused on the public companies, strengthening the commitment value of going public.

Transparency versus Business Secrecy

Enforcing disclosure is one of the major tools for reducing costs of outside financing (LaPorta, Lopoez-de-Silanes, and Shleifer 2006). Yet disclosure may constrain managerial initiative and increase the risks of expropriation by the government. This is why the optimal disclosure depends on firm-level characteristics such as investment opportunities, ownership structure (Ostberg 2005), and the political risk, which can also be firm-specific (Goriaev and Sonin 2005). Hence, mandatory disclosure rules may be socially suboptimal.

In addition, too much transparency can be costly for businesses whose comparative advantages are more efficient business processes or production technologies. For example, firms in the United States approach special financial intermediaries such as venture capitalists, whose reputational concerns prevent them from abusing access to information. Yet the venture capital market does rely substantially on a developed legal system (Kaplan, Martel, and Stromberg 2004) and may not function well in most emerging market economies.

In designing and enforcing transparency requirements, focus should again be given to those aspects of information that truly enhance the commitment ability of firms. Disclosure of the governance arrangements themselves, in particular a firm's ownership and control structure, should be a basic element in any transparency policy. At the same time, it is important not to overburden small firms with demands of information. Encouraging the development of information intermediaries is a viable alternative.

Courts versus Regulators

Glaeser, Johnson, and Shleifer (2001) argue that aggressive regulation of securities markets may outperform reliance on courts in transition economies. They explicitly model the incentives of judges and regulators and show that in some cases the

politically motivated regulators may be better suited for environments with weak institutions. In particular, they argue that strong regulation helped the Polish stock market overtake the Czech one in the 1990s. Yet their analysis implies that the optimal solution would be very different for different emerging market economies. Later evidence suggests, however, that regulatory enforcement, at least of transparency requirements, is lower and deteriorating in Poland, where as the Czech Republic has gone through a remarkable improvement in recent years (Berglof and Pajuste 2003).

China represents a very special case where all listed companies are government owned and both judges and regulators are government controlled. Thus one would expect both courts and regulators to exhibit a pro-government bias. Yet China has managed to provide political incentives through yardstick competition. As the central government has set regional listing quotas, the securities regulator, the China Securities Regulatory Commission, has engaged the support of provincial governments to select and regulate listed companies (Du and Xu 2005). Such a federalism-based incentive structure is not costless, however. Boyreau-Debray and Wei (2005) show that capital mobility across Chinese provinces is actually surprisingly low.

We are not convinced that there is a simple choice between courts and regulatory intervention. Most of the time, the two mechanisms complement each other. It is not obvious that one of the mechanisms is more sensitive than the other to broader institutional environment. The Chinese example suggests that they are both susceptible to external influence, particularly by the government. Again, China offers an example of how the government can improve its ability to commit not to intervene by delegating decisions.

Corporate Law and Regulation versus Corporate Chapters and Codes

As argued above, corporate governance in EMEs may be voluntarily improved by individual firms (Durnev and Kim 2005). Yet even as uniform regulation is too blunt and indiscriminate, decentralized charters impose a substantial burden on courts (Burkart and Panunzi 2006). The intermediate solutions are codes that are more flexible, allowing companies to sort according to their preferences and needs for stricter or softer corporate governance rules.

Shareholders versus Stakeholders

The policies above discuss the trade-offs with regard to maximizing shareholder value. However, the firm's objective function may also include payoffs to stakeholders including labor, national and regional government, suppliers, and customers (we discuss creditors separately in the bankruptcy section). In EMEs, a stakeholder perspective may be particularly important when considering policy responses. First, in virtually all EMEs, stakeholders play an important role in running firms. Second, stakeholders' intervention may be socially optimal. Indeed, if redistribution through government is rather costly (for example, if taxes, the pension system, and public education do not function properly), corporations may be a more efficient channel for solving social issues. Also, if labor and product markets are segmented, corporate

decisions impose substantial externalities on employees, suppliers, and customers, and therefore pure profit maximization may be socially suboptimal.

On the other hand, an excessive focus on stakeholders carries important risks (Tirole 2001). Intervention by the government or other stakeholders weakens the incentives of the controlling owner/manager and hence lowers internal efficiency. These costs are especially high in EMEs, where stakeholders are not well-organized and governments are often inefficient and corrupt. For example, if trade unions are not functioning well, labor's interests are protected by other stakeholders, such as national or regional governments, which exacerbates the costs, as stakeholders themselves suffer from the multi-tasking problem.

Lessons from Corporate Governance Trade-Offs

These trade-offs emphasize the difficulty of "one-size-fits-all" solutions. Still, the above analysis offers some simple insights that would ease most of the trade-offs in every economy. It is a first-order objective to pursue the protection of property rights of entrepreneurs. Once their rights are protected, they will have weaker incentives to capture the political and legal processes and stronger incentives to develop good corporate governance. Another important insight concerns the role of commercial banks, and more generally creditors, in corporate governance in EMEs. Since stock markets are underdeveloped, most companies in these countries rely on bank credit and bonds. As a result, the protection of creditors is an important institution needed for external finance and corporate growth. We discuss the challenges of promoting credit markets in EMEs in the next section.

Integration into the global financial system (such as access to global financial markets and the insurance industry) can help mitigate most of the problems above and reduce the costs of second best solutions. For example, foreign listings have been an important means for individual firms to break out of weak institutional environments. International media can also be helpful. For firms to build reputation, reputational intermediaries are critical. Foreign business press appears to play a positive role in this respect, at least in some countries.

Key Trade-Offs in Designing Bankruptcy Laws in Emerging Market Economies

Our proposed framework has implications for how to think about bankruptcy reform, or more broadly reform of debtor-creditor law, in emerging market economies. Generally speaking, bankruptcy law deals with conflicts between a debtor and its creditors, and with conflicts among creditors. On one hand, bankruptcy law should provide a mechanism to *discharge* or wipe out all the debts of a failing business and thereby to provide insurance to entrepreneurs against large losses that may be produced by factors beyond their control. On the other hand, for a creditor to lend money to the entrepreneur in the first place, debtor-creditor law must protect his or her rights.

When firms have multiple creditors, bankruptcy law makes sure that failing firms are liquidated efficiently, that debtors have an incentive to repay creditors when they are solvent, that bankrupt firms are restructured in an orderly manner, that assets of bankrupt firms are not disposed of in a fraudulent way, that seniority of claims among creditors is enforced, and that asset substitution and diversion of assets by management or a subset of creditors is prevented.

Based on how creditor rights are allocated, we can identify at least four key dimensions distinguishing existing bankruptcy systems from one another: the degree of friendliness toward debtors (or creditors); the orientation toward liquidation or reorganization of firms; the bias *among* creditors (such as secured versus unsecured creditors, or banks versus bondholders); and the extent of court involvement. Bankruptcy systems around the world vary a great deal in how they allocate creditor rights. Even developed market economies differ considerably in bankruptcy design. In the United Kingdom, the law is viewed as creditor friendly, with a strong bias toward liquidation and conflict resolution delegated to a key creditor. In contrast, the U.S. system is considered debtor friendly, with strong incentives against banks getting deeply involved in restructuring firms, and with the courts given a major role in bankruptcy. As for corporate governance, it is hard to claim that there is a "one-size-fits-all" system.

As for other property rights, a number of factors influence how a particular legal text eventually is implemented. Bankruptcy procedures, particularly in less developed economies, are susceptible to capture by specific interests, sometimes combining tools provided them by bankruptcy law, wealth of resources, and political clout as large investors or employers. Actors in the economy learn how to use the system; those who use it more often and those with more resources are likely to learn the most. If large private creditor institutions exist, they are more likely to be in repeated proceedings, implying that there would be an inherent tendency toward more creditor orientation in the implementation of laws. For example, some observers of the U.S. bankruptcy system argue that it is much less debtor friendly in practice because of the extensive learning of large creditors, whereas in the United Kingdom, informal practices have developed—the so-called London Process—to introduce more debtor-friendly features.

In the discussion that follows, we discuss the most important policy trade-offs that a designer of bankruptcy policy faces in any emerging market economy. We also describe existing evidence on the resolutions of these trade-offs, when such evidence exists.

Ex Post versus Ex Ante Efficiency
The most fundamental trade-off in debtor-creditor law is that between ensuring creditors sufficient protection to extend credit and allowing the entrepreneur a fresh start in case of default when the cause is beyond his or her control. The latter function is a key driver of entrepreneurship. Most entrepreneurs would probably not take the risk of founding a new business if they faced unlimited liability. All advanced market economies (with few exceptions) have entirely eliminated debtors' prisons and other criminal penalties for default (unless the debtor was found to have fraudulently

expropriated creditors). The main driving force behind the trend toward decriminal-
izing default has been that the benefits of fostering entrepreneurship outweigh the
cost of reduced incentives to repay one's debts. The possibility of relief is particularly
important in emerging market economies, where volatility is high and social insurance
systems are poor.

However, an important lesson from the recent literature is that poor borrowers are
hurt by excessively lenient enforcement of debt contracts. Although weak enforcement
obviously helps a financially strapped borrower ex post, it also raises the cost of
borrowing ex ante and results in the exclusion of poor borrowers from credit markets.
On the rare occasions when bankruptcy reform is discussed in public debates, one
observes a general misperception in the public at large that if the preservation of
employment at all costs is not viable, then at least the pursuit of ex post efficiency is
desirable. These policy debates miss the fundamental point that there is a trade-off
between ex ante and ex post efficiency: greater creditor protection ex post often works
to the advantage of debtors ex ante. Thus a very strong case could be made for cred-
itor control of bankruptcy procedures on ex ante efficiency grounds. The contrast in
India is particularly revealing between the rapid growth in automobile loans and
mortgages following the passage of the SARFAESI act in 2001, which culminated the
legal reforms started in 1993 with the establishment of debt recovery tribunals (see
Visaria 2006), and the previous anemic markets for those loans.

A noteworthy feature of the EME environment is the coexistence of a modern, pri-
marily urban manufacturing sector and a much less developed, often rural agricultural
sector based on small- and medium-size enterprises. Naturally, firms in these two sec-
tors are financed in very different ways. This has implications for what kind of bank-
ruptcy law best corresponds to the needs of firms and investors. This dual nature of
the economies raises the issue of the pros and cons of having separate chapters corres-
ponding to the different needs of the two sectors. Since entrepreneurship and small
business growth are particularly important in developing countries, the benefits of
"fresh start" policies that allow debtor-entrepreneurs to obtain relief from debt
despite less-than-full creditor repayment (leaving some funds to the entrepreneur)
arguably are greater than in developed economies. Thus it might be beneficial to have
special "soft" bankruptcies for small firms and individual entrepreneurs. (It is worth
noting that for the large firms, the benefits of fresh start are negligible.) There are,
however, important arguments against such a solution (Ayotte 2007). First, if small
firms are treated preferentially ex post, incentives to expand business and grow may
be undermined (as often is the case in Brazil and India). Second, if the bankruptcy
code is too soft on small firms ex post, it should be difficult for them to get finance
ex ante, which may hurt their possibilities of growing.[3]

The "ex ante versus ex post efficiency" trade-off is behind most of the specific
policy choices in the design of bankruptcy law. We discuss the most important
aspects of this trade-off in the next few subsections.

Reorganization versus Liquidation

A related consideration in designing bankruptcy law is how to strike the right balance
between reorganization and liquidation. On the one hand in emerging market

economies, labor markets tend to function less well and social safety nets are less developed, suggesting that the social costs of liquidation of firms are higher. Broader structural changes in industry are also likely to take place across different industries rather than within industries, implying larger costs of adjusting (Shleifer and Vishny 1992). On the other hand, those EMEs that are growing rapidly can more easily absorb human capital made redundant. But even less fortunate developing countries often have no means apart from liquidation to transfer assets from the inefficient to more efficient uses. Because both their capital markets and their markets for corporate control are dysfunctional and their economies highly politicized, they must release workers to other parts of the economy. This is particularly important in transition economies with strong insider control. In these economies, liquidations should be particularly harshly enforced for the old (formerly) state-owned firms; yet these firms are usually the ones that get bailed out.

On balance, bankruptcy law in emerging market economies should probably have a liquidation bias—except for the largest firms—because reorganization procedures are much more complex than liquidation procedures. To be effective, reorganizations necessarily require a more effective judiciary and more competent bankruptcy practitioners. Overall losses associated with reorganization procedures on average are likely to be larger than those of liquidation procedures. Cross-country evidence supports this claim. The *Doing Business 2005* report (World Bank-IFC 2005) shows that the most efficient bankruptcy laws in developing and transition countries prescribe simple, fast, and cheap liquidation procedures.

One cannot argue a priori, however, that liquidation procedures are less susceptible to capture than reorganizations. Thus the distributional consequences of the choice between reorganization and liquidation bias depend on the distribution of political power and wealth among the conflicting parties. For example, asset diversion may make liquidations extremely debtor friendly. Thus, a close monitoring of all transactions in bankruptcies by the interested parties in the conflict should be allowed.

Dealing with Systemic Crises versus Ex Ante Incentives

Much of the evidence and economic analysis on the bankruptcy process in EMEs in normal times clearly points in the direction of the benefits of simplified debt resolution procedures controlled by creditors. Unfortunately, in the event of a macroeconomic crisis, the macroeconomic environment and especially the greater exposure of EMEs to systemic shocks also clearly points in the direction of introducing exceptions in the implementation of these simple rules.

In light of the fact that shocks in institutionally less developed economies tend to be strongly correlated across firms, several proposals have been floated to allow for economy-wide stays on the liquidation of assets of distressed firms in the event of a major crisis, such as the Asian crisis of 1997 and the Russian crisis of 1998. If firm performance and asset values are temporarily reduced because of a macro shock, it makes little sense to plunge the economy into an even worse economic state by closing down otherwise healthy firms on a massive scale. Instead, much of the temporarily distressed value of these firms can be rescued through a coordinated macroeconomic

response that lets these firms ride through the worst of the storm and increases the aggregate demand for their products.

While such "Super Chapter 11" arrangements (see Miller and Stiglitz 1999) are clearly attractive alternatives ex post when many firms simultaneously are facing bankruptcy, it is less well understood that the ex ante effects of such an option are likely to be adverse, particularly in weak institutional environments. Such procedures—allowing for partial debt cancellations, moratoria, or bailouts during major economic downturns—are very vulnerable to capture by special interests, thus exacerbating credit rationing. However, when the integrity of the political process is sufficiently strong, efficiency can be improved not only ex post but also ex ante, as has been shown by Bolton and Rosenthal (2001, 2002).
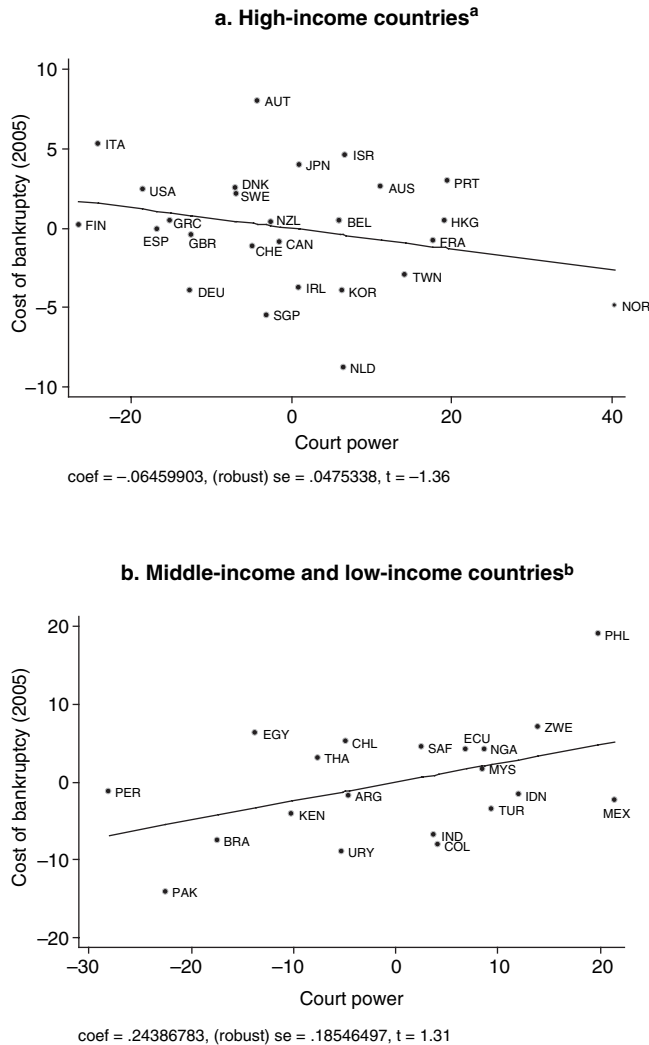
Another important caveat to the implementation of simple creditor-controlled bankruptcy procedures with a liquidation bias in EMEs has been vividly demonstrated by the recent bankruptcy reform experience of Hungary. If, like Hungary in 1990, a country undertakes a drastic bankruptcy reform and immediately tightens previously *soft budget constraints*, the numbers of insolvent firms should be expected to increase because of the backlog of bad loans and tax arrears. This wave of new insolvencies can overwhelm bankruptcy courts in the short run, as it did in Hungary, and give rise to a serious political backlash. The hasty implementation of the "automatic bankruptcy trigger" was the reason for the country's credit crunch in the early 1990s and contributed to discrediting the reforms (Mitchell 1998; Bonin and Schaffer 2002).

Judicial Discretion versus "Automatic" Liquidations

An important dimension in designing bankruptcy laws is how much discretionary power to give to courts. One rationale for giving discretionary power to the judge is to prevent socially inefficient liquidations that could result if some parties who have a stake in the firm, such as employees, local communities, and tax authorities, do not have a voice in the decisions affecting the future of the firm after default. Thus, for example, the stated goal of French and Indian bankruptcy laws is to preserve employment. This is an important reason why these laws have been designed to concentrate most powers in the hands of the bankruptcy judge and to leave much less room for negotiations between the debtor and the creditors than under, say, U.K. or U.S. bankruptcy law. As is widely recognized, however, bankruptcy judges generally do not have the expertise to turn around businesses in financial distress and are not well equipped (or motivated) to make important and complex business decisions to reshape a viable future for the failed firms in a timely fashion. More often than not, the reality of court-supervised management of bankrupt firms in France and India is a gradual and systematic destruction of the remaining value in the bankrupt firm.

The effect of discretionary power of courts on financial costs of bankruptcy differs significantly between high-income and low-income countries. Higher discretionary power of courts appears to be positively correlated with the financial costs of bankruptcy across poor and middle-income countries and (slightly) negatively across rich counties (see *Doing Business 2005* and figure 1).

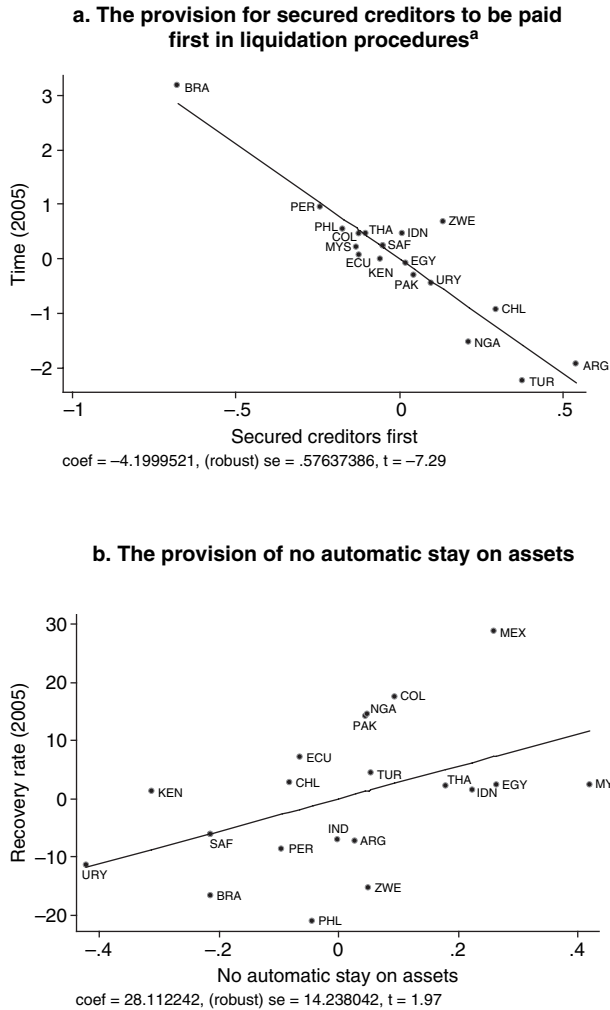**FIGURE 1. Judicial Discretion and the Overall Administrative Cost of Bankruptcy**

a. High-income countries[a]

coef = −.06459903, (robust) se = .0475338, t = −1.36

b. Middle-income and low-income countries[b]

coef = .24386783, (robust) se = .18546497, t = 1.31

Source: Authors' calculations based on data from *Doing Business 2005,* http://www.doingbusiness.org.

Note: Difference in the slope of the regression lines in the two samples is robust and always statistically significant. Graphs show residual correlation after controlling for per capita income, legal creditor rights, legal origin, level of the rule of law, and the level judicial efficiency.

a. The effect in high-income countries is sensitive to the presence of Norway and the Netherlands.

b. The effect in low-income countries is robust in the direction and magnitude and for a wide number of specifications.

Specialized versus General Courts

Bankruptcy reform has often focused on the need for a separate, specialized bankruptcy court system, or whether bankruptcies are best handled in regular courts. Prima facie, it is difficult to say whether specialized courts are more or less vulnerable to capture and corruption (which should be the overriding considerations in thinking

FIGURE 2. Legal Creditor Rights and Efficiency of Bankruptcy Procedures in Poor and Middle-Income Countries

a. The provision for secured creditors to be paid first in liquidation procedures[a]

coef = −4.1999521, (robust) se = .57637386, t = −7.29

b. The provision of no automatic stay on assets

coef = 28.112242, (robust) se = 14.238042, t = 1.97

Sources: Djankov, McLiesh, and Shleifer (2004) and authors' calculations based on data from *Doing Business 2005,* http://www.doingbusiness.org.

Note: The figure shows that the *only* two legal creditor rights that matter for efficiency of bankruptcy procedures across countries in the subsample of low-income and middle-income countries are the provision for secured creditors to be paid first in liquidation procedures (panel a) and the provision of no automatic stay on assets (panel b). The panels show residual correlation after controlling for per capita income, legal creditor rights, legal origin, level of the rule of law, and the level judicial efficiency.

a. In the figure for time versus secured creditor's position in priority rule, there are two outliers: Mexico, with secured creditors after employees and government and quick bankruptcy resolution; and India, with secured creditors first in the queue and long bankruptcy. Even though they are omitted, the relationship is statistically significant even when they are included. The relationship also does not depend on the inclusion of Brazil.

of designing bankruptcy court system). Cross-country evidence, however, suggests that some kind of specialization in expertise of judges and bankruptcy practitioners does pay off. Presence of a specialized bankruptcy court (in middle-income countries) or a specialized commercial section in the general court (in low-income countries) are

TABLE 1. Time Needed to Go through Insolvency and the Cost of the Procedure, 2004

a. Fifteen countries with the slowest bankruptcy	Time (years)	b. Fifteen countries with the most costly bankruptcy	Cost (% of estate)
Marshall Islands	5.3	Fiji	38
Vietnam	5.5	Panama	38
Chile	5.6	Sierra Leone	38
Philippines	5.6	Congo, Rep.	38
Haiti	5.7	Macedonia, FYR	38
Belarus	5.8	Venezuela	38
Indonesia	6.0	United Arab Emirates	38
Palau	6.5	Marshall Islands	38
Maldives	6.7	Philippines	38
Oman	7.0	Palau	38
Mauritania	8.0	Micronesia, Fed. Sts	38
Czech Republic	9.2	Haiti	38
Brazil	10.0	Central African Republic	76
India	10.0	Lao PDR	76
Chad	10.0	Chad	76

Source: Doing Business 2005, http://www.doingbusiness.org.

Note: Twenty-one countries have cost of bankruptcy equal to 38 percent of the estate. Among these countries, the table reports the ones that also have the lowest recovery rates. The actual differences in recovery rates as a result of reorganization procedures between high-income and low-income countries are large: on average, recovery rates are 67 cents on the dollar in high-income countries; 34 cents in middle-income countries; and 21 cents in low-income countries (*Doing Business 2005*).

associated with faster and cheaper procedures and, therefore, better recovery rates. Requirements that judges and bankruptcy practitioners are trained specifically in bankruptcy law and practice and that they have some prior business experience also leads to better outcomes (World Bank-IFC 2005).

Lessons from Trade-Offs in Bankruptcy
There are a few uncontroversial policy prescriptions suited to the vast majority of EMEs seeking to improve their credit markets: allow an independent institution to create and manage a data bank with detailed information on assets and financial histories of firms; introduce international accounting standards to foster transparency; and focus on simplicity and speed in distress resolutions to minimize administrative involvement to the extent possible. Most of the existing evidence and modern economic theory suggest that in the periods between economic crises, creditor-controlled bankruptcies and simple liquidation procedures for all but the largest distressed firms serve the purposes of financial development better than more complex debtor-in-possession reorganizations.

Conclusion

Lowering the cost of capital for firms in emerging market economies is one of the major tasks of economic development. The key arguments we make are as follows.

First, in designing policies to attract capital, emerging market economies should look at the entire scope of corporate finance, including corporate governance and bankruptcy. Focusing just on minority shareholder rights, as is often argued in the policy debate, is misleading. Protecting entrepreneurs and large shareholders and creditors against expropriation is often a matter of primary importance. Ultimately stronger property rights will also benefit minority investors. The role of debt should not be ignored; commercial banks can play an important part in corporate governance. In more developed emerging markets, private equity funds also complement banks in monitoring and restructuring of corporations. In general, corporate governance reform and bankruptcy reform are highly complementary.

Second, optimal corporate governance and bankruptcy reforms in emerging market economies are unlikely to resemble those in OECD countries. Ownership and capital structures are different, as are the nature and the depth of markets. Government failures are also more prevalent in emerging market economies than in developed countries. Hence, reforms require different priorities and different strategies for implementation. In particular, many EMEs have already adopted appropriate company and bankruptcy laws, but because of imperfect enforcement these changes have not yet had the desired effects on the cost of capital. In some circumstances, the transplantation of OECD laws that are not enforced or improperly enforced can be directly detrimental to financial development.

Third, there is substantial variation between emerging market economies, which implies that there is no "one-size-fits-all" solution. Implementation of reforms will depend crucially on the distribution of political and economic power in each particular country, as well as its cultural and social environment. Thus, instead of suggesting ready solutions, this paper identifies the most important conceptual trade-offs in the areas of corporate governance and bankruptcy that can help inform policy debate about the costs and benefits of specific policy choices. The importance of these costs and benefits for each particular country would depend on its economic and political environment.

Fourth, corporate governance, bankruptcy, judicial, and political reforms are highly complementary in emerging market countries. One of the main obstacles to financial development—poor enforcement of law and contracts—is closely tied to weaknesses in political institutions. Improving enforcement requires policy intervention at many different levels, including deep political transformation with fundamental constitutional change, and administrative and regulatory reforms. Since the level of enforcement is necessarily an outcome of the political economic game between interest groups, improving enforcement is an immensely difficult task. Under poor contractual and law enforcement, private mechanisms of investor protection can help supplement private contracting and public law enforcement. However, private enforcement also relies on the quality of courts and public enforcement institutions. Ultimately, there is no short-cut to broad institutional development, and the design of policies to

support corporate finance in a particular emerging market economy requires a deep understanding of the institutional context of that country.

Notes

1. Eaton and Kortum (2001) show that most of the world's capital is produced in a small number of research and development-intensive countries, while the rest of the world generally imports its equipment. In his influential paper, "Why Doesn't Capital Flow from Rich to Poor Countries?" Robert Lucas (1990) emphasizes the role of human capital and private incentives to accumulate human capital as a quantitatively important answer. His other explanations include expropriation and monopoly rents.
2. See also the survey by Durnev and others (2004) on the relative importance of country-specific versus firm-specific determinants of capital allocation in these countries.
3. Ironically in many countries, large firms and not small ones have softer bankruptcy de facto because of their greater clout in negotiations for government bailouts and "social" clauses in the legislation.

References

Ayotte, Kenneth. 2007. "Bankruptcy and Entrepreneurship: The Value of a Fresh Start." *Journal of Law, Economics, and Organization* 23 (1) (forthcoming).

Bartelsman, Eric, John Haltiwanger, and Stefano Scarpetta. 2004. "Microeconomic Evidence of Creative Destruction from Industrial and Developing Countries." Discussion Paper 1374, Institute for the Study of Labor (IZA), Bonn.

Beck, Thorsten. 2000. "Impediments to the Development and Efficiency of Financial Inter-mediation in Brazil." Working Paper 2382, World Bank, Washington, DC.

Berglof, Erik, and Patrick Bolton. 2002. "The Great Divide and Beyond—Financial Architecture in Transition." *Journal of Economic Perspectives* 16 (1): 77–100, Winter.

Berglof, Erik, and Mike Burkart. 2003. "European Takeover Regulation." *Economic Policy* 36: 172–213.

Berglof, Erik, and Anete Pajuste. 2003. "Emerging Owners, Eclipsing Markets? Corporate Governance in Central and Eastern Europe." In *Corporate Governance and Capital Flows in a Global Economy*, ed. P. K. Cornelius and B. Kogut, 267–304. New York: Oxford University Press.

Berkowitz, Daniel, Katharina Pistor, and Jean F. Richard. 2003. "The Transplant Effect." *American Journal of Corporate Law* 51 (1): 163–204.

Besley, Timothy, and Robin Burgess. 2004. "Can Labor Regulation Hinder Economic Performance? Evidence from India." *Quarterly Journal of Economics* 119 (1): 91–134.

Bolton, Patrick, and Howard Rosenthal. 2001. "Debt Moratoria, Bailouts, and Bankruptcy." In *Defusing Default: Incentives and Institutions,* ed. M. Pagano, 77–115. Washington, DC: Inter-American Development Bank.

———. 2002. "Political Intervention in Debt Contracts." *Journal of Political Economy* 110 (5): 1103–34.

Bonin, John, and Mark Schaffer. 2002. "Revisiting Hungary's Bankruptcy Episode." In *Designing Financial Systems in Transition Economies: Strategies for Reform in Central and Eastern Europe,* ed. A. Meyendorf and A. Thakor, 59–100. Cambridge, Mass.: MIT Press.

Boycko, Maxim, Andrei Shleifer, and Robert Vishny. 1995. *Privatizing Russia*. Cambridge, Mass.: MIT Press.

Boyreau-Debray, Genevieve, and Shang-Jin Wei. 2005. "Pitfalls of a State-Dominated Financial System: The Case of China." Working Paper 11214, National Bureau of Economic Research, Cambridge, Mass.

Breach, Alasdair, Peter Boone, Eric Friedman, and Simon Johnson. 2000. "Corporate Governance in the Asian Financial Crisis." *Journal of Financial Economics* 58: 141–86.

Brown, David, John Earle, and Almos Telegdy. 2006. "The Productivity Effects of Privatization: Longitudinal Estimates from Hungary, Romania, Russia, and Ukraine." *Journal of Political Economy* 114: 61–99.

Burkart, Mike, and Fausto Panunzi. 2006. "Takeovers." Finance Working Paper 118, European Corporate Governance Institute (ECGI), Brussels.

Caselli, Francesco. 2005. "Accounting for Cross-Country Income Differences." In *Handbook of Economic Growth,* ed P. Aghion and S. Durlauf, 679–741. Amsterdam: North-Holland.

Chandler, Alfred. 1962. *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Cambridge, Mass.: MIT Press.

———. 1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, Mass.: Harvard University Press.

———. 1990. *Scale and Scope: The Dynamics of Industrial Capitalism*. Cambridge, Mass.: Harvard University Press.

Claessens, Stijn. 2003. "Corporate Governance and Development." Focus 1. Washington, DC: Global Corporate Governance Forum. http://www.gcgf.org/library/Discussion_Papers_and_Focus%20Notes/Focus_1_Corp_Governance_and_Development.pdf.

Cristini, Marcela, Ramiro Moya, and Andrew Powell. 2001. "The Importance of an Effective Legal System for Credit Markets: The Case of Argentina." In *Defusing Default: Incentives and Institutions*, ed. M. Pagano, 119–56. Washington, DC: Inter-American Development Bank.

Desai, Mihir, Alexander Dyck, and Luigi Zingales. 2004. "Theft and Taxes." Working Paper W10978, National Bureau of Economic Research, Cambridge, Mass.

Djankov, Simeon, Caralee McLiesh, and Andrei Shleifer. 2006. "Private Credit in 129 Countries." *Journal of Financial Economics*, forthcoming.

Doidge, Craig, Andrew Carolyi, and Renje Stulz. 2004. "Why Do Countries Matter So Much for Corporate Governance." Working Paper 10726, National Bureau of Economic Research, Cambridge, Mass.

Du, Julan, and Chenggang Xu. 2005. "Legal versus Administrative Governance: Chinese Financial Market Regulation." Chinese University of Hong Kong.

Durnev, Art, and Han Kim. 2005. "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation." *Journal of Finance* 60 (3): 1461–94.

Durnev, Art, Kan Li, Randall Morck, and Bernard Yeung. 2004. "Capital Markets and Capital Allocation: Implications for Economies in Transition." *Economics of Transition* 12 (4): 593–634.

Dyck, Alexander. 2002. "The Hermitage Fund: Media and Corporate Governance in Russia." Case N2-703-010, Harvard Business School.

Dyck, Alexander, Natalya Volchkova, and Luigi Zingales. 2005. "The Corporate Governance Role of the Media: Evidence from Russia." Working Paper 54, Center for Economic and Financial Research (CEFIR), Moscow.

Eaton, Jonathan, and Samuel Kortum. 2001. "Trade in Capital Goods." *European Economic Review* 45 (7): 1195–1235.

Faccio, Mara, Ronald Mazulis, and John McConnell. 2006. "Political Connections and Corporate Bailouts." American Finance Association (AFA) 2006 Boston Meetings Paper.

Friebel, Guido, and Sergei Guriev. 2005. "Earnings Manipulations and Incentives in Firms." Working Paper 55, Center for Economic and Financial Research (CEFIR), Moscow.

Fuentes, Rodrigo, and Carlos Maquieira. 2001. "Why Borrowers Repay: Understanding High Performance in Chile's Financial Market." In *Defusing Default: Incentives and Institutions*, ed. M. Pagano, 189–223. Washington, DC: Inter-American Development Bank.

Garcia, Alvaro, Andrea Repetto, Sergio Rodriguez, and Rodrigo Valdes. 2003. "Concentration, Hold-Up, and Information Revelation in Bank Lending: Evidence from Chilean Firms." Working Paper 226, Central Bank of Chile, Santiago.

Glaeser, Edward, Simon Johnson, and Andrei Shleifer. 2001. "Coase versus the Coasians." *Quarterly Journal of Economics* 116 (3): 853–99.

Goriaev, Alexei, and Konstantin Sonin. 2005. "Is Political Risk Company Specific? The Market Side of the Yukos Affair." Discussion Paper 5076, Center for Economic Policy Research (CEPR), London.

Gourevitch, Peter, and James Shinn. 2005. *Political Power and Corporate Control: The New Global Politics of Corporate Governance.* Princeton, NJ: Princeton University Press.

Gourinchas, Pierre-Olivier, and Olivier Jeanne. 2006. "The Elusive Gains from International Financial Integration." *Review of Economic Studies* 73 (3): 715–41.

Gupta, Nandini. 2005. "Partial Privatization and Firm Performance." *Journal of Finance,* 60 (2): 987–1015.

Guriev, Sergei, Olga Lazareva, Andrei Rachinsky, and Sergei Tsoukhlo. 2003. "Corporate Governance in Russian Firms." Working Paper 32, Center for Economic and Financial Research (CEFIR), Moscow.

Hart, Oliver. 1995. *Firms, Contracts, and Financial Structure.* Oxford: Oxford University Press.

Hausman, Ricardo, Dani Rodrik, and Andres Velasco. 2005. "Growth Diagnostics." John F. Kennedy School of Government, Harvard University.

Holmstrom, Bengt, and Steven Kaplan. 2003. "The State of U.S. Corporate Governance: What's Right and What's Wrong?" *Journal of Applied Corporate Finance* 15 (3): 8–20.

Jensen, Michael. 2005. "Agency Costs of Overvalued Equity." *Financial Management* 34 (1): 5–19.

Johnson, Simon, John McMillan, and Christopher Woodruff. 2002. "Courts and Relational Contracts." *Journal of Law, Economics and Organization* 18 (1): 221–77.

Kaplan, Steven, Frederic Martel, and Per Stromberg. 2004. "How Do Legal Differences and Learning Affect Financial Contracts?" Research Report Series Paper 28, Swedish Institute for Financial Research (SIFR), Stockholm.

Khanna, Tarun, and Yishay Yafeh. 2005. "Business Groups in Emerging Markets: Paragons or Parasites?" Finance Working Paper 92/2005, Ecole Supérieure de Génie Informatique (ESGI), Paris.

Khwaia, Asim, and Atif Mian. 2005. "Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market." *Quarterly Journal of Economics* 120 (4): 1371–1411.

King, Robert, and Ross Levine. 1993. "Finance and Growth: Schumpeter Might be Right." *Quarterly Journal of Economics* 108 (3): 717–37.

Kranton, Rachel. 1996. "Reciprocal Exchange: A Self-Sustaining System." *American Economic Review* 86 (4): 830–51.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2006. "What Works in Securities Laws?" *Journal of Finance* 61 (1): 1–32.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 1997. "Legal Determinants of External Finance." *Journal of Finance* 53 (3): 1131–50.

———. 1998. "Law and Finance." *Journal of Political Economy* 106 (6): 1113–55.

———. 2000. "Investor Protection and Corporate Governance." *Journal of Financial Economics* 58 (1–2): 3–28.

Lambert-Mogiliansky, Ariane, Konstantin Sonin, and Ekaterina Zhuravskaya. 2003. "Capture of Bankruptcy: Theory and Russian Evidence." Working Paper 38, Center for Economic and Financial Research (CEFIR), Moscow.

Levine, Ross. 2005. "Finance and Growth: Theory and Evidence." In *Handbook of Economic Growth*, ed. P. Aghion and S. Durlauf, 865–934. Elsevier: North-Holland.

Liu, Qiao. 2005. "Corporate Governance in China: Current Practices, Economic Effects, and Institutional Determinants." Working Paper 1125, Hong Kong Institute of Economics and Business Strategy (HIEBS), Hong Kong.

Lucas, Robert. 1990. "Why Doesn't Capital Flow from Rich to Poor Countries?" *American Economic Review* 80 (2): 92–96.

Megginson, William. 2005. *The Financial Economics of Privatization*. Oxford University Press.

Miller, Marcus, and Joseph Stiglitz. 1999. "Bankruptcy Protection against Macroeconomic Shocks: The Case for a Super Chapter 11." Centre for the Study of Globalisation and Regionalisation, University of Warwick.

Mitchell, Janet. 1998. "Bankruptcy Experience in Hungary and the Czech Republic." Working Paper 211, William Davidson Institute, University of Michigan.

Monge-Naranjo, Alexander, Javier Cascante, and Luis Hall. 2001. "Enforcement, Contract Design, and Default: Exploring the Financial Markets of Costa Rica." In *Defusing Default: Incentives and Institutions*, ed. M. Pagano, 225–69. Washington, DC: Inter-American Development Bank.

Ostberg, Per. 2005. "Disclosure, Investment, and Regulation." Paper prepared for the European Finance Association (EFA) 2005 meeting, August 24–27, Moscow.

Pinheiro, Armando, and Celia Cabral. 2001. "Credit Markets in Brazil: The Role of Judicial Enforcement and Other Institutions." In *Defusing Default: Incentives and Institutions*, ed. M. Pagano, 157–88. Washington, DC: Inter-American Development Bank.

Pistor, Katharina. 2005. "Who is Tolling the Bells to Firms? Tales from Transition Economies." Columbia Law School.

Pistor, Katharina, and Chenggang Xu. 2005. "Governing Emerging Stock Markets: Legal vs. Administrative Governance." *Corporate Governance: An International Review* 13 (1): 5–10.

Ponomareva, Maria, and Ekaterina Zhuravskaya. 2004. "Federal Tax Arrears in Russia: Liquidity Problems, Federal Redistribution, or Regional Protection?" *Economics of Transition* 12 (3): 373–98.

Rajan, Raghuram, and Luigi Zingales. 1998. "Financial Dependence and Growth." *American Economic Review* 88 (3): 559–86.

Scharfstein, David, and Jeremy Stein. 2000. "The Dark Side of Internal Capital Markets: Divisional Rent-Seeking and Inefficient Investment." *Journal of Finance* 55 (6): 2537–64.

Schiller, Robert. 2003. *The New Financial Order: Risk in the 21st Century*. Princeton, NJ: Princeton University Press.

Schoar, Antoinette. 2002. "Effects of Corporate Diversification on Productivity." *Journal of Finance* 57 (6): 2379–403.

Skeel, David. 2004. "The Anatomy of Corporate Law: A Comparative and Functional Approach" (book review). Yale University School of Law.

Shleifer, Andrei, and Lawrence Summers. 1988. "Breach of Trust in Hostile Takeovers." In *Corporate Takeovers: Causes and Consequences*, ed. A. Auerbach, 33–68. Chicago: University of Chicago Press.

Shleifer, Andrei, and Robert Vishny. 1992. "Liquidation Values and Debt Capacity: A Market Equilibrium Approach." *Journal of Finance* 47 (4): 1343–66.

———. 1997. "A Survey of Corporate Governance." *Journal of Finance* 52 (2): 737–83.

Stiglitz, Joseph, and Andrew Weiss. 1981. "Credit Rationing in Markets with Imperfect Information." *American Economic Review* 71 (3): 393–410.

Straub, Stephane, and Horacio Sosa. 2001. "Ensuring Willingness to Repay in Paraguay." In *Defusing Default: Incentives and Institutions*, ed. M. Pagano, 271–318. Washington, DC: Inter-American Development Bank.

Stulz, Rene. 2005. "The Limits of Financial Globalization." Working Paper 11070, National Bureau of Economic Research, Cambridge, Mass.

Tian, Lihui. 2005. "Bank Lending, Corporate Governance, and Government Ownership in China." Guanghua School of Management, Beiijing University.

Tirole, Jean. 2001. "Corporate Governance." *Econometrica* 69 (1): 1–35.

Townsend, Robert. 1995. "Financial Systems in Northern Thai Villages." *Quarterly Journal of Economics* 110 (4): 1011–46.

Visaria, Sujata. 2006. "Legal Reform and Loan Repayment: The Microeconomic Impact of Debt Recovery Tribunals in India." Working Paper 157, Institute for Economic Development (IED), Boston University.

Volkov, Vadim. 2004. "The Selective Use of State Capacity in Russia's Economy: Property Disputes and Enterprise Takeovers, 1998–2002." In *Creating Social Trust in Post-Socialist Transition,* ed. J. Kornai, B. Rothstein, and S. Rose-Ackerman, 126–47. New York: Palgrave-Macmillan.

World Bank-IFC (World Bank and International Finance Corporation). 2004. *Doing Business 2004. Understanding Regulation.* A copublication of the World Bank, the International Finance Corporation, and Oxford University Press. The International Bank for Reconstruction and Development / The World Bank. http://www.doingbusiness.org.

World Bank-IFC (World Bank and International Finance Corporation). 2005. *Doing Business 2005. Removing Obstacles to Growth.* A copublication of the World Bank, the International Finance Corporation, and Oxford University Press. The International Bank for Reconstruction and Development / The World Bank. http://www.doingbusiness.org.

Zingales, Luigi. 1998. "Corporate Governance." In *The New Palgrave Dictionary of Economics and the Law*, ed. P. Newman, 497–503. New York: Macmillan.

Privatization: What Have We Learned?

SERGEI GURIEV AND WILLIAM MEGGINSON

Privatization is one of the major economic phenomena of recent economic history. This paper summarizes empirical research on the effect of privatization on the performance of privatized firms and on society. The extant evidence from privatizations in many developed and developing countries shows that privatization usually results in increased productivity and has positive effects on society. Achieving positive effects from privatization depends, however, on having critical economic institutions in place: in particular, having in place the rule of law, competition, hard budget constraints, high-quality governance, and effective regulation. We pay special attention to the cases of Russia and China and show that their experience is consistent with the conventional wisdom once one accounts for an appropriate counterfactual.

Why Is Privatization Research Important?

Since 1979, many countries have implemented privatization programs that have changed the global economic landscape. Privatization has been applied to many industries, including those that had never been privately owned. Privatization has transformed command economies in postcommunist countries into decentralized ones. It has changed the political balance of power in many societies and revolutionized global financial markets. Yet the intellectual debate on the benefits of privatization is far from over. The available research shows that the impact of privatization on privatized firms and on the economy and society depends on many variables, including political and economic institutions. There are significant complementarities between privatization and other reforms. It also matters how privatization is structured and who the new owners are. In particular, there are substantial benefits to opening up to foreign ownership.

In this paper, we summarize the extant research on privatization, and also discuss two important cases that are often referred to as evidence against privatization: Russia and China. In Russia—and some other Commonwealth of Independent States (CIS) countries—privatization seems to have produced few benefits for the privatized firms or for society, whereas China has managed to pursue a reform package that so far has not included the mass privatization of state-owned enterprises and yet has produced very impressive results. We argue that in both cases—as well as in other controversial privatization examples such as Latin America—the outcomes can be explained within the conventional framework, once one accounts for an appropriate counterfactual.

A comprehensive survey of the existing research on privatization would take over 50 pages, so we only summarize the general lessons and discuss the representative studies.[1]

Privatization Around the World

While it is now hard to imagine the world without privatization, it is still a very recent phenomenon by historical standards. Although there were important privatization programs in West Germany in the early 1960s and in Chile during the 1970s, state ownership of business enterprise was pervasive, and growing, in the world economy until a quarter-century ago. In OECD (Organisation for Economic Co-operation and Development) countries, this was a result of the Great Depression, which inspired a profound critique of private ownership; the two World Wars, during which governments established (or reestablished) public ownership over "strategic" industries; and widespread acceptance of social democrat philosophies that stressed the strategic need for state control of an economy's "commanding heights." In the socialist countries, public ownership of the means of production was the essential piece of ideology; private ownership was limited to personal consumption goods and—in some countries—to small agricultural land plots. Not surprisingly, given the perceived success of Soviet industrialization and the important role of public ownership in the developed West, many developing countries also adopted state-directed development policies during the post–World War II era.

By the late 1970s, however, there was growing disappointment with the performance of the state-owned companies. This dissatisfaction, coupled with the growth slowdown in the socialist countries, prompted the first privatization attempts by Britain's conservative Thatcher government. Since then, privatization has spread to more than 100 countries that collectively have privatized tens of thousands of firms and have raised almost $1.5 trillion. Privatization has produced substantial fiscal benefits: in many countries, privatization revenues accounted for 10 percent or more of government budgets in some years, and saved almost as much by eliminating the need for further subsidies to state-owned enterprises.

Certainly, the most dramatic privatization experiences have occurred in transition countries, where socialist economies have been become predominantly privately owned within the past decade. Other countries have also pursued impressive privatization programs. Since most postcommunist privatizations were not based on cash, OECD countries and other developing countries have easily surpassed transition economies in terms of privatization revenues (see figure 1 for data on developing countries' revenues from privatization).

FIGURE 1. Developing Countries' Revenues from Privatization, 1998–2003

Source: World Bank Privatization Database (http://rru.worldbank.org/Privatization/).
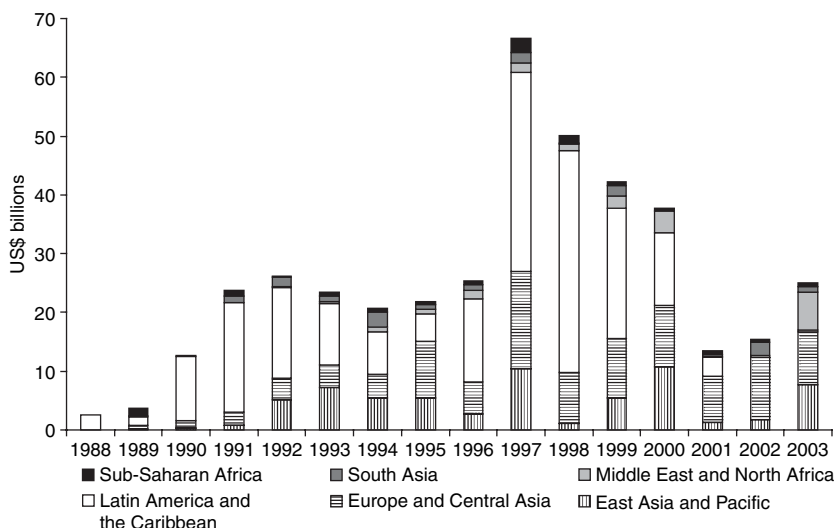
FIGURE 2. The Share of State-Owned Enterprises in GDP by Region, 1978–96
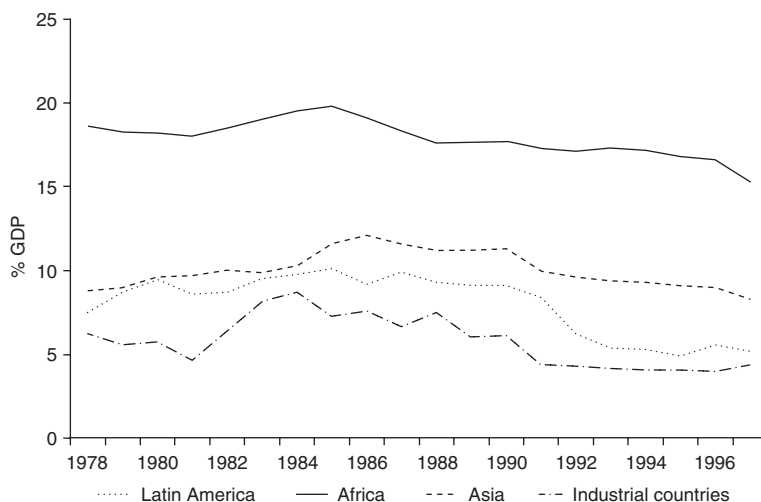
Source: López-de-Silanes 2005, figure 1.

Since 1984, the share of state-owned enterprises (SOEs) in the GDP of industrialized countries has fallen by almost half, to less than 5 percent (see figure 2). The change was even more substantial in the developing countries: between 1980 and 1997, the activities of state-owned enterprises as a percentage of GDP decreased from 11 to 5 percent in middle-income countries, and from 15 to 7 percent in low-income economies, according to Sheshinski and López-Calva (1999). The change in employment was even larger. In the middle-income countries, SOE employment has come down from a peak of 13 percent to about 2 percent of total employment, while in low-income countries employment in state enterprises has dropped from over 20 to about 9 percent (Sheshinski and López-Calva 1999).

The Theoretical Debate on Privatization

The policy debate on privatization is often reduced to the following simple arguments. Privatization helps to raise revenues for the government. Private ownership strengthens the incentives for profit maximization and therefore should lead to increased productive and allocative efficiency. Yet private ownership may involve substantial costs: there can be market failures related to externalities, market power, and public goods. These market failures provide a rationale for public ownership.

While the policy debate is usually focused on the trade-offs above, economists argue that the picture is actually much more nuanced. Privatization, particularly in postsocialist countries, tends to impact almost all macroeconomic and many microeconomic forces, sometimes in conflicting ways.

Fiscal Considerations

The argument that privatization helps raise cash for the government is related to the impact of privatization on productivity. If public ownership is optimal, then the government is better off keeping the firms in public ownership and receiving the stream of profits. If the government is cash-strapped, it should issue debt (or raise taxes). Privatization proceeds are high only when the new private owners are more efficient (or at least expect to be more efficient). Therefore the fiscal benefits of privatization are certainly related to the efficiency and welfare advantages of private ownership. Yet the fiscal issues are very important, as they provide government with incentives to undertake the privatization: to raise cash and to eliminate public subsidies to SOEs. This is especially true if government borrowing and taxation are costly, which is the case in many countries that are not members of the OECD.

Privatization and Market Failures

Market failures, even when they exist, do not have to be corrected through public ownership. Much can be achieved through regulation, taxation, and private provision of public goods (through profit-maximizing firms or nonprofit organizations). There are certainly limits to this argument. Similarly to the multitasking framework of Holmstrom and Milgrom (1991), Shleifer (1998) argues that privatization may result in an excessive emphasis on profit maximization at the expense of other socially valuable objectives. If the latter are not contractible, then the multitasking theory suggests that it may be optimal to weaken the profit maximization incentives. For example, private prisons may be very good at cutting costs but do not necessarily internalize the well-being of the convicts (Hart, Shleifer, and Vishny 1997). Therefore state ownership of prisons may be socially optimal even though public owners would not undertake cost-reducing measures.

This argument applies to all societal effects of privatization—externalities, distributional concerns, market power—whenever government's regulatory capacity is limited. If, for some reason, government cannot ensure effective regulation of the privatized firms to limit the negative externalities, privatization may indeed have negative implications for social welfare. The regulatory failure may arise from either lack of competence or incentives within government bureaucracy or because of regulatory capture by the regulated firms. Privatization can create powerful interest groups that

have a serious effect on economic policy choices (see Guriev and Rachinsky 2005). In particular, if privatization creates large private monopolies in an economy with poor institutions, it is very likely that competition policy will never develop. Political connections are especially important in countries with less mature institutions, as Faccio (2006) shows.

On the other hand, public ownership may not resolve all the relevant issues. Both in democratic and in nondemocratic regimes, politicians are often concerned with issues other than economic efficiency and social welfare; they may be either driven by political motives or simply corrupt. Privatization reduces their ability to pursue political objectives.

Market Socialism

The opponents of privatization argue that welfare theorems of neoclassical economics should also work in an economy with public ownership. Instead of a Soviet-type economy with public ownership and planning, one can imagine a system of *market socialism* (Barone 1908; Lange 1936) where firms are publicly owned, but exchange occurs in competitive markets and managers of state-owned enterprises are incentivized by performance contracts. Some adherents of market socialism argue that this is exactly what has been successfully implemented in China.

Critics of this idea argue that it is very hard for the government to commit not to intervene in markets. Under market socialism, the government is omnipotent and can directly control all the prices. Therefore, it is hard to protect market competition from the government monopoly, which would not only expropriate the consumer surplus but would also undermine efficiency. It is also hard for the government to commit to the strict antitrust policy that weakens the market power of state-owned firms. Even in an open economy that "imports" product market competition, the government still wields a monopoly in the labor market and in markets for nontradeables. The government is also unable to commit to abstain from political pursuits while designing and enforcing management contracts.

Another problem of government ownership is the inability to ensure the exit of failing firms. Governments (or government banks) often bail out firms, private or public, in order to preserve employment. This problem is especially severe in the case of the public firms. It is essentially impossible for the state to commit to not bailing out its own firms. The resulting soft budget constraints further aggravate the incentives problem for state-owned enterprises.

Yet another argument in favor of private ownership is the importance of innovation. Shleifer (1998) argues that innovation can prosper only under private ownership. While inventors can come up with great ideas independently of the predominant ownership forms, further development and commercialization of innovative ideas is certainly more likely under private ownership.

Policy Challenges: Speed, Sequencing, and Methods

Complementarities and Sequencing

The debate above implies that the success of privatization depends on the quality of economic and political institutions. Therefore reforms assuring property rights protection,

competition and openness, hard budget constraints, good corporate governance, low corruption, and optimal regulation are all complementary to privatization.

The fundamental problem of privatization is that the need for privatization is stronger in countries with less competent and less accountable governments, as these are the ones that fail badly in running state-owned enterprises. Yet these are exactly the countries that lack mature economic and political institutions that are complementary to privatization. Hence the government that cannot run the publicly owned firms well is often the government that is not able to design and implement privatization and complementary institutional reforms successfully.

This problem was especially salient in the transition countries. Apart from nonexistence of market institutions, these countries also had to rely on government bureaucracy inherited from the communist regime. As Lipton and Sachs (1990, p. 88) put it, "It is naïve to think of the existing bureaucracy as equipped, professionally or temperamentally, to implement sophisticated policies based on Western-style theories of the welfare economics of the 'second-best.'"

Privatizers in such countries face a chicken-and-egg problem. On one hand, they should first build institutions that would reinforce the benefits of privatization. On the other hand, it is not clear why the reforms introducing such institutions would find any support until there is a critical mass of private ownership. This problem is virtually absent in OECD countries, where such institutions are already in place, and the majority of voters respect private property. The situation is very different in developing and especially transition countries, where before mass privatization occurs, the demand for market institutions is simply absent.

It is certainly not clear which approach is better suited for solving the chicken-and-egg problem. Some countries have tried the "Machiavellian privatization" (Biais and Perotti 2002) approach by selling cheap and fast in order to create a demand for institutions. Others delayed privatization until the institutions have been put in place and have proceeded with case-by-case privatization. In Central and Eastern Europe, both approaches were tried and ultimately both succeeded—probably because of the external anchor of possible accession to the European Union (EU). In the former Soviet Union, both approaches were attempted but neither seems to have succeeded completely. In some countries, both privatization and institutional changes have been delayed indefinitely; in others, privatization has happened but institutional change is still slow. In some countries, particularly Russia, privatization was deemed illegitimate by the vast majority of the population because of the perceived corruption of the sale process. This eventually resulted in a policy reversal, including major renationalizations.

Speed

An important policy choice is the speed of privatization. On one hand, in order to maximize privatization revenues and find the most efficient owners, privatization should be administered case by case rather than *en masse*. However, as Lipton and Sachs (1990) and Boycko, Shleifer, and Vishny (1995) argue, privatization often has to be undertaken by a divided government. In this case, the window of opportunity is very narrow and case-by-case privatization is too slow, while rapid, mass privatization may

assure the irreversibility of the transformation. The problem with mass privatization is that if the government fails to design the mass privatization process well, this may undermine the public support for further reforms and the legitimacy of the emerging private property rights regime.

Another sequencing/speed issue is whether to restructure and improve performance before privatization—not least in order to maximize privatization revenues. Boycko, Shleifer, and Vishny (1995) argue that if the firm can be made profitable under public ownership, it should probably not be privatized in the first place. And vice versa, if the firm is slated for privatization as the government bureaucracy is not capable of running it, why trust the bureaucracy with restructuring the firm? Thus although presale restructuring is theoretically optimal, in practice it may be just a waste of time and public resources. This question can therefore be only resolved via empirical studies.

Methods of Privatization: Share Issues, Trade Sales, or Noncash Privatization

Governments can privatize firms using three major techniques: share issue privatization (SIP), asset sales to a single buyer (trade sales), and noncash (or "voucher") privatization. The choice between a SIP and a trade sale is usually driven by the firm's size. Smaller firms are sold via private markets (usually auctions) to a single buyer. This resolves the issue of separation of ownership and control, which is especially severe in countries with poor corporate governance. The trade sales case includes a management/employee buyout, although these usually do not happen via competitive bidding.

Larger firms are harder to sell in their entirety, since the lack of financial intermediation precludes buyers from raising sufficient funds to pay a high price for the asset (Maskin 2000). Such firms are usually privatized via public capital markets.

In both SIPs and asset sales, an important decision is whether to allow foreigners to bid. For an economist, increasing competition among bidders (via either a SIP or a trade sale) should raise privatization revenues and eventually attract a more efficient owner. However, foreign participation is often ruled out due to political/nationalistic sentiment. In many cases, the sentiment is promoted by the incumbent bidders, who benefit from the ban on foreign ownership at the expense of the domestic public. Indeed, the exclusion of the foreign bidders raises substantial problems, especially in the case of mass privatization. When a postsocialist government is about to privatize a large part of the economy, there is insufficient wealth within the country to assure a high price for the assets. Therefore one has to resort either to dispersed ownership, even for small firms, or to noncash privatization (including sale to employees). The latter may result in inefficient insider ownership and/or low privatization revenues, leading to disappointment with reforms.

Lessons from Privatization

The discussion above implies that the success of privatization depends on many variables, and there is a large scope for empirical research to measure their relative importance. In this section we summarize the results of such empirical studies.

Methodological Issues

Many studies focus on comparing the performance of firms under private and public ownership. Some run cross-section regressions on the large samples of both private and public firms estimating the effect of ownership controlling for other determinants of performance (see the seminal paper by Boardman and Vining 1989). This approach is problematic because ownership is endogenous (Demsetz and Lehn 1985), and in a cross section, it is very hard to control for all possible determinants of performance at the firm level.

The other influential approach focuses on privatization per se rather than on ownership and compares the performance of privatized firms before and after privatization. This approach was suggested and first used by Megginson, Nash, and van Randenborgh (1994), and is hereinafter referred to as MNR. It allows for comparing privatized firms in different industries, countries, and even time periods. The MNR methodology has become a tool of choice for privatization researchers, as it requires data on the privatized firms for only three years before and three years after the event of privatization; such data are usually readily available.

On the other hand, MNR's major advantage of looking only at the privatized firms is also a weakness. Indeed, one should compare the change in performance of the privatized firms to that of the other firms, public or private, that did not undergo privatization during this period. This approach is more demanding, as it requires a panel dataset that would track a large set of firms over a reasonably long period of time, as described in Brown, Earle, and Telegdy (2006).

There are additional methodological problems with all the approaches. First, there are many questions related to the appropriate measure of performance, such as whether it is best proxied by stock market or accounting data. Second, there are endogeneity issues. To ensure their own viability and to prevent policy reversals, governments may begin by privatizing the firms that are likely to benefit from privatization the most. This causes a selection bias. Another source of selection bias is related to the quality of data, which is usually higher in countries with more effective government and market institutions. As the latter are more conducive to the success of privatization, it is likely that there are more studies of privatization successes than failures.

Third, studies of the firm-level impacts of privatization by definition miss the external effects of privatization on the economy and society at large. In particular, if the privatized firm is an unregulated monopoly, it may unilaterally raise product prices after being divested, but the firm-level study is likely to record this as a productivity increase. The resulting price increase will be recorded as a growth in total factor productivity (TFP) even though the social returns may actually be negative.

Another potential externality is related to restructuring-related redundancies. If the labor markets are segmented, and privatization results in lay offs, the local labor market can be hit by a serious shock. The privatization decision therefore imposes a negative externality on all the local unemployed. Even though such downward wage adjustment may be efficient and may promote entrepreneurship and growth, it may have negative long-term economic and social implications, as the unemployed may be pushed into long-term poverty.

There are a number of ways to go beyond the firm level. One can study the well-being of the privatized firm's customers. This is doable when the privatized firm is a utility company serving a specific region or when there is comprehensive privatization within an industry. One can also look at the unemployment and wages in the local labor market. Alternatively, if a country goes through a mass privatization program, one can compare the economic and social outcomes at the country level.

Summary of Research

Firm-Level Effects of Privatization

The extant firm-level empirical research on how privatization changes productivity and employment around the world is summarized in tables 1–4 (compiled from Megginson 2005, chapters 3 and 4, and Chong and López-de-Silanes 2005). The results of these studies show that privatization usually results in increased productivity but also leads to a reduction or no change in employment. There is also strong evidence that privatization to *foreign* investors results in higher productivity gains. Privatization brings higher benefits to the firms wherever the appropriate institutions are in place. One should emphasize that dozens of studies on developed, developing, and transition countries using very diverse methodologies seem to yield very similar results.

Consistent with the critique of market socialism above, the evidence shows that performance contracts, corporatization, and hard budget constraints do *not* work without privatization (see table 5).[2]

Country-Level Effects and Complementary Reforms

The evidence on complementarities is rather limited. Zinnes, Eilat, and Sachs (2001) study the transition experiences of 25 countries and show that privatization is complementary to the institutional reforms that introduce rule of law, hard budget constraints, and investor protection. There are also a few studies summarized in table 2.4 of Megginson (2005).

Yet another strand of evidence is based on comparing studies of privatization effects across countries. For example, using comprehensive panels of enterprises in four transition countries, Brown, Earle, and Telegdy (2006) show that in Russia and Ukraine, the impact of privatization on economic performance was trivial or even negative, while it was very positive in Hungary and Romania. The latter countries are generally believed to have better institutions, both because of their shorter spells under communist rule and due to the prospect of EU accession. With the important exception of Zinnes, Eilat, and Sachs (2001), most studies measure the firm-level effect of privatization but do not focus on measuring the evolution of institutions.

Restructuring before Privatization

Does it pay to restructure the firm before privatizing? The evidence suggests a negative answer, in line with the basic logic of privatization: privatization makes sense precisely because governments are not good at restructuring firms. As shown by López-de-Silanes (1997) and Chong and López-de-Silanes (2002), who study the effect of preprivatization restructuring on the net privatization price received, debt absorption has no

TABLE 1. Summary of Empirical Studies Comparing Pre- versus Postprivatization Performance Changes for Firms Privatized Via Public Share Offerings in Nontransition Economies

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Megginson, Nash, and van Randenborgh (1994)	Compares three-year average postprivatization financial and operating performance ratios to the three-year preprivatization values for 61 firms from 18 countries and 32 industries from 1961 to 1989. Tests the significance of median changes in post versus preprivatization period. Also employs binomial tests for percent of firms changing as predicted.	Documents economically and statistically significant postprivatization increases in output (real sales), operating efficiency, profitability, capital investment spending, and dividend payments, as well as significant decreases in leverage. No evidence of employment declines after privatization, but significant changes in firm directors. Privatization improves firm performance.
Macquieira and Zurita (1996)	Compares pre- versus postprivatization performance of 22 Chilean companies privatized from 1984 to 1989. Uses Megginson, Nash, and van Randenborgh (MNR) (1994) methodology to perform analysis first without adjusting for overall market movements (as in MNR), then with an adjustment for contemporaneous changes.	Unadjusted results are virtually identical to Megginson, Nash, and van Randenborgh (1994): significant increases in output, profitability, employment, investment, and dividend payments. After adjusting for market movements, however, the changes in output, employment, and liquidity are no longer significant, and leverage increases significantly.
Boubakri and Cosset (1998)	Compares three-year average postprivatization financial and operating performance ratios to the three-year preprivatization values for 79 companies from 21 developing countries and 32 industries over the period 1980–92. Tests for the significance of median changes in ratio values in the post- versus preprivatization period. Also employs binomial tests for percentage of firms changing as predicted.	Documents economically and statistically significant postprivatization increases in output (real sales), operating efficiency, profitability, capital investment spending, dividend payments, and employment—as well as significant decreases in leverage. Performance improvements are generally even larger than those documented by Megginson, Nash, and van Randenborgh (1994).
D'Souza and Megginson (1999)	Documents offering terms, method of sale, and ownership structure resulting from privatization of 78 companies from 10 developing and 15 developed countries over the period 1990–94. Then compare three-year average postprivatization financial and operating performance ratios to the three-year preprivatization values for a subsample of 26 firms with sufficient data. Tests for the significance of median changes in ratio values in post- versus preprivatization period. Also binomial tests for percent of firms changing as predicted.	Documents economically and statistically significant postprivatization increases in output (real sales), operating efficiency, and profitability, as well as significant decreases in leverage. Capital investment spending increases, but insignificantly, while employment declines significantly. More of the firms privatized in the 1990s are from telecoms and other regulated industries. Privatization improves firm performance.

Verbrugge, Megginson, and Owens (1999)	Offers terms and share ownership results for 65 banks fully or partially privatized from 1981 to 1996. Then compares pre- and postprivatization performance changes for 32 banks in OECD countries and 5 in developing countries.	Documents moderate performance improvements in OECD countries. Ratios proxying for profitability, fee income (noninterest income as fraction of total), and capital adequacy increase significantly; leverage ratio declines significantly. Document large, ongoing state ownership, and significantly positive initial returns to initial public offering (IPO) investors.
Boardman, Laurin, and Vining (2000)	Compare three-year average postprivatization financial and operating performance ratios to the five-year preprivatization values for nine Canadian firms privatized from 1988 to 1995. Also computes long-run (up to five years) stock returns for divested firms.	Finds that profitability, measured as return on sales or assets, more than doubles after privatization, while efficiency and sales also increase significantly (though less drastically). Leverage and employment decline significantly, while capital spending increases significantly. Privatized firms also significantly outperform Canadian stock market over all long-term holding periods.
Dewenter and Malatesta (2000)	Compares pre- versus postprivatization performance of 63 large, high-information companies divested during 1981–94 over both short-term [(+1 to +3) vs. (–3 to –1)] and long-term [(+1 to +5) vs. (–10 to –1)] horizons. Also examines long-run stock return performance of privatized firms and compares the relative performance of a large sample (1,500 firm-years) of state and privately owned firms during 1975, 1985, and 1995.	Documents significant increases in profitability (using net income) and significant decreases in leverage and labor intensity (employees divided by sales) over both short- and long-term comparison horizons. Operating profits increase before privatization, but not after. Documents significantly positive long-term (one to five years) abnormal stock returns, mostly concentrated in Hungary, Poland, and the United Kingdom. Results also strongly indicate that private firms outperform state-owned firms.
Okten and Arin (2001)	Tests effect of privatization on firm efficiency and technology choice using panel data set of 23 Turkish cement firms privatized between 1989 and 1998. Employs MNR tests first; then panel data regression to explore determinants of performance changes.	Documents that productivity, capacity utilization, output, and investment significantly increase after privatization, while employment, per unit costs, and prices decline significantly. Capacity increases insignificantly. Panel regression shows output, labor productivity, capital, and capital-to-labor ratio increase significantly, while employment falls. Per unit costs and prices also fall. Privatization clearly induces technology shift.

TABLE 1. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Omran (2001)	Studies performance changes for 69 Egyptian companies privatized between 1994 and 1998. Of these, 33 were majority sales (>50 percent ownership), 18 were partial sales, 12 were sold to employee shareholding associations (ESAs), and 6 were sold to anchor investors.	Finds that profitability, operating efficiency, capital spending, dividends, and liquidity increase significantly after privatization, while leverage, employment, and financial risk (measured as the inverse of times interest earned) decline significantly. Performance changes are pervasive across subgroups, but there is some evidence that full privatization works better than partial privatization, and that sales to ESAs work better than others.
Omran (2002)	Performs similar study to Omran (2001), but also compares performance of privatized companies to a matched set of 54 firms that remained state owned.	Find that the performance of SOEs also improves significantly during the postprivatization period, and that privatized firms did not perform any better than SOEs.
Sun, Jia, and Tong (2002)	Compares pre- versus postprivatization financial and operating performance of a sample of 24 Malaysian firms divested via public share offering by the end of 1997. Employs MNR tests first; then panel data regression to further examine sources of performance changes.	Finds that privatized companies triple their absolute level of profits, more than double real sales, and significantly increase dividends and reduce leverage. Results are robust across various subsamples. Stocks of privatized firms earn normal returns (insignificantly different from market index). Regression analysis shows that institutional investors and directors have a positive impact on the performance of privatized firms , and that option schemes, rather than direct remuneration, give better incentives to managers.
Boubakri and Cosset (2003)	Examines pre- versus postprivatization performance of 16 African firms privatized through public share offering during the period 1989–96. Also summarizes findings of three other studies pertaining to privatization in developing countries.	Documents significantly increased capital spending by privatized firms, but finds only insignificant changes in profitability, efficiency, output, and leverage.

Sun, Fang, and Tong (2004)	Tests whether privatization improves financial and operating performance of 31 Singaporean companies divested through public share offering between 1975 and 1998. Employs MNR tests first; then panel data regression to further examine sources of performance changes.	Finds no significant change after privatization in any variable except output (significant increase) using MNR methods. Then uses regression analysis to show that output and leverage improve, but that efficiency deteriorates, after privatization. Concludes that there is little performance improvement after the change because Singaporean SOEs were unusually well managed before divestment.
Boubakri, Cosset, and Guedhami (2005)	Investigates the role of ownership structure and investor protection in corporate governance using a sample of 170 firms from 26 developing countries that were privatized over the 1980–97 period. Specifically examines what ownership structure results from privatization, and how it evolves subsequently; how the level of ownership protection impacts postprivatization ownership structure; and how ownership structure and investor protection relate to firm performance.	Documents that private ownership tends to concentrate over time after divestment, and that privatization results in a relinquishment of control by the privatizing government over three years after the initial sale. Much of the decrease in state ownership is absorbed by foreign and local institutional investors, while the average stake held by individuals is less important. Also finds that interaction between legal protection and ownership concentration has a significant negative effect on firm performance, suggesting that ownership concentration matters more in countries with weak legal protection.

Source: Megginson 2005, chapters 3 and 4; Chong and López-de-Silanes 2005.

TABLE 2. Summary of Empirical Studies of Privatization: Developed Countries

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusion
Galal, Jones, Tandon, and Vogelsang (1994)	Compares actual postprivatization performance of 12 large firms (mostly airlines and regulated utilities) in Britain, Chile, Malaysia, and Mexico to predicted performance of these firms had they remained SOEs.	Documents net welfare gains in 11 of the 12 cases that equal, on average, 26 percent of the firms' predivestiture sales. Finds no case where workers were made worse off, and three where workers were made significantly better off.
Green and Vogelsang (1994)	Provides a historical overview of British Airways evolution as a state-owned enterprise through its first years as a fully privatized company. Also analyzes how operating and financial performance evolved before and after the company's sale.	Shows that British Airways suffered severely during the airline depression of the early 1980s, but that the operational changes and restructuring that the management team executed during the mid-1980s paved the way for the successful sale of the government's 100 percent ownership in 1987.
Martin and Parker (1995)	Using two measures (ROR on capital employed and annual growth in value-added per employee-hour), examines whether 11 British firms privatized during 1981–88 improved performance after divestment. Also attempts to control for business cycle effects.	Mixed results. Outright performance improvements after privatization found in less than half of firm-measures studied. Several improve before divestiture, indicating an initial "shake-out" effect upon the announcement of privatization.
Price and Weyman-Jones (1996)	Measures the technical efficiency of the U.K. natural gas industry before and after its 1986 privatization and associated regulatory changes using Malmquist indices and nonparametric frontier analysis.	Shows that the industry's rate of productivity growth increased significantly after privatization—though not as much as it could have if the industry had been restructured and subjected to direct competition and more appropriate regulation.
Newberry and Pollitt (1997)	Performs a cost-benefit analysis of the 1990 restructuring and privatization of Britain's Central Electricity Generating Board (CEGB). Compares the actual performance of the privatized firms to a counter-factual assuming that CEGB had remained state owned.	The restructuring/privatization of CEGB was "worth it," in that there has been a permanent cost reduction of 5 percent per year. Producers and shareholders capture all this benefit and more. Consumers and the government lose. Also shows that alternative fuel purchases involve unnecessarily high costs and wealth flows out of the country.

Laurin and Bozec (2000)	Compares productivity and profitability of two large Canadian rail carriers, before and after the 1995 privatization of Canadian National (CN). Compares accounting ratios for entire 17-year period 1981–97 and for three subperiods: the fully state-owned era (1981–91), the preprivatization period (1992–95), and the postprivatization era. Also examines stock returns from 1995 to 1998. Creates a six-firm comparison group of Canadian privatizations, and computes accounting ratios and stock returns for these firms as well.	Total factor productivity of Canadian National was much lower than that of the privately owned Canadian Pacific (CP) during the 1981–91 period, but became just as efficient during the preprivatization (1992–95) period, and exceeded it after 1995. CN stock price out-performed CP, the transportation industry, and the Canadian market after 1995. Both firms shed workers after 1992, but CN's employment declined by more (34 percent vs.18 percent) as average productivity almost doubled (97 percent increase). CN's capital spending increased significantly, though CP's increased more. A six-firm Canadian privatization comparison group also experienced significant increases in investment spending and productivity, and a significant decline in employment.
Villalonga (2000)	Examines the effect of privatization on efficiency for 24 Spanish firms fully divested between 1985 and 1993. Tests for separate effects of ownership change, once other political and organizational factors and time period (state of the business cycle) effects are accounted for.	Finds insignificant changes in level and growth rate of efficiency after privatization. The significant positive effect found for the business cycle suggests that government sold firms during recessions. Capital intensity, foreign ownership, and size also are positively related to efficiency improvements. Privatization seems to decrease efficiency for five and six years after divestiture, but increase efficiency seven and eight years after, and four and three years before, suggesting the importance of time effects.
Florio (2001)	Presents an analysis of the welfare impact of the U.K. privatization program from 1979 to 1997. Considers the impact on five types of agents: firms, employees, shareholders, consumers, and taxpayers.	Concludes that privatization has modest effects on efficiency of production and consumption, but has important effects on distribution of income and wealth. Acknowledges fiscal benefits, lower prices in most areas, and productivity growth, but asserts these would have been achieved under continued state ownership (due to extrapolation of existing trends). Calculates that, at best, the net present value of the welfare change for each British consumer is less than £1,000, and would be lower if distributional issues were accounted for.

TABLE 2. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusion
Dumontier and Laurin (2002)	Investigate the value that is created or lost during the state ownership period for each firm nationalized during 1982 and then re-privatized between 1986 and 1995. Then tests whether privatization improved performance over that achieved during post-1982 nationalized period. Some 44 companies (39 banks and 5 industrial firms) were nationalized and then re-privatized.	Finds that the government created value in nationalized firms, but state and taxpayers did not benefit because of the premium paid to shareholders upon nationalization (20 percent) and underpricing of the initial public offering at privatization. Financial and operating performance of companies improved during nationalization phase, then improved even more after privatization. Profits and sales increased after privatization, while efficiency improved over all three periods. Employment fell during the nationalized period, but increased after privatization, due to higher sales. Capital spending was highest during nationalized period, due to government subsidies. Leverage declined during nationalized period, but increased after privatization. Dividends declined during the nationalized period, but increased after privatization.
Saal and Parker (2003)	Examines the productivity and price performance of the privatized water and sewerage companies of England and Wales after the industry was privatized and a new regulatory regime imposed in 1989. Examines the joint impact of privatization and new economic regulatory environment on performance.	Finds no significant evidence that productivity growth, measured by growth in total factor productivity, is improved by privatization—despite reductions in labor usage. Also finds that increases in output prices have outstripped increased input prices, leading to significantly higher economic profits after privatization.

Source: Megginson 2005, chapters 3 and 4; Chong and López-de-Silanes 2005.

TABLE 3. Summary of Empirical Studies of Privatization in Latin America

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Hachette and Luders (1993)	Analyzes the difference in 10 performance indicators of 144 private, public, and privatized firms in Chile during the period from 1974 to 1987.	Finds no significant differences in behavior among public, private, and privatized firms that operate under similar sets of rules and regulations.
Sanchez and Corona (1993)	Uses a descriptive case study approach to analyze the privatization experiences of Argentina, Chile, Colombia, and Mexico. Focuses on the preparatory measures taken prior to privatization; on valuation, sale mechanisms, regulation and supervision, and on the fiscal and macroeconomic impact of privatization.	Finds great differences in the effects of privatization in the countries covered by the study. Concludes that firms, institutions, and regulations need sufficient time to prepare for the privatization process to be successful.
Galal, Jones, Tandon, and Vogelsang (1994)	Compares postprivatization performance of 12 large firms from Chile and Mexico. The companies covered are mostly airlines and regulated utilities.	Finds net welfare gains in 11 of 12 cases covered. Gains are on average equal to 26 percent of the firms' predivestiture sales. Finds no case where workers were made worse off, and three cases in which workers' conditions improved.
Petrazzini and Clark (1996)	Using International Telecommunications Union data through 1994, tests whether deregulation and privatization impact the level and growth of teledensity, prices, service quality, and employment. The sample covers 26 developing countries, including some Latin American nations.	Deregulation and privatization are both associated with significant improvements in the level and growth of teledensity, but have no consistent impact on the quality of service. Deregulation is associated with lower prices and increased employment; privatization has the opposite effect.
Pinheiro (1996)	Analyzes the performance of 50 former Brazilian SOEs before and after privatization. Uses data up until 1994. The variables used are net sales, net profits, net assets, investment, employment, and indebtedness.	Concludes that privatization has improved the performance of the firms. Rejects the null hypothesis of no change in behavior for the production, efficiency, profitability, and investment variables. It finds a significant negative impact on employment.
Ramamurti (1996)	Surveys studies of four telecom, two airline, and one tollroad privatization programs in Latin America during the period 1987–91. Also discusses political economic issues and methods used to overcome bureaucratic and ideological opposition to divestiture.	Concludes that privatization is very positive for telecoms, partly due to the scope for technology, capital investment, and attractiveness of offer terms. Finds much less scope for productivity improvements for airlines and roads; observes little improvement.

TABLE 3. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Ramamurti (1997)	Examines restructuring and privatization of Ferrocarilla Argentinos, the national railroad, in 1990. Tests whether productivity, employment, and need for operating subsidies (equal to 1 percent of GDP in 1990) change significantly after divestiture.	Documents a 370 percent improvement in labor productivity and a 78.7 percent decline in employment (from 92,000 to 19,682). Services were expanded and improved, and delivered at lower cost to consumers. Need for operating subsidies largely eliminated.
Chisari, Estache, and Romero (1999)	Assesses macroeconomic and distributional effects of privatization in Argentina's gas, electricity, telecommunications, and water sectors. It uses a computable general equilibrium model.	Concludes that effective regulation translates into annual gains of about 1.25 billion of GDP. Privatization cannot be blamed for increased unemployment as it may be due to ineffective regulation.
La Porta and López-de-Silanes (1999)	Tests whether performance of 218 SOEs privatized through June 1992 improves after divestment. Compares performance with industry-matched firms, and splits improvements documented between industry- and firm-specific influences.	Output of privatized firms increased 54.3 percent, while employment declined by half (though wages for remaining workers increased). Firms achieved a 24 percentage point increase in operating profitability, eliminating need for subsidies equal to 12.7 percent of GDP. Higher product prices explain 5 percent of the improvement; transfers from laid-off workers, 31 percent, and incentive-related productivity gains account for the remaining 64 percent.
Ros (1999)	Uses ITU data and panel data regressions to examine the effects of privatization and competition on network expansion and efficiency. The study covers 110 countries during the 1986–95 period.	Countries with at least 50 percent private ownership in the main telecom firm have significantly higher teledensity levels and growth rates. Both privatization and competition increase efficiency. However, only privatization is positively associated with network expansion.
Birch and Haar (2000)	A descriptive study of the privatization experience in the last two decades in Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, and some Caribbean countries.	Finds sizeable effects of privatization on the macroeconomic conditions (both in the short and long run). Also shows a positive effect of privatization on productivity and a negative effect on employment.

Clarke and Cull (2001)	Uses evidence from the privatization program of provincial banks in Argentina during the 1990s. Tests econometrically how political constraints affect transactions during bank privatization.	Finds that provinces with high fiscal deficits were willing to, first, accept layoffs; and second, to guarantee a larger part of the privatized bank's portfolio in return for a higher sale price.
Pombo and Ramirez (2001)	Performs ex post measuring and econometric analysis of 30 large Colombian manufacturing firms and 33 power generation plants privatized during the 1993–98 period. Employs both panel data regression analysis and Megginson, Nash, and van Randenborgh (MNR) matched pre- versus postprivatization tests.	Panel data analysis finds very positive results for privatized manufacturing firms. Total factor productivity indices increase from 0.27 to 0.50 points, while profit rates increase by 1.2 percentage points. Productive efficiency in power production is not systematically related to ownership changes, once other factors accounted for.
Galiani, Gertler, and Schargrodsky (2001)	Examines the impact of privatizing water services on the mortality of young children in Argentina. Between 1991 and 2000, 30 percent of Argentina's public water companies covering 60 percent of the population were privatized. Estimates the impact of privatization on child mortality using three different measures.	All three measures show that child mortality fell 5 to 8 percent in areas that privatized their water services. The increase in access to and quality of water caused the reduction in mortality. Investment increased, service provision became more efficient, and quality improved. The number of people connected to the network increased dramatically, but prices did not.
Wallsten (2001)	Analyses the effect of telecommunication reforms. It explores the impact of privatization, competition, and regulation on telecom firms' performance. This study covers 30 African and Latin American countries during the 1984–97 period.	Indicates that competition is significantly associated with increases in per capita access to telecommunication services and with decreases in its costs. Privatization is helpful only if coupled with effective, independent regulation. Concludes that competition combined with privatization is best. Privatizing a monopoly without regulatory reforms should be avoided.

TABLE 3. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Estache (2002)	Asks whether Argentina's 1990s utilities privatization program was a cure or a disease. Certainly, the privatizations of Argentina's electricity, gas, water and sanitation, and telecommunications utilities are today the object of intense anger within the country, but the study attempts to determine whether this anger is appropriate. It notes that privatization occurred just before the country was gripped by a massive political and economic collapse and tries to separate the impact of privatization from the overwhelming impact of the collapse.	Finds that privatization, per se, was quite successful: it raised significant revenues for the state and the new private operators, increased efficiency and service levels significantly—without significantly raising the rates they charged. The rates charged to consumers, however, increased significantly, since the government exploited the new ownership structure to impose indirect taxes that it could not impose through direct levies. Once the economic crisis began, government actions discriminated against the privatized companies and foreign operators were vilified as exploiters when they tried to raise fees in line with inflation and devaluation.
Trujillo, Martín, Estache, and Campos (2002)	Uses pooled and panel data with fixed and random effects to examine the macroeconomic effects of private sector participation in infrastructure. Uses a sample of 21 Latin American countries from 1985 to 1998.	Finds that private sector involvement in utilities and transport have minimal positive effects on GDP. There is crowding out of private investment, private participation reduces recurrent expenditures—except in transport, where it has the opposite effect. The net effect on the public sector account is uncertain.
Chong and Sanchez (2003)	A detailed analysis of the contractual arrangements of privatizations and concessions in infrastructure. It covers four countries: Brazil, Chile, Colombia, and Peru.	Concludes that clear, homogeneous, transparent, and credible institutional processes during privatization yield positive outcomes.

Source: Megginson 2005, chapters 3 and 4; Chong and López-de-Silanes 2005.

TABLE 4. Summary of Empirical Studies of Privatization in the Transition Economies of Central and Eastern Europe

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Claessens, Djankov, and Pohl (1997)	Examines the determinants of performance improvements for a sample of 706 Czech firms privatized during 1992–95. Using Tobin's Q, tests whether concentrated ownership structure or the presence of an outside monitor (bank or investment fund) improves Q more than dispersed ownership.	Documents that privatized firms do prosper, primarily because of the concentrated ownership structure that results. Finds the more concentrated the postprivatization ownership structure, the higher the firm's profitability and market valuation. Large stakes owned by bank-sponsored funds and strategic investors are particularly value-enhancing.
Dyck (1997)	Develops and tests an adverse selection model to explain the Treuhand's role in restructuring and privatizing eastern Germany's state-owned firms. In less than five years, the Treuhand privatized more than 13,800 firms and parts of firms and, uniquely, had the resources to pay for restructuring itself—but almost never chose to do so. Instead, it emphasized speed and sales to existing Western firms over giveaways and sales to capital funds. The paper rationalizes the Treuhand's approach.	Documents that privatized East German firms are much more likely to transfer Western (usually German) managers into key positions than are companies that remain state owned. Also finds that Treuhand emphasizes sales open to all buyers rather than favoring Eastern Germans. The main message is that privatization programs must carefully consider when and how to affect managerial replacement in privatized companies. Plans open to Western buyers, and which allow management change, are most likely to improve firm performance.
Pohl, Anderson, Claessens, and Djankov (1997)	Compares the extent of restructuring achieved by over 6,300 private and state-owned firms in seven Eastern European countries during 1992–95. Uses six measures to examine which restructuring strategies improve performance the most.	Privatization dramatically increases the likelihood and success of restructuring. Firm privatized for four years will increase productivity three to five times more than a similar SOE. Finds little difference in performance based on the method of privatization, but finds that ownership and financing effects impact restructuring.
Smith, Cin, and Vodopivec (1997)	Using a sample with 22,735 firm-years of data drawn from period of "spontaneous privatization" in Slovenia (1989–92), examines the impact of foreign and employee ownership on firm performance.	Finds that a percentage point increase in foreign ownership is associated with a 3.9 percent increase in value-added, and for employee ownership, with a 1.4 percent increase. Also finds that firms with higher revenues, profits, and exports are more likely to exhibit foreign and employee ownership.

(Continues on next page)

TABLE 4. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Weiss and Nikitin (1998)	Analyzes the effects of ownership by investment funds on the performance of 125 privatized Czech firms during the period 1993–95. Assesses these effects by measuring the relationship between changes in performance and changes in the composition of ownership at the start of privatization. Uses robust estimation techniques, in addition to OLS, since data strongly reject normality.	Finds that ownership concentration and composition jointly affect the performance of privatized firms. Concentration of ownership in the hands of a large shareholder, other than an investment fund or company, is associated with significant performance improvements (for all measures of performance). Concentrated ownership by funds does not improve firm performance. Preliminary post-1996 data suggest that changes in investment fund legislation may improve firm performance.
Berg, Borensztein, Sahay, and Zettelmeyer (1999)	Using macroeconomic data from 26 transition countries for 1990–96, examines the relative roles of macroeconomic variables, structural policies, and initial conditions in explaining the large observed differences in output performance after transition began.	Results point to the preeminence of structural reforms over both initial conditions and macroeconomic variables in explaining cross-country differences in performance and the timing of recovery from the sharp recession that hit every transition economy in the early 1990s.
Claessens and Djankov (1999a)	Studies the effect of management turnover on changes in financial and operating performance of 706 privatized Czech firms over the period 1993–97. Examines changes in profitability and labor productivity.	Finds that the appointment of new managers is associated with significant improvements in profit margins and labor productivity, particularly if the managers are selected by private owners. New managers appointed by the National Property Fund also improve performance, though not by as much.
Claessens and Djankov (1999b)	Examines the relationship between ownership concentration and corporate performance for 706 privatized Czech firms during the period 1992–97. Uses profitability and labor productivity as indicators of corporate performance.	Finds that concentrated ownership is associated with higher profitability and labor productivity. Also find that foreign strategic owners and non-bank–sponsored investment funds improve performance more than bank-sponsored funds.

Frydman, Gray, Hessel, and Rapaczynski (1999)	Compares the performance of privatized and state-owned firms in the transition economies of Central Europe, and asks the question "when does privatization work?" Examines the influence of ownership structure on performance using a sample of 90 state-owned and 128 privatized companies in the Czech Republic, Hungary, and Poland. Employs panel data regression methods to isolate ownership effects.	Privatization "works," but only when the firm is controlled by outside owners (other than managers or employees). Privatization adds over 18 percentage points to the annual growth rate of a firm sold to a domestic financial company, and 12 percentage points when sold to a foreign buyer. Privatization to an outside owner also adds about 9 percentage points to productivity growth. Further, the gain does not come at the expense of higher unemployment; insider-controlled firms are much less likely to restructure, but outsider-controlled firms grow faster. Shows the importance of entrepreneurship in reviving sales growth.
Frydman, Gray, Hessel, and Rapaczynski (2000)	Examines whether the imposition of hard budget constraints is alone sufficient to improve corporate performance in the Czech Republic, Hungary, and Poland. Employs a sample of 216 firms, split between state-owned (31 percent), privatized (43 percent), and private (26 percent) firms.	Finds privatization alone adds nearly 10 percentage points to the revenue growth of a firm sold to outside owners. Most important, finds that the threat of hard budget constraints for poorly performing SOEs falters, since governments are unwilling to allow these firms to fail. The brunt of the lower creditworthiness of SOEs falls on state creditors.
Frydman, Hessel, and Rapaczynski (2000)	Examines whether privatized Central European firms controlled by outside investors are more entrepreneurial—in terms of their ability to increase revenues—than firms controlled by insiders or the state. Study employs survey data from a sample of 506 manufacturing firms in the Czech Republic, Hungary, and Poland.	Documents that all state and privatized firms engage in similar types of restructuring, but that product restructuring by firms owned by outside investors is significantly more effective, in terms of revenue generation, than by firms with other types of ownership. Concludes that the more entrepreneurial behavior of outsider-owned firms is due to incentive effects, rather than human capital effects, of privatization—specifically greater readiness to take risks.
Lizal, Singer, and Svejnar (2000)	Examines the performance effects of the wave of break-ups of Czech and Slovak SOEs on the subsequent performance of the master firm and the spin offs. The regressions use data for 373 firms in 1991 and 262 firms in 1992.	Finds an immediate positive effect on the efficiency and profitability of small and medium size firms (both master and spin-offs) and a negative effect for the larger firms in 1991. The results for 1992 are similar but not statistically significant.

TABLE 4. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Angelucci, Estrin, Konings, and Zolkiewski (2001)	Analyzes the effect of ownership and competition on firm performance, measured by total factor productivity (TFP), in three transition economies for the years 1994 to 1998. Uses reported company accounts data for 1994 and 1998 for 17,570 Polish companies, and for 1997–98 for 1,500 Bulgarian and 2,047 Romanian companies. Tests whether private foreign-owned firms outperform private domestic companies, and whether these both outperform SOEs.	Finds that competitive pressure (measured by market structure) is associated with higher productivity in all three countries; increased import penetration is positively associated with performance in Poland, but negatively in Bulgaria and Romania; competitive pressure has stronger effects in private firms and privatization is associated with higher performance in more competitive sectors; privatization is associated with better firm performance and privatized firms outperform SOEs in all three countries. Overall, finds that there are complementarities between competitive pressure and ownership.
Carlin, Fries, Schaffer, and Seabright (2001)	Uses data from a 1999 survey of 3,305 firms in 25 transition countries to examine the factors that promote restructuring by firms and enhance subsequent performance—as measured by growth in sales and in sales per employee over a three-year period. Survey includes about 125 companies from each of 25 countries, with larger samples from Poland and Ukraine (200+ firms) and Russia (500+ firms). Just over half were newly established firms, 8 percent were privatized to insiders, 22 percent were privatized to outsiders, and 16 percent remained state owned.	Finds that competition has an important and nonmonotonic effect on the growth of sales and labor productivity, with performance improving more for firms facing one to three competitors than for firms facing many competitors or for monopolists (one-fourth of SOEs face no competition for their main products in their domestic markets). Controlling for other factors, finds no significant relationship between privatization and performance. Newly created firms generally outperform all other categories. Old firms (privatized and SOEs) are much more likely to cut employment than new entrants, but the paper finds some evidence that private firms (new entrants and privatized) are more likely to engage in new product development. Overall, finds competition to be a more powerful influence on performance than ownership, per se.

Coricelli and Djankov (2001)	Identifies the presence of soft budget constraints and analyzes their impact on enterprise restructuring in Romania during the initial transition period. Employs a simple analytical model and a sample of 4,429 enterprises with data from 1992 to 1995 to test whether hardening budget constraints promote beneficial restructuring and new investment or whether access to external financing is required to promote new investment normality.	Finds that hard budget constraints do promote passive restructuring, in the form of labor shedding, but not new investment. Active restructuring requires access to external financing. Tightened bank credit can induce hard budget constraints and raise enterprise efficiency in the short run, but at the cost of curtailing investment.
Earle and Telegdy (2001)	Examines the impact of privatization—and the method of privatization—on firm performance in Romania over the period 1992–99. Employs a dataset of 2,354 firms owned by the State Ownership Fund (SOF) in 1992, and traces the evolution of ownership over the next six years. Most of these (77%) still had some state ownership (50.9% median) in 1998.	Shows consistently positive, highly significant effects of private ownership on labor productivity growth, with the point estimate implying an incremental 1.0 to 1.7 percentage point growth in productivity for a 10 percent rise in private shareholding. Insider transfers and mass privatizations have smaller, but still significantly positive effects.
Fidrmuc and Fidrmuc (2001)	Uses a sample of 178 Czech firms privatized during first wave of voucher privatization (1992–94) to test whether ownership change promoted increased efficiency and profitability. Uses MNR pre- versus postprivatization comparison techniques to test for performance changes.	Finds that efficiency and profitability declined after privatization, and that changes in firms' operations do not vary significantly by size or ownership—but do vary by industry type, with nonmanufacturing firms experiencing more positive (or less negative) changes.
Harper (2001)	Examines the effects of privatization on the financial and operating performance of 174 firms privatized in the first—and 380 firms divested in the second—wave of the Czech Republic's voucher privatizations of 1992 and 1994. Compares results for privatized firms to those that remained state owned. Employs Megginson, Nash, and van Randenborgh (MNR) (1994) methodology and variables to measure changes.	Finds that the first wave of privatization yielded disappointing results. Real sales, profitability, efficiency, and employment all declined dramatically (and significantly). However, second-wave firms experienced significant increases in efficiency and profitability and the decline in employment—though still significant— was much less drastic than after the first wave (–17 percent vs. –41percent).
Lizal and Svejnar (2001)	Examines strategic restructuring and new investment performance of 4,000 Czech companies during 1992–98. Dataset includes over 83,000 quarterly observations. Develops and tests a dynamic model of restructuring and investment, allowing the authors to examine the separable impact of private versus public and domestic versus foreign ownership on restructuring, as well as the importance of access to credit and a soft budget constraint on firm investment.	Finds that foreign-owned companies invest the most and (domestically owned) cooperatives the least; private firms do not invest more than state-owned firms; cooperatives and small firms are credit rationed; and SOEs operate under a soft budget constraint.

TABLE 4. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Zinnes, Eilat, and Sachs (2001)	Employs a unique panel dataset of macroeconomic, ownership structure, and indicator variables measuring the depth and breadth of reform and privatization for 24 transition countries to determine whether "change of ownership" (privatization) alone is enough to promote improved economic performance over the 1990–98 period, or whether "deep privatization" involving improved corporate governance, enhanced prudential regulation, and hardening of budget constraints is also required. Develops an OBCA indicator variable for each country measuring the breadth and depth of reforms, and includes this variable in regressions. Uses four measures of economy-wide macroeconomic performance as dependent variables.	Regardless of the performance measure employed, finds that economic performance gains come only from deep privatization—meaning that change of title reforms only yield economic gains after key institutional and agency-related reforms have exceeded certain threshold levels. By themselves, change of title reforms never have a significant impact on performance, but the higher the OBCA level a country has, the more positive the impact of an increase in change of title on economic performance. While ownership matters, institutions matter just as much.
Cull, Matesova, and Shirley (2002)	Examines the incentive of managers of voucher-privatized Czech companies to "tunnel" (strip assets out of companies at the expense of outside shareholders) and "loot" their companies. Looting occurs when firms face a soft budget constraint and managers are able to borrow heavily, extract funds from the firm, and then default on the debt without penalty. Employs a dataset with 1,017 observations from 392 companies spread nearly evenly between 1994 and 1996. Half the firms are voucher-privatized joint stock companies (JSCs), while half are limited liability companies (LLCs).	Controlling for size, industry, capital intensity, and initial leverage, finds that voucher-privatized JSCs perform significantly worse than firms with concentrated ownership that are purchased for cash. Investment fund–controlled JSCs underperform all other firms, including other JSCs. Fund-controlled JSCs also take on liabilities at a much faster rate than other firms, indicating that they are operating under a soft budget constraint. Though not able to measure directly, evidence indirectly shows that looting is a widespread occurrence for many JSCs.

Claessens and Djankov (2002)	Examines changes in the performance of 6,354 privatized and state-owned firms in seven transition economies over the 1991–95 period, and tests whether privatization improves performance (as measured by increased sales and labor productivity). Sample includes all manufacturing firms that are registered as state owned in 1991 and have more than 25 employees and have full balance sheet and income statements for 1992–5. Constructs panel data showing evolution of ownership over the period.	Finds that privatization is associated with significantly increased sales and productivity growth and, to a lesser extent, with fewer job losses. In six of seven countries, privatized firms show higher sales growth or smaller declines in sales than SOEs, and privatized firms reduce their sales forces by an average of 6.11 percent, compared to 7.42 percent for SOEs (a significant difference). The positive effect of privatization is stronger in economic magnitude and statistical significance as the time elapsed since privatization increases.
Grosfeld and Tressel (2002)	Examines whether competition and corporate governance are substitutes or complements with respect to promoting performance improvements in Poland's transition. Uses the available data for all 200 nonfinancial firms listed on the Warsaw Stock Exchange from 1991 to 1998. First studies the separate effects of competition and ownership concentration on productivity growth at the firm level, and then examines their interaction.	Finds that product market competition has a positive and significant impact on performance. The effect of ownership concentration, which is quite high in Poland, turns out to be U-shaped. Firms with dispersed ownership and those where one shareholder owns more than 50 percent of voting shares have higher productivity growth than those with intermediate levels of ownership concentration. Competitive pressure does not affect newly created firms, but does significantly improve performance of privatized companies. Presence of a large foreign owner increases productivity growth significantly. Concludes that good corporate governance and competitive pressures are complements.
Lizal and Svejnar (2002)	Uses a panel of over 83,500 quarterly observations from 4,000 medium and large Czech companies over the 1992–98 period to assess the effects of mass privatization on firm performance.	Finds that foreign owners unambiguously improve long-term performance (measured several ways, including profits and investment) of privatized companies, but domestic owners do not.

TABLE 4. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Kocenda and Svejnar (2002)	Analyzes the effect of ownership on postprivatization performance using a dataset of 2,529 to 2,949 observations on an unbalanced panel of 1,371 to 1,540 medium and large Czech firms. Defines six categories of owners and examines the impact of each.	Find that concentrated foreign ownership improves economic performance, but domestic private ownership does not, relative to state firms. Foreign-owned firms engage in strategic restructuring by increasing sales and profits, while domestic firms reduce sales and labor costs without increasing profits. Ownership concentration is generally associated with improved performance. Overall, concludes that state ownership plays a much more economically and socially beneficial role in this transition economy than theory would predict.
Glennerster (2003)	Using a panel dataset on 470 formerly state-owned firms in the former Yugoslav Republic of Macedonia (FSRM) for 1996–99, examines whether privatization increases profitability of divested companies. Uses a fixed effects panel data regression to address selection bias in both the timing and method of privatization.	Finds weak but significant evidence that privatization can yield benefits even with predominantly insider sales and in an environment of weak corporate governance. On average, privatization leads to a 30 percent increase in revenues and costs, a 16 percent increase in the number of workers employed, and a $1,200 increase in profits per worker. Firms sold to outsiders and those with more concentrated ownership expand more than other, similar firms after privatization. Employee buyouts perform relatively poorly. Also finds that lack of access to capital is an important reason why insider privatizations perform poorly, since those firms where new owners bring in new capital see particularly high growth rates after privatization.

Source: Megginson 2005, chapters 3 and 4; Chong and López-de-Silanes 2005.

TABLE 5. Summary of Recent Empirical Studies Examining Whether the Imposition of Hard Budget Constraints and Improved Incentives for Managers Improve Corporate Performance

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Groves, Hong, McMillan, and Naughton (1994)	Using a sample of data for 769 Chinese state-owned enterprises over the years 1980–89, examines the impact of developing a competitive managerial labor market on firm performance and management productivity.	Finds that new positive and negative incentives were effective in promoting improved performance, and that management contracts were widely adopted as part of reform process. Poorly performing managers were more likely to be replaced, and managerial pay was linked to firm sales and profits. Output per worker rose 67 percent in real terms between 1980 and 1989 for sample firms. Competition improved performance without ownership changes.
Bertero and Rondi (2000)	Employing a sample of 150 Italian manufacturing SOEs, with 1,278 firm-year observations, examines whether imposition of a hard budget constraint can improve SOE performance. Exploits the fact that the fiscal environment became much tighter for Italian state enterprises in the late 1980s.	Find that the SOE firms' response to increased debt during the hard budget constraint period, 1988–93, was consistent with financial pressure, but was not during the soft budget constraint period of 1977–87. Only during the later period did firms respond to financial pressure by increasing total factor productivity and reducing employment. Imposition of a hard budget constraint improves performance without ownership change.
Frydman, Gray, Hessel, and Rapaczynski (2000)	Examines whether the imposition of hard budget constraints is alone sufficient to improve corporate performance in the Czech Republic, Hungary, and Poland. Employs a sample of 216 firms, split between state-owned (31 percent), privatized (43 percent), and private (26 percent) firms.	Finds that privatization alone added nearly 10 percentage points to the revenue growth of a firm sold to outside owners. Most important, finds that the threat of hard budget constraints for poorly performing SOEs falters, since governments are unwilling to allow these firms to fail. The brunt of the lower creditworthiness of SOEs falls on state creditors. Privatization is required to improve performance; the threat of a hard budget constraint is not credible.

Source: Authors' compilations.

effect on the net price, while "investment" and "efficiency" programs actually reduce the price. Chong and López-de-Silanes (2002) also show that even labor force retrenchment programs are counterproductive, as they all too often lead to adverse selection in the employees being let go.

Methods of Sales

Megginson and others (2004) study the determinants of the choice between asset sales and share issue privatization. The study shows that the choice depends on both market institutions and firm-specific factors. Larger and more profitable firms are more likely to be sold via public capital markets. Better protection of property rights leads to a higher chance of privatization via asset sale.

The existing research on share issue privatization (summarized in Megginson 2005, chapter 6) shows that these issues are substantially underpriced. Investors who buy the privatization share issues earn statistically and economically significant excess returns (about 30 percent!) both in the short and long term. This is especially striking given that the corporate finance literature documents negative long-term excess returns for private sector share offerings. The underpricing probably reflects the fact that privatizing governments pursue multiple goals rather than just revenue maximization (see Boycko, Shleifer, and Vishny 1995; Biais and Perotti 2002).

Welfare Effects

Studies of the effects of privatization on social welfare and inequality have traditionally focused on divestments of utilities. These studies measure the effect of privatization on the access to services and generally find substantial benefits, especially for lower-income groups.[3] Galiani, Gertler, and Schargrodsky (2001) show that water privatization in Argentina has resulted not only in substantial productivity growth but also in reduction in child mortality (saving the lives of about 500 infants and young children each year). Similar results are obtained in the studies of telecom privatizations (see tables 4.12 and 4.13 in Megginson 2005 for a summary of the results).

Stock Market Development

Another important impact of privatization is the development of financial markets. Privatizations have contributed not only to the rise of the global capital markets but, more importantly, have increased capitalization and liquidity of almost all national stock markets outside the United States. Boutchkova and Megginson (2000) calculate the turnover ratios (total value of trading over the market capitalization) for individual financial markets and regress these on the number of privatization deals in a given country in a particular year. Controlling for country fixed effects and first-order autocorrelation, they find that each privatization raises the stock market liquidity (proxied by the turnover ratio) by 2.3 percent in the next year and by further 1.7 percent the year after that. The relationship between privatization and stock market development seems to be well understood by the governments: Megginson and others (2004) show that governments are more likely to privatize through share issues in countries with *less* developed capital markets, apparently in order to foster stock market development.

When Does Privatization NOT Work?

The most thorough panel study of mass privatization (Brown, Earle, and Telegdy 2006) shows that privatization substantially improves productivity in Romania and Hungary (by about 20 to 30 percent) but has no positive effect in Ukraine and even a negative effect in Russia. If the general lesson from privatization research is that privatization usually "works," how should one explain the failure of privatization in Russia and other CIS countries? The evidence suggests that privatization succeeds, but only if the relevant institutional environment is in place—including private property rights protection, rule of law, hard budget constraints, competition, and regulation (see table 6, as well as tables 1–5). In this respect, Russia and other CIS countries did not have the benefit of prospective EU accession to force the pace of necessary reforms. Also, EU accession made privatization irreversible in Central and Eastern Europe, while in the CIS policy reversal was indeed an important risk (which did in fact materialize in Belarus and Russia, and almost materialized in Ukraine); hence a fast mass privatization was needed. The other major problem in the CIS arose from the decision to rule out foreign participation in privatization for ideological reasons. Given all the constraints, Russian and other CIS privatizers had to adopt noncash privatizations.

Research shows that noncash privatization is inferior to trade sales and share issue privatization. The intuition is straightforward. First, noncash privatization results in insider ownership, which implies that demand for institutional reforms develops very slowly. Since market institutions are not in place, secondary market trading results in ownership concentration in the hands of a few politically connected owners.[4] The larger the insider's ownership stake, the more the insider is protected from expropriation and regulation, and the more market power the company has. Therefore it is not surprising that in Russia, Ukraine, and other CIS countries, the postprivatization redistribution results in economic domination by a few large business groups (Guriev and Rachinsky 2005). The role of these so called "oligarchs" is not clear. On one hand, they improve performance of their own firms and provide the only counterweight to a predatory government. They also represent the only significant constituency for whatever pro-market institutional change might take place in Russia (Boone and Rodionov 2002; Guriev and Rachinsky 2005). On the other hand, their dominance subverts institutions in their own favor at the expense of competition policy and entry of new firms.[5]

The other implication of noncash mass privatization is the resulting fragility and ambiguity of private property rights. As the owners have paid relatively little for the assets, voters believe that privatization is not fair, and the politicians can always find support for expropriation. This risk undermines incentives to invest. Moreover, the negative attitude to privatization may eventually result in a nationalization backlash (as observed in Russia since early 2004).

Given all the problems with privatization in Russia, was there a better alternative? Boycko, Shleifer, and Vishny (1995) and Nellis (1999) argue that the voucher privatization was the lesser evil. Unlike Central and Eastern Europe, Russia lacked an outside anchor of EU accession, had a divided government, and therefore could

TABLE 6. Summary of Empirical Studies of Privatization in Russia and Former Soviet Republics

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Earle (1998)	Investigates the impact of ownership structure on the (labor) productivity of Russian industrial firms. Using 1994 survey data, examines differential impact of insider, outsider, and state ownership on the performance of 430 firms—of which 86 remain 100 percent state owned, 299 are partially privatized, and 45 are newly created. Adjusts empirical methods to account for tendency of insiders to claim dominant ownership in the best firms being divested.	OLS regressions show a positive impact of private (relative to state) share ownership on labor productivity, with this result primarily due to managerial ownership. After adjusting for selection bias, however, finds that only outsider ownership is significantly associated with productivity improvements. Stresses that leaving insiders in control of firms—while politically expedient—has very negative long-term implications for the restructuring of Russian industry.
Earle and Estrin (1998)	Using a sample very similar to that used by Earle (1998) above, examines whether privatization, competition, and the hardening of budget constraints play efficiency-enhancing roles in Russia.	Finds that a 10 percentage point increase in private share ownership raises real sales per employee by 3–5 percent. Subsidies (soft budget constraints) reduce the pace of restructuring in state-owned firms, but the effect is small and often insignificant.
Djankov (1999a)	Investigates the relation between ownership structure and enterprise restructuring for 960 firms privatized in six newly independent states between 1995 and 1997. Employs survey data collected by the World Bank in late 1997 from Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, Russia, and Ukraine.	Shows that foreign ownership is positively associated with enterprise restructuring at high ownership levels (>30 percent), while managerial ownership is positively related to restructuring at low (<10 percent) or high levels, but negative at intermediate levels. Employee ownership is beneficial to labor productivity at low ownership levels, but is otherwise insignificant.
Djankov (1999b)	Using the same survey data as in Djankov (1999a) above, studies effects of different privatization modalities on restructuring process in Georgia (92 firms) and Moldova (149 firms). Georgia employs voucher privatization, while the majority of Moldovan firms are acquired by investment funds—and numerous others are sold to managers for cash.	Privatization through management buy-outs is positively associated with enterprise restructuring, while voucher privatized firms do not restructure more rapidly than firms that remain state owned. Implies that managers who gain ownership for free may have less incentive to restructure, as their income is not based solely on the success of the enterprise.

Estrin and Rosevear (1999)	Uses a random sample of 150 Ukrainian firms with data from 1996 to test the relationship between enterprise performance and ownership. Explores whether privatization yields improved company performance and whether specific ownership forms lead to differentiated performance at the enterprise level.	Finds that privatization, per se, is not significantly associated with improved performance, and finds no benefit to outside (versus insider) ownership. Does find clear positive effects associated with insider ownership. Outside owners are never able to deliver performance superior to SOEs, and insider ownership does not yield a better profit performance than in nonprivatized companies.
Anderson, Lee, and Murrell (2000)	Examines effects of competition and ownership on the efficiency of newly privatized firms using a sample 211 Mongolian companies with (survey-derived) ownership data in 1995. Mongolia's privatization program is being implemented in a country lacking the basic institutions of capitalism.	Finds that competition has qualitatively large effects; perfectly competitive firms have nearly double the efficiency of monopolies. Enterprises with residual state ownership appear to be more efficient than other enterprises, reflecting an environment where the government is pressured to focus on efficiency and institutions gave little voice to outside owners.
Djankov and Nenova (2000)	Uses data for over 6,600 Kazakh enterprises during 1996–99 to examine "why did privatization fail in Kazakhstan?" Tries to explain rapid declines in output for all sectors except oil and gas.	Finds that newly created (de novo) private enterprises, established after 1992, perform markedly better than privatized firms or those that remain SOEs. Privatized firms perform as badly as, or worse than, SOEs. Privatization fails to improve performance because divested firms are used as short-term vehicles for extracting private benefits.
Grigorian (2000)	Examines the relationship between ownership and operating performance using a dataset of 5,300 small, medium, and large Lithuanian companies with data over the 1995–97 period. Performance defined as increased revenues and improved export performance. Also uses regression analysis to study a subsample of 618 companies which were fully state owned in 1995; roughly half of these were partially privatized over the next two years.	Concludes that privatization has brought significant performance improvements overall. Also finds a negative bias in selecting firms for privatization; once this is accounted for, performance improvement is even more dramatic (there is a nine-fold increase in the coefficient on private ownership). Expected subsidies contribute negatively to performance, but the study finds no significant impact regarding market competition.

TABLE 6. *continued*

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Andreyeva (2001)	Examines empirically the responsiveness of firm performance to ownership and market structures, sector and regional specificity, and varying degrees of soft budget constraints. Uses a panel of 524 medium and large firms with performance data for 1996–98.	Finds that firm efficiency improves significantly with privatization. Also documents a significant influence of industry affiliation and regional location in shaping firm performance; more concentrated markets perform better. Concludes that a policy of attracting strategic investors capable of pushing restructuring and bringing new investment to privatized firms should become a priority for policy makers.
Pivovarsky (2001)	Using data on 376 medium and large Ukrainian firms, investigates the relationship between ownership concentration and enterprise performance.	Finds that ownership concentration is positively associated with enterprise performance, and that concentrated ownership by foreign companies and banks is associated with better performance than concentrated domestic ownership. Concludes that the privatization method has lasting impact on ownership structure; privatization methods that grant significant ownership stakes to single parties have greater efficiency gains than methods that create dispersed ownership.
Jones and Mygind (2002)	Uses fixed effects production function models estimated on a random sample of 660 Estonian firms with data from 1993 to 1997. Privatization in Estonia created a widely varied ownership structures, and the study attempts to estimate the relationship between ownership and productive efficiency.	Finds that, relative to state ownership, private ownership is 13–22 percent more efficient; all types of private ownership are more productive, though concentrated managerial ownership has the biggest effect (21–32 percent improvement) and ownership by domestic outsiders the smallest (0–15 percent improvement), with ownership by foreigners (21–32 percent) and employees (24–25 percent) yielding intermediate levels of improvement.

Source: Authors' compilations.

not credibly commit to reforms. The privatizers therefore rushed to use the narrow window of opportunity. In order to make the reform irreversible, they had to sell tens of thousands of enterprises within a very few years; a case-by-case approach could have taken decades. It was not an issue of maximizing revenue from the auctions, since it would have been hard to run all the auctions in a fair and transparent manner.[6] Additionally, while transition in Russia is taking longer than that of Central and Eastern Europe, it is still happening, while in Belarus and a few other CIS countries the reforms have been delayed indefinitely. It is also important to put the Russian experience in perspective. Grosfeld and Hashi (2003) show that even though the Czech Republic and Poland have pursued very different privatization policies, the ultimate ownership structures are actually quite similar and are driven by the same factors. This is also consistent with the studies in table 6: privatization works in Russia as well whenever it results in concentrated ownership (in particular, foreign ownership). By design, the Russian voucher privatization program did not generate such ownership structure right away, but the postprivatization reallocation should eventually produce an efficient ownership structure. Because of the underdeveloped financial markets and legal system it has taken much longer than expected, but the recent comprehensive study of ownership structure in Russian industry (Guriev and Rachinsky 2005) shows that this pattern is finally emerging. Yet even though there is concentrated ownership within firms that strengthens incentives, the illegitimacy of property rights undermines incentives to invest. This negative implication of the haste of privatization is likely to last for years.

The "Great Outlier": China

Another case study often used by the opponents of privatization is the transition experience of China. Allegedly, China is growing very fast without mass privatization—or even because of the decision not to privatize. However, the existing evidence suggests that privatization works in China as well (see table 7). Foreign ownership and foreign listing (in particular, listing in Hong Kong) also positively affect performance.

It is also not true that China has not privatized, although initially the government decided to try to improve SOE performance without privatization. As these hopes faded, China began privatizing smaller SOEs or leasing them to managers in an exchange of a fixed share of the resulting profit (Kikeri and Kolo 2005). This arrangement can be likened to partial privatization. Much privatization has also occurred via foreign direct investment into China. As a result, employment at Chinese state-owned industrial enterprises fell by half during the 1990s.

China has also undertaken case-by-case privatizations of minority blocks for a few hundred large SOEs. According to the World Bank Privatization Database, there were about 200 large privatization deals between 1991 and 2003 that yielded revenues of more than $US18 billion—about as much as the entire Russian privatization. However, partial privatization did not result in substantial efficiency improvements; one reason was the prevalence of soft budget constraints resulting from state banks that made nonperforming loans to SOEs. While further privatization is certainly needed, the Chinese government is delaying full privatization of all SOEs out of fear of high unemployment and the attendant negative political implications.

TABLE 7. Summary of Empirical Studies of Privatization in China

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Jia, Sun, and Tong (2002)	Examines whether privatization through listing of Chinese companies in Hong Kong causes performance to improve. Uses a sample of 41 Chinese H-share SIPs from 1993–98. Uses MNR and pooled regression panel data methodology.	Finds that real net profits are unchanged after privatization, and that return on sales declines significantly. Output increases and leverage decline significantly. Regressions show that state ownership is negatively related to performance. H-share ownership has significant, positive effect on performance.
Sun and Tong (2003)	Evaluates the performance of 634 Chinese SOEs listed on stock exchanges during the period 1994–98. Uses both Megginson, Nash, and van Randenborgh (MNR) preprivatization vs. post privatization comparisons and panel data regression methods to examine whether partial divestment improves firm's earnings, output, and efficiency (real output per employee). Also examines differential effect of state and "legal person" shareholdings.	Using MNR methods, finds significant improvements in return on sales and the level of real earnings, real sales, and employee productivity after partial privatization. Also finds that more recently privatized companies are of higher quality—and perform better after divestment—than do those divested earlier. Panel data regressions verify basic findings that privatization improves performance, and find that different ownership structures have opposite effects on a firm's performance. State shareholdings hinder performance, while "legal person" shareholdings promote improvements.
Tian (2003)	Examines the ownership and control structure of 826 partially privatized companies listed on Chinese stock exchanges from 1994–98 and tests the relationship between ownership structure and firm value—as measured by Tobin's Q.	Finds that government shareholding remain very large in partially privatized companies, and that the relationship between state holdings and firm value is U-shaped. Going from state ownership levels of 0 to 30 percent, increasing ownership, causes firm value to decline, but after that Tobin's-q increases with increasing state ownership.

Wei, Varella, D'Souza, and Hassan (2003)	Uses MNR methods to test whether performance improved for 208 Chinese companies partially privatized through public share offering between 1990 and 1997.	Documents significant improvements in real output, assets, sales, sales efficiency, the level of real profits, and leverage. Firms in which more than 50 percent voting control is conveyed to private investors improve performance more than do those that remain state controlled.
Bai, Li, and Tao (2006)	Using a comprehensive panel of 15,496 enterprises for 1998–2003, examines how privatization affects corporate performance and the stakeholders' payoffs. All enterprises in the sample were state owned in 1998; 18 percent of them were privatized by 2003.	Finds that the layoffs are not large, and that those who remain employed benefit. Consumers benefit from lower prices, and tax payments do not change. Performance improves via lower costs of finance and administration. Privatizing more than 50 percent of the firm has a stronger effect than privatizing a minority stake.

Source: Authors' compilations.

These fears have not materialized yet. The recent study by Bai, Li, and Tao (2006) examines a comprehensive dataset of 15,000 Chinese firms from 1998 to 2003. All these firms were state owned in 1998, and 18 percent of them were privatized during the period. The panel nature of the dataset allows including firm-level fixed effects, which takes care of many methodological problems. It turns out that lay-offs are smaller than in other countries, and those workers who remain employed receive higher wages and nonwage benefits. Other stakeholders benefit from privatization as well. Consumers enjoy lower prices, yet tax payments do not change. The effects on firm performance are positive and mostly come from the lower costs of finance and administration. Also, consistent with the discussion above, privatization of a majority stake has greater positive effects than the privatization of a stake below 50 percent.

Conclusions and Policy Implications

There is now a growing body of research on all aspects of privatization that uses detailed datasets and up-to-date methodology. This research provides solid evidence that privatization "generally" works, both for the firms that are privatized and for privatizing economies as a whole. While privatization usually results both in increased productivity and reduced employment in privatized firms, fears of negative overall effects at the economy level are not justified.

An important caveat here is that the benefits of privatizations depend on market institutions being in place. The countries that manage to ensure property rights protection and the rule of law, impose hard budget constraints, increase competition, and improve corporate governance reap the largest benefits. If appropriate institutions are not in place, privatization often fails to improve performance at the firm level and for the economy as a whole.

Emprical research provides a strong case for openness in privatization. Virtually all studies point to a positive role of foreign investors. Firms privatized to foreign owners exhibit the highest productivity increases. Moreover, as foreign owners usually buy the assets in a more competitive bidding process, they are likely to pay a high price for the privatized assets—and the threat of competition from foreign bidders also tends to raise the bids of domestic investors. Receiving a high net privatization price is important, not only for fiscal reasons but also for the political legitimacy of emerging private property rights and the sustainability of reforms.

How does one reconcile the privatization research with the two cases that seem to contradict the positive impact of privatization: China and Russia? Our understanding of the extant evidence is that China and Russia are not outliers. China's growth has come from private sector development, even as many SOEs are still destroying value. Moreover, much privatization that did occur in the last decade produced substantial benefits both for the firms and for the social welfare. Russia's privatization did not produce the expected benefits, but this is related to the lack of good institutions. Yet the privatizations did result—albeit more slowly than expected—in a demand for institutional change. Russia's transition has been bumpy, but it is not clear whether there was a better alternative. Russia lacked an outside anchor to provide a credible

commitment to reforms, unlike Central and Eastern European countries. It could not privatize to foreigners, as this was politically unacceptable. Finally, as a resource-rich country, it faced substantial macroeconomic volatility because of huge terms-of-trade shocks in the 1990s.

There are still many state-owned enterprises around the world (Nellis 2006), especially in Asia, the Middle East, and Africa, and—after the recent re-nationalization wave—in Russia. What advice can the extant research provide to policy makers who are contemplating privatization of these firms? This paper suggests that the strength of the evidence varies. We know much more about the firm-level effects of privatization, but the evidence on the welfare effects of privatization is scant, and our understanding of the specifics of complementarities between privatization and institutional change is limited.

We start with the lessons for which the evidence is substantial and rather non-controversial:

- Privatization can deliver substantial benefits for the privatized firm. In some cases productivity doubles; in other cases it increases by single percentage points. Capital spending typically increases dramatically, and the companies become financially healthier—in particular, less heavily leveraged.

- Privatization is usually accompanied by either no change or a reduction in employment. Privatizers should be prepared to handle the increased unemployment, and experience suggests that most privatizing countries manage this problem reasonably well.

- Mass privatization is usually inferior to the case-by-case approach. Noncash privatization is generally worse than trade sales and share-issue privatization. The choice between share-issue privatizations and trade sales is driven by several factors—including firm size, the need to develop national stock markets, and the trade-off between better governance under concentrated ownership versus the difficulty of finding a single buyer for a large company.

- Policy trade-offs are resolved most effectively when privatization is transparent and open to foreign investors. However, insiders and domestic investors always lobby against allowing foreign participation and often stir up nationalistic sentiment. Precluding foreign ownership always results in lower privatization prices and lower efficiency after privatization.

- Share-issue privatization brings an important side benefit of contributing to the development of the national stock market.

There is also preliminary evidence on the following important issues:

- Privatization usually produces welfare gains beyond the increased productivity at the firm level. Privatization generally results in lower prices for consumers—especially if competition is encouraged—and does not contribute to higher inequality.

- Restructuring enterprises before privatization is unlikely to work.

- Privatization works well wherever there are good institutions.

The relative lack of evidence on these questions is caused by methodological and data problems. In all three cases, one needs a convincing counterfactual, which is extremely difficult to create. In the case of the impact of restructuring before privatization, this seems possible in principle; a government could randomly choose to restructure some firms before privatization, yet leave others unrestructured. It is much harder to construct a counterfactual for the other two issues, since their impact is related to economy-wide effects. In order to estimate the welfare and inequality effects, one has to collect economy-wide microeconomic data. In order to measure the complementarities between privatization and institutions, one has to measure the institutions and again have a convincing counterfactual. These issues certainly call for further research. While the data challenges are serious, they are not insurmountable. For example, to estimate the importance of the complementarities between privatization and institutions, one could compare the effects of privatization across industries (as in Rajan and Zingales 1998). As some industries differ in terms of their "institutions-intensity," one can expect to see similar effects of privatization in sectors that are low in institution-intensity in all countries; in the sectors where good institutions are crucial, the effect of privatization would be higher in countries with better institutions—provided one can measure institutions well. Another approach could rely on the emerging literature on political connections (Faccio 2006). Do political connections matter for the choice of firms to be privatized, for the price received, or for their subsequent performance? What are the channels for political connections to affect privatization? These and other research avenues are well within reach and will promote understanding of privatization.

Notes

1. For extensive reference lists, see Megginson and Netter (2001); Djankov and Murrell (2002); and Megginson (2005).
2. See also Shirley and Xu (1998); Shirley (1999).
3. See McKenzie and Mookherjee (2003) for four countries in Latin America; Fischer, Gutierrez, and Serra (2005) for Chile; Jones, Jammal, and Gokgur (1998) for Côte d'Ivoire; Appiah-Kubi (2001) for Ghana.
4. In the dataset in Faccio (2006), Russia ranks first in terms of political connections.
5. See Glaeser, Scheinkman, and Shleifer (2003); Sonin (2003); Acemoglu (2005).
6. In Serbia, the emphasis was on fairness of the auctions rather than on high price. In Russia, the sheer magnitude of privatization made both efficiency and optimality of the privatization auctions impossible. The reformers relied instead on the subsequent reallocation of ownership via the stock market; this eventually happened but has taken more time than was initially expected.

References

Acemoglu, Daron. 2005. "The Form of Property Rights: Oligarchic vs. Democratic Societies." Department of Economics, Massachusetts Institute of Technology.

Anderson, James H., Young Lee, and Peter Murrell. 2000. "Competition and Privatization Amidst Weak Institutions; Evidence from Mongolia." *Economic Inquiry* 38: 527–49.

Andreyeva, Tatiana. 2001. "Company Performance in Ukraine: What Governs its Success?" Working paper, RAND Graduate School of Policy Analysis.

Angelucci, Mauella, Saul Estrin, Jozef Konings, and Zbigniew Zoliewski. 2001. "The Effect of Ownership and Competitive Pressure on firm Performance in Transition Countries: Micro Evidence from Bulgaria, Romania, and Poland," Discussion Paper 2985, Center for Economic Policy Research (CEPR), London.

Appiah-Kubi, Kojo. 2001. "State-Owned Enterprises and Privatization in Ghana." *Journal of Modern African Studies* 39 (2): 197–229.

Bai, Chong-En, Jiangyong Li, and Zhigang Tao. 2006. "How Does Privatization Work in China?" Tsinghua University, Beijing.

Barone, Enrico. 1908. "The Ministry of Production in the Collectivist State." Reprinted in *Collectivist Economic Planning: Critical Studies on the Possibilities of Socialism*, ed. Friedrich A Hayek, 245–90. London: Routledge.

Berg, Andrew, Eduardo Borensztein, Ratna Sahay, and Jeromin Zettelmeyer. 1999. "The Evolution of Output in Transition Economies: Explaining the Differences." Working paper, International Monetary Fund (IMF), Washington, D.C.

Bertero, Elisabetta, and Laura Rondi. 2000. "Financial Pressure and the Behavior of Public Enterprises Under Soft and Hard Budget Constraints: Evidence from Italian Panel Data." *Journal of Public Economics* 75: 73–98.

Biais, Bruno, and Enrico Perotti. 2002. "Machiavellian Privatization." *American Economic Review* 92: 240–58.

Birch, Melissa, and Jerry Haar, eds. 2000. *The Impact of Privatization in the Americas*. Miami: North-South Center Press.

Boardman, Anthony, and Aidan R. Vining. 1989. "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed, and State-Owned Enterprises." *Journal of Law and Economics* 32: 1–33.

Boardman, Anthony E., Claude Laurin, and Aidan Vining. 2000. "Privatization in Canada: Operating, Financial, and Stock Price Performance With International Comparisons." Working paper, University of British Columbia, Vancouver.

Boone, Peter, and Denis Rodionov. 2002. "Rent Seeking in Russia and the CIS." Brunswick UBS Warburg, Moscow.

Boubakri, Narjess, and Jean-Claude Cosset. 1998. "The Financial and Operating Performance of Newly Privatized Firms: Evidence From Developing Countries." *Journal of Finance* 53: 1081–1110.

———. Forthcoming. "Does Privatization Meet the Expectations? Evidence from African Countries," *Journal of African Economics*.

Boubakri, Narjess, Jean-Claude Cosset, and Omrane Guedhami. 2005. "Postprivatization Corporate Governance: The Role of Ownership Structure and Investor Protection." *Journal of Financial Economics* 76: 369–99.

Boutchkova, Maria K., and William L. Megginson. 2000. "Privatization and the Rise of Global Capital Markets." *Financial Management* 29: 31–76.

Boycko, Maxim, Andrei Shleifer, and Robert Vishny. 1995. *Privatizing Russia*. Cambridge, Mass.: MIT Press.

Brown, David, John Earle, and Almos Telegdy. 2006. "The Productivity Effects of Privatization: Longitudinal Estimates from Hungary, Romania, Russia, and Ukraine." *Journal of Political Economy* 114: 61–99.

Carlin, Wendy, Steven Fries, Marc Schaffer, and Paul Seabright. 2001. "Competition and Enterprise Performance in Transition Economies: Evidence from a Cross-Country Survey." Discussion Paper 2840, Center for Economic Policy Research (CEPR), London.

Chisari, Omar, Antonio Estache, and Carlos Romero. 1999. "Winners and Losers from the Privatization and Regulation of Utilities: Lessons from a General Equilibrium Model of Argentina." *World Bank Economic Review* 13(2): 357–78.

Chong, Alberto, and Florencio López-de-Silanes. 2002. "Privatization and Labor Force Restructuring Around the World." Policy Research Working Paper 2884, World Bank, Washington, DC.

———. 2005. "The Truth about Privatization in Latin America." In *Privatization in Latin America: Myths and Reality,* ed. Alberto Chong and Florencio Lopez-de-Silanes, 1–66. Stanford University Press and the World Bank.

Chong, Alberto, and Jose Miguel Sánchez, editors. 2003. *Medios privados para fines públicos: Arreglos contractuales y participación privada en infrastructura en América Latina.* Washington, DC: Inter-American Development Bank Press.

Claessens, Stijn, and Simeon Djankov. 1999a. "Enterprise Performance and Management Turnover in the Czech Republic." *European Economic Review* 43: 1115–24.

———. 1999b. "Ownership Concentration and Corporate Performance in the Czech Republic." *Journal of Comparative Economics* 27: 498–513.

———. 2002. "Privatization Benefits in Eastern Europe." *Journal of Public Economics* 83: 307–24.

Claessens, Stijn, Simeon Djankov, and Gerhard Pohl 1997. *Ownership and Corporate Governance: Evidence from the Czech Republic.* Policy Research Paper 1737, World Bank, Washington, DC.

Clarke, George, and Robert Cull. 2001. "Bank Privatization in Argentina: A Model of Political Constraints and Differential Outcomes." Policy Research Working Paper 2633, World Bank, Washington, DC.

Coricelli, Fabrizio, and Simeon Djankov. 2001. "Hardened Budgets and Enterprise Restructuring: Theory and an Application to Romania," *Journal of Comparative Economics* 29: 749–63.

Cull, Robert, Jana Matesova, and Mary Shirley. 2002. "Ownership and the Temptation to Loot: Evidence from Privatized Firms in the Czech Republic." *Journal of Comparative Economics* 30: 1–25.

Demsetz, Harold, and Kenneth Lehn 1985. "The Structure of Corporate Ownership: Causes and Consequences." *Journal of Political Economy* 93 (6): 1155–77.

Dewenter, Kathryn, and Paul H. Malatesta. 2000. "State-Owned and Privately Owned Firms: An Empirical Analysis of Profitability, Leverage, and Labour Intensity," *American Economic Review* 91: 320–34.

Djankov, Simeon. 1999a. "Ownership Structure and Enterprise Restructuring in Six Newly Independent States." *Comparative Economic Studies* 41: 75–95.

———. 1999b. "The Restructuring of Insider-Dominated Firms: A Comparative Analysis." *Economics of Transition* 7: 467–79.

Djankov, Simeon, and Peter Murrell. 2002. "Enterprise Restructuring in Transition: A Quantitative Survey." *Journal of Economic Literature* 40: 739–92.

Djankov, Simeon, and Tatiana Nenova. 2000. "Why Did Privatization Fail in Kazakhstan?" Working paper, World Bank, Washington, DC.

D'Souza, Juliet, and William L. Megginson. 1999. "The Financial and Operating Performance of Newly Privatized Firms in the 1990s," *Journal of Finance* 54: 1397–1438.

Dumontier, Pascal, and Claude Laurin. 2002. "The Financial Impacts of the French Government Nationalization-Privatization Strategy." Working paper, University of Geneva.

Dyck, I., and J. Alexander. 1997. "Privatization in Eastern Germany: Management Selection and Economic Transition." *American Economic Review* 87: 565–97.

Earle, John S. 1998. "Post-Privatization Ownership Structure and Productivity in Russian Industrial Enterprises." SITE working paper, Stockholm School of Economics.

Earle, John, and Saul Estrin 1998. "Privatization, Competition, and Budget Constraints: Disciplining Enterprises in Russia." SITE Working Paper 128, Stockholm School of Economics.

Earle, John, and Almos Telgedy. 2001. "Productivity and Ownership Structure in Romania: Does Privatization Matter?" Working paper, Central European University, Budapest.

Estache, Antonio. 2002. "Argentina's 1990s Utilities Privatization: A Cure or a Disease?" Working paper, Free University of Brussels.

Estrin, Saul, and A. Rosevear. 1999. "Enterprise Restructuring and Ownership: The Case of Ukraine." *European Economic Review* 43: 1125–36.

Faccio, Mara. 2006. "Politically Connected Firms." *American Economic Review* 96: 369–86.

Fidrmuc, Jana P., and Jan Fidrmuc. 2001. "Firm Performance, CEO Turnover, and Managerial Labor Market in the Czech Republic." Working paper, Tilburg University, The Netherlands.

Fischer, Ronald, Rodrigo Gutierrez, and Pablo Serra. 2005. "The Effects of Privatization on Firms and on Social Welfare." In *Privatization in Latin America: Myths and Reality,* ed. Alberto Chong and Florencio Lopez-de-Silanes, 197–274. Stanford University Press and the World Bank.

Florio, Massimo. 2001. "The Welfare Impact of a Privatisation: The British Telecom Case-History." Working paper, University of Milan.

Frydman, Roman, Marek Hessel, and Andrzej Rapaczynski. 2000. "Why Ownership Matters? Entrepreneurship and the Restructuring of Enterprises in Central Europe." Working paper, C.V. Starr Center for Applied Economics, New York University.

Frydman, Roman, Cheryl W. Gray, Marek Hessel, and Andrzej Rapaczynski. 1999. "When Does Privatization Work? The Impact of Private Ownership on Corporate Performance in Transition Economies." *Quarterly Journal of Economics* 114: 1153–91.

———. 2000. "The Limits of Discipline: Ownership and Hard Budget Constraints in the Transition Economies." Working paper, C.V. Starr Center for Applied Economics, New York University.

Galal, Ahmed, Leroy Jones, Pankaj Tandon, and Ingo Vogelsang. 1994. *Welfare Consequences of Selling Public Enterprises.* Oxford: Oxford University Press.

Galiani, Sebastián, Paul Gertler, and Ernesto Schargrodsky. 2001. "Water for Life: The Impact of the Privatization of Water Services on Child Mortality." Working paper, University of California, Berkeley.

Glaeser, Edward, Jose Scheinkman, and Andrei Shleifer. 2003. "The Injustice of Inequality." *Journal of Monetary Economics,* Carnegie-Rochester Series on Public Policy, 50 (1): 199–222.

Glennerster, Rachel. 2003. "Evaluating Privatization in the Former Yugoslav Republic of Macedonia." Working paper, Kennedy School of Government, Harvard University.

Green, Richard, and Ingo Vogelsang. 1994. "British Airways: A Turn-Around Anticipating Privatization." *In Privatization and Economic Performance,* ed. Matthew Bishop, John Kay, and Colin Mayer, chapter 4. Oxford: Oxford University Press.

Grigorian, David. 2000. "Ownership and Performance of Lithuanian Enterprises." Policy Research Working Paper 2343, World Bank, Washington, DC.

Grosfeld, Irena, and Iraj Hashi. 2003. "Mass Privatisation, Corporate Governance, and Endogenous Ownership Structure." Working Paper 596, William Davidson Institute, University of Michigan, Ann Arbor.

Grosfeld, Irena, and Thierry Tressel. 2002. "Competition and Ownership Structure: Substitutes or Complements? Evidence from the Warsaw Stock Exchange." *Economics of Transition* 10 (3): 525–52.

Groves, Theodore, Yongmiao Hong, John McMillan, and Barry Naughton. 1994. "Autonomy and Incentives in Chinese State Enterprises." *Quarterly Journal of Economics* 109: 183–209.

Guriev, Sergei, and Andrei Rachinsky. 2005. "The Role of Oligarchs in Russian Capitalism." *Journal of Economic Perspectives* 19 (1): 131–50.

Hachette, Dominique, and Rolf Luders. 1993. *Privatization in Chile: An Economic Appraisal.* San Francisco: International Center for Economic Growth.

Harper, Joel T. 2001. "Short-Term Effects of Privatization on Operating Performance in the Czech Republic." *Journal of Financial Research* 24: 119–31.

Hart, Oliver, Andrei Shleifer, and Robert Vishny. 1997. "The Proper Scope of Government: Theory and an Application to Prisons." *Quarterly Journal of Economics* 112 (4): 1126–61.

Holmstrom, Bengt, and Paul Milgrom. 1991. "Multi-task Principal-agent Analyses: Linear Contracts, Asset Ownership, and Job Design." *Journal of Law, Economics, and Organization* 7: 24–52.

Jia, Jin, Qian Sun, and Wilson H. S. Tong. 2002. "Privatization via Overseas Listing: Evidence from China's H-Share Firms," Working paper, Nanyang Technological University, Singapore.

Jones, Derek, and Niels Mygind. 2002. "Ownership and Productive Efficiency: Evidence from Estonian Panel Data," *Review of Development Economics* 6: 284–301.

Jones, Leroy P., Yahya Jammal, and Nilgun Gokgur. 1998. *Impact of Privatization in Côte d'Ivoire: Draft Final Report.* Boston Institute for Developing Economies, Boston University.

Kikeri, Sunita, and Aishetu Fatima Kolo. 2005. "Privatization: Trends and Recent Developments." Policy Research Working Paper 3765, World Bank, Washington, DC.

Kocenda, Evzen, and Jan Svejnar. 2002. "Ownership and Firm Performance after Large-Scale Privatization," Working paper, University of Michigan, Ann Arbor.

Lange, Oscar. 1936. "On the Economic Theory of Socialism: Part One/Part Two." *Review of Economic Studies* 1936–37, 4(1): 53–71 and 4(2): 123–42.

La Porta, Rafael, and Florencio López-de-Silanes. 1999. "Benefits of Privatization—Evidence From Mexico," *Quarterly Journal of Economics* 114 (4): 1193–1242.

Laurin, Claude, and Yves Bozec. 2000. "Privatization and Productivity Improvement: The Case of Canadian National (CN)." Working paper, Ecoles de HEC, Montreal.

Lipton, David, and Jeffrey Sachs. 1990. "Creating a Market Economy in Eastern Europe: The Case of Poland." *Brookings Papers on Economic Activity* 1: 75–133.

Lizal, Lubomir, and Jan Svejnar. 2001. "Investment, Credit Rationing, and the Soft Budget Constraint: Evidence from Czech Panel Data," *Review of Economics and Statistics* 84: 353–70.

———. 2002. "Privatization Revisited: The Effects of Foreign and Domestic Owners on Corporate Performance." Working paper, University of Michigan, Ann Arbor.

Lizal, Lubomir, Miroslav Singer, and Jan Svejnar. 2000, "Enterprise Break-ups and Performance during the Transition from Plan to Market," *Review of Economic Statistics* 83: 92–99.

López-de-Silanes, Florencio. 1997. "Determinants of Privatization Prices." *Quarterly Journal of Economics* 112: 965–1025.

———. 2005. "Dos and Don'ts in Privatization: Evidence from Developing Countries." *Privatization Barometer* Newsletter 2: 29–35.

Macquieira, Carlos, and Salvador Zurita. 1996. "Privatizaciones en Chile: Eficiencia y Politicas Financieras." *Estudios de Administracion* 3: 1–36.

Martin, Stephen, and David Parker. 1995. "Privatization and Economic Performance throughout the UK Business Cycle." *Managerial and Decision Economics* 16: 225–37.

Maskin, Eric. 2000. "Auctions, Development, and Privatization: Efficient Auctions with Liquidity-Constrained Buyers." The Marshall Lecture to the European Economic Association, *European Economic Review* 44 (4–6): 667–81.

McKenzie, David, and Dilip Mookherjee. 2003. "The Distributive Impact of Privatization in Latin America: Evidence from Four Countries." Working paper, Stanford University.

Megginson, William L. 2005. *The Financial Economics of Privatization,* 1st edition. New York: Oxford University Press.

Megginson, William L., and Jeffry M. Netter. 2001. "From State to Market: A Survey of Empirical Studies on Privatization." *Journal of Economic Literature* 39: 321–89.

Megginson, William L., Robert C. Nash, and Matthias van Randenborgh. 1994. "The Financial and Operating Performance of Newly Privatized Firms: An International Empirical Analysis." *Journal of Finance* 49: 403–52.

Megginson, William L., Robert C. Nash, Jeffry Netter, and Annette Poulsen. 2004. "The Choice of Public versus Private Markets: Evidence from Privatizations." *Journal of Finance* 59: 2835–70.

Nellis, John. 1999. "Time to Rethink Privatization in Transition Economies?" Discussion Paper 38, International Finance Corporation, Washington, DC.

———. 2006. "Privatization in Developing Countries: A Summary Assessment." Working Paper 87, Center for Global Development, Washington, DC.

Newbery, David, and Michael G. Pollitt. 1997. "The Restructuring and Privatization of Britain's CEGB—Was it Worth it?" *Journal of Industrial Economics* 45: 269–303.

Okten, Cagla, and K. Peren Arin. 2001. "How Does Privatization Affect the Firm's Efficiency and Technology Choice? Evidence from Turkey." Working paper, Louisiana State University, Baton Rouge.

Omran, Mohammed. 2001. "The Performance of State-Owned Enterprises and Newly Privatized Firms: Empirical Evidence from Egypt," Working paper, Arab Academy for Science and Technology, Alexandria, Egypt.

———. 2002. "Initial and Aftermarket Performance of Egyptian Share Issue Privatization." Working paper, Arab Monetary Fund—Economic Policy Institute, Abu Dhabi, UAE.

Petrazzini, Ben A., and Theodore H. Clark. 1996. "Costs and Benefits of Telecommunications Liberalization in Developing Countries," Working paper, Hong Kong University of Science and Technology, Hong Kong.

Pinheiro, Armando Castelar. 1996. "*Impactos Microeconomicos da Privatizacao no Brasil.*" *Pesquisa e Planejamento Economico* 26: 357–98.

Pivovarsky, Alexander. 2001. "How Does Privatization Work? Ownership Concentration and Enterprise Performance in Ukraine" Working Paper 01/42, International Monetary Fund, Washington, DC.

Pohl, Gerhard, Robert E. Anderson, Stijn Claessens, and Simeon Djankov. 1997. "Privatization and Restructuring in Central and Eastern Europe: Evidence and Policy Options." Technical Paper 368, World Bank, Washington, DC.

Pombo, Carlos, and Manuel Ramírez. 2005. "Privatization in Columbia: A Plant Performance Analysis." In *Privatization in Latin America: Myths and Reality,* ed. Alberto Chong and Florencio Lopez-de-Silanes. Stanford University Press and the World Bank.

Price, Catherine Waddams, and Thomas Weyman-Jones. 1996. "Malmquist Indices of Productivity Change in the UK Gas Industry before and after Privatization." *Applied Economics* 28: 29–39.

Rajan, Raghuram, and Luigi Zingales 1998 "Financial Dependence and Growth." *American Economic Review* 88: 559–86.

Ramamurti, Ravi. 1996. "The New Frontier of Privatization." In *Privatizing Monopolies: Lessons From the Telecommunications and Transport Sectors in Latin America,* Ravi Ramamurti, ed., 1–45. Baltimore: Johns Hopkins University Press.

———. 1997. "Testing the Limits of Privatization: Argentine Railroads." *World Development* 25: 1973–93.

Ros, Augustin J. 1999. "Does Ownership or Competition Matter? The Effects of Telecommunications Reform on Network Expansion and Efficiency," *Journal of Regulatory Economics* 15: 65–92.

Saal, D. S., and David Parker. 2003. "The Impact of Privatization and Regulation on the Water and Sewerage Industry in England and Wales," Working paper, Aston University, Birmingham, UK.

Sanchez, Manuel, and Rossana Corona. 1993. "Privatization in Latin America." Center for Research in Applied Economics, Inter-American Development Bank, Washington, DC.

Sheshinski, Eytan, and Luis Lopez-Calva. 1999. "Privatization and its Benefits: Theory and Evidence." Discussion Paper 698, Harvard Institute for International Development (HIID), Harvard University.

Shirley, Mary. 1999. "Bureaucrats in Business: The Role of Privatization in State Owned Enterprise Reform." *World Development* 27 (1): 115–36.

Shirley, Mary, and Lixin Colin Xu. 1998. "Information, Incentives, and Commitment: An Empirical Analysis of Contracts between Government and State Enterprises." *Journal of Law Economics and Organization* 14 (2): 358–78.

Shleifer, Andrei. 1998. "State versus Private Ownership." *Journal of Economic Perspectives* 12: 133–50.

Smith, Stephen C., Beon-Cheol Cin, and Milan Vodopivec. 1997. "Privatization Incidence, Ownership Forms, and Firm performance: Evidence From Slovenia." *Journal of Comparative Economics* 25: 158–79.

Sonin, Konstantin. 2003. "Why the Rich May Favor Poor Protection of Property Rights," *Journal of Comparative Economics* 31 (4): 715–31.

Sun, Qian, and Wilson H. S. Tong. 2003. "China's Share Issue Privatization: The Extent of its Success." *Journal of Financial Economics* 70: 183–222.

Sun, Qian, Feng Fang, and Wilson H. S. Tong. 2004 "Do Government-Linked Companies Necessarily Underperform?" *Journal of Banking and Finance* 28: 2461–92.

Sun, Qian, Jin Jia, and Wilson H. S. Tong. 2002. "Malaysian Privatization: A Comprehensive Study." *Financial Management* 31: 5–31.

Tian, George Lihui. 2003. "Government Shareholding and the Value of China's Modern Firms." Working paper, London Business School.

Trujillo, Lourdes, Noelia Martín, Antonio Estache, and Javier Campos. "Macroeconomic Effects of Private Sector Participation in Latin America's Infrastructure." Policy Research Working Paper 2906, World Bank, Washington, DC.

Verbrugge, James A., William L. Megginson, and Wanda Lee Owens. 1999. "The Financial Performance of Privatized Banks: An Empirical Analysis," Working paper, University of Georgia, Athens, Georgia.

Villalonga, Belen. 2000. "Privatization and Efficiency: Differentiating Ownership Effects from Political, Organizational, and Dynamic Effects," *Journal of Economic Behavior and Organization* 42: 43–74.

Wallsten, Scott J. 2001. "An Econometric Analysis of Telecom Competition, Privatization, and Regulation in Africa and Latin America." *Journal of Industrial Economics* 49: 1–19.

Wei, Zuobao, Oscar Varela, Juliet D'Souza, and M. Kabir Hassan. 2003. "The Financial and Operating Performance of China's Newly Privatized Firms." *Financial Management* 32: 107–26.

Weiss, Andrew, and Georgiy Nikitin. 1998. "Effects of Ownership by Investment Funds on the Performance of Czech Firms." Working paper, Boston University.

Zinnes, Clifford, Yair Eilat, and Jeffrey Sachs. 2001. "The Gains from Privatization in Transition Economies: Is 'Change of Ownership' Enough?" *IMF Staff Papers* 48: 146–70.

Comment on "The Institutional Determinants of State Capabilities in Latin America," by Ernesto Stein and Mariano Tommasi; "Lowering the Cost of Capital in Emerging Market Economies," by Erik Berglof, Patrick Bolton, Sergei Guriev, and Ekaterina Zhuravskaya; and "Privatization: What Have We Learned?" by Sergei Guriev and William Megginson

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Impediments to Growth

What is common to the three papers presented in this session? All of them explore what characteristics of institutions encourage development and growth. They discuss the impediments to growth that contribute to the twin phenomenon of the high cost of capital and low return to economic activity. The recurrent themes of the three papers are corruption, expropriation of investors, capacity of special interests to capture rules, and the importance of enforcement. The political preconditions for successful reforms are clearly recognized.

Quality of Policies

Ernesto Stein and Mariano Tommasi focus on the impact of political institutions on the policy-making processes. They argue that the quality of the policy-making processes may matter more than the content of the policies. To be sure, if the state is unable

(or unwilling) to enforce laws and regulations, it is clear that the content of reform does not matter so much. But if reforms become credible, their content matters a lot.

The authors suggest several features necessary to improve the quality of decisions: stability, adaptability, coordination and coherence, enforcement, public regardedness, and efficiency. The question is what makes policies stable but adaptable when necessary, consistent, and focused on the public interest. Stein and Tommasi identify several characteristics of political institutions that appear as strong determinants of the quality of policy making: a well-established party system, a capable legislature, independent judiciaries, and a strong bureaucracy. We can expect indeed that if political institutions incite political actors to reach and enforce intertemporal agreements, the policy making process will be more stable and adaptable.

Sequencing

The problem that remains unanswered is how to get there from where we are. Stein and Tommasi recognize the problem and in future work want to study the way in which desirable institutional characteristics are built over time. This is the problem of sequencing, which was extensively discussed during the initial period of transition and which gave rise to passionate debates. One aspect of those debates, on which Andrei Shleifer and Joseph Stiglitz disagreed, is discussed in the paper by Sergei Guriev and William Megginson: market institutions and appropriate regulation are needed in order to obtain the benefits of privatization, but the support for building such institutions requires a critical mass of private ownership. So what should come first?

Guriev and Megginson remind us that the experience of transition provides examples supporting both options. Let me name two such examples. The Czech Republic is a case of rapid privatization and delayed institutional change; Poland is one of careful institution building and slower privatization. Despite such opposed sequencing, both countries succeeded in the medium term. The fact that Russia failed in this respect, and that the demand for good institutions has been slow to emerge, should not be attributed, however, to voucher privatization as such; we should rather look at the nature of the Russian political system. The existing political institutions do not provide a favorable framework for development-friendly institutional change. They did not stop vested interests created by the privatization process from blocking the necessary regulations. They do not stimulate the mobilization of social energies and ideas in order to make the institutional change growth-enhancing.

The features of the political system described by Stein and Tommasi as desirable are lacking in Russia. They were, however, present in Poland and in the Czech Republic, two countries that have adopted two very different forms of voucher privatization.

Relationship between Formal and Informal Institutions

More generally, an important issue in this sequencing debate concerns the relationship between formal institutions (laws and formal rules) and informal institutions

(norms of behavior and conventions). Many observers of the transition experience argue that the change in formal institutions should have been slower because informal institutions inherited from the past were in conflict with the new formal ones, or at least not in line with them. To be sure, the ideal sequencing would be the one in which progressive evolution of social norms and ideas contributed to the emergence of formal laws and rules. However, this is not a one-way relationship. The formation of norms of behavior is strongly influenced by the existing laws and rules. The introduction of laws protecting contracts can accelerate the emergence of behavior respecting contracts. Norms are cultivated and maintained by imitation and by sanctions. So the change of legal constraints can, very slowly, bring about the change of strategies, values, and eventually, of social norms. For instance, the speed of adjustment of the mental and behavioral constraints and legacies of the period of central planning, such as the level of understanding of the working of a market economy, the respect of contracts, or attitudes toward foreign investors, will be higher if the environment in which the economic agents operate is structured by well-designed formal rules. But it is clear that putting in place new laws is not enough. In order to trigger a virtuous dynamic of institutional change, it is necessary to reset expectations. This requires credible commitment to and actual implementation of reforms.

Bankruptcy

The way bankruptcy procedures are introduced and managed plays a key role in shaping expectations and in ensuring the credibility of economic transformation. The most important part of the paper by Erik Berglof, Patrick Bolton, Sergei Guriev, and Ekaterina Zhuravskaya is devoted to bankruptcy. The authors recognize that although the use of formal bankruptcy procedures is low in developing countries and most debt enforcement occurs outside formal bankruptcy, it is important to properly design bankruptcy laws. The paper gives a very careful and complete discussion of the intricacies of bankruptcy law in emerging market economies.

Let me stress one difference between developing countries and transition economies. The key issue in the countries in transition is restructuring. These countries are not in the process of industrialization; they rather have to channel resources from the industrial sector to services, cut obsolete product lines, get rid of unproductive assets, withdraw capital from some lines of production, and invest it in new ventures. The extent of the necessary disbanding of irrationally bundled assets distinguishes enterprise restructuring in transition countries from structural adjustment in developing countries.

Bankruptcy procedures may have both direct and indirect impact on enterprise restructuring. Indirectly, the mere threat of bankruptcy may change the expectations of managers and encourage them to adopt restructuring measures to avoid insolvency. Even a limited number of firms going under may convince managers to take bankruptcy seriously. The actual implementation of bankruptcy procedures directly affects enterprises restructuring. Here, the design of bankruptcy law appears particularly important.

I strongly agree with the clear conclusion given in the paper concerning the right balance between reorganization and liquidation: bankruptcy law in emerging markets economies should have a liquidation bias. This is an important conclusion that goes against the usual argument in favor of reorganization, which is supposed to give necessary breathing space to enterprises facing unusually strong shocks. If an economy needs to profoundly reorient its productive structure, liquidation may be less damaging than is often assumed. Empirical evidence shows that reorganization plans in transition economies have usually included only measures of financial restructuring and have very rarely relied on well-elaborated business plans. Typically, the quality of reorganization submitted by the incumbent managers has been rather poor; moreover, these plans have rarely been implemented.

Here, we touch upon the second question discussed in the paper. Who controls the assets during the bankruptcy process? An important advantage of liquidation—straight sale of a firm or piecemeal sale of assets—is that it reassigns control over assets. An efficient matching of managers appears crucial for effective restructuring. A firm in bankruptcy should not be systematically left with the same managerial team that has brought it to insolvency. The quality of restructuring might be enhanced if some elements of contestability were introduced through, for instance, open bidding for the control of the firm.

Lessons of Empirical Research on Privatization

In their summary of the literature, Guriev and Megginson stress two conclusions: there are important complementarities between privatization and other reforms; and foreign ownership is beneficial. The first point is very important. There is an increasingly wide consensus that in order to be effective, privatization requires appropriate institutional reforms. However, if we move from such a general claim, the unanimity disappears. What is really important? Protection of property rights? Competition? Financial system? Corporate governance? The legal system? These questions bring us back to the issue of sequencing. It is clear that many institutions are strongly correlated, but in any system of governance there are also institutions that are substitutes and not complements. For instance, in the Czech Republic, the enforcement of the bankruptcy law was postponed for a couple of years, but it was partially compensated by the commitment to privatize rapidly.

Concerning the benefits of foreign ownership, it should be stressed that several empirical studies failed to identify a positive impact of foreign shareholders on firm performance. More generally, the empirical results on the impact of privatization on performance should be assessed with caution. We should not draw conclusions putting together studies using poor data and high-quality data: given the experience of 15 years, we should not take too seriously studies covering the first two or three years. More importantly, we should carefully discriminate between studies using poor methodology and careful empirical strategy. It is increasingly recognized that studying the relationship between ownership and performance is a tricky question and we have at least to take into account endogeneity and selection bias.

Market Socialism

As Guriev and Megginson refer to this old idea, let me say a word about it. Market socialism relied on an illusion that it was possible to eliminate the uncertainty plaguing capitalist economies. The central planner was supposed to have access to all necessary information to realize his objectives. He was supposed to be able to decide which enterprises and sectors should be developed and which should be contracted, what new projects should be realized, and so on. What we call transition indeed involves a change of the paradigm and could be defined as a process of abandoning the utopian view of predictable society and going back to the world full of risk and uncertainty. The uncertainty characterizing economies in transition is the one typical for any complex economic system that is confronted every day with new problems. But this "universal" uncertainty is magnified by the need for a profound redeployment of assets in the conditions of rapid changes in relative prices, profoundly reshaped macroeconomic policy, political uncertainty due to the slow emergence of democratic institutions, and to the new types of inequalities.

This makes distinguishing potential winners from unquestionable losers in the sector of state-owned enterprises particularly difficult. Assessing the value of and the prospects for a firm comes up against the lack of adequate information, incentives, and competence. In such circumstances, the generation of information about various investment opportunities becomes the critical issue in enterprise restructuring. Viewing the process of transition as the switch to an economic system stimulating a lot of information generation may have important policy implications. It gives some clues for assessing reform measures and the emerging institutional and organizational order. It also makes blatant the inability of market socialism to respond to such challenge.

Conclusions?

We learned a lot from the papers about the intricate relationship between institutions and development. But we are still far from fully understanding the process of successful institutional change. We know that there are no ready-to-wear solutions. All three papers recognize great variability of rules and institutions across countries and over time and suggest caution in drawing general conclusions. The political system, culture, religion, legal origin, financial development: all of them may matter.

Given the existing evidence and experience, let me venture a tentative conclusion: What appears most important is to create conditions for flexible adjustment of institutional setting to country-, industry-, and firm-specific constraints. A democratic system seems to provide the best framework for such adjustment, which requires freely confronting different ideas about the organization of the society.

Comment on "The Institutional Determinants of State Capabilities in Latin America," by Ernesto Stein and Mariano Tommasi; "Lowering the Cost of Capital in Emerging Market Economies," by Erik Berglof, Patrick Bolton, Sergei Guriev, and Ekaterina Zhuravskaya; and "Privatization: What Have We Learned?" by Sergei Guriev and William Megginson

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Governance is one of the most important factors behind economic development. The three papers in this session consider governance from three different but closely related aspects: namely, political governance, corporate governance, and ownership. It is very useful to consider these three topics together because they interact with one another, and the political economy of corporate governance and that of privatization are valuable case studies of political governance. Therefore, the three papers are excellent complements of one another.

Ernesto Stein and Mariano Tommasi take the view that the policy-making process is more important than specific policies themselves. For tthe policy-making process to be effective, the state needs to have the capabilities to make policies in the interest of the general public rather than that of narrow interest groups, to commit to the intertemporal consistency of policies, to adjust policies when circumstances change, and to enforce policies effectively. The ability for political actors to cooperate over time is particularly important. These capabilities depend on the characteristics of the executive, legislative, and judicial branches of the government, on the party system, and on the quality of the bureaucracy. This framework for understanding policy is a

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welcome change to the conventional approach of prescribing a one-size-fits-all menu of specific policies to developing countries.

Erik Berglof, Patrick Bolton, Sergei Guriev, and Ekaterina Zhuravskaya emphasize the interaction between political governance and corporate governance. They argue that government failures as well as market failures affect corporate governance, and at the same time, corporations are potent political actors and have the capacity to influence government policy. As political institutions vary significantly across countries, corporate governance practices should adapt to the local environment. Again, there is no one-size-fits-all solution to corporate governance problems. This political economy approach to understanding corporate governance is especially relevant for emerging markets. This paper makes a significant contribution by focusing one's attention to this important aspect.

Sergei Guriev and William Megginson survey the empirical literature on the effect of privatization on the performance of the privatized firm and on society. Yet again, there is no simple conclusion. Although privatization usually has positive effects on firm productivity and social welfare, the effects depend on institutions. The experiences of China and Russia are used as case studies. Given the rapidly expanding literature on privatization, this survey is very timely.

A major feature of public policy considered by Stein and Tommasi is public regardedness: that is, the degree to which policies pursue the public interest. This is one of the most difficult goals of public policy to achieve. In many policy areas, special interest groups benefit at the expense of the general public. Corporate governance and privatization policies are no exceptions. The next two sections of this discussion will present two examples from China to illustrate this point: one on the public interest and corporate governance, and the other on the public interest and privatization. But first, let me make a few observations about the two examples.

In the example about corporate governance, one can see that simply protecting the interests of the investors is not enough. Even if the government does not own the firm or lend to it, public interests can still be damaged by the governance failures of the firm when the government's role is that of a regulator and it is pressured to carry out a *regulator bailout*. Therefore, corporate governance should help prevent regulator bailout. The example about privatization demonstrates that one should not just look at its effect on the financial performance of the firm but also consider the effects on the general public and other stakeholders.

The examples also show that the specific policy of ownership of firms has significant effects on other policies in addition to the policy-making process. Furthermore, cooperation among political actors, which is emphasized by Stein and Tommasi, may be counterproductive when political actors in the policy arena do not fully represent the interests of the general public. Finally, the examples provide evidence of the importance of the capabilities for the bureaucrats to enforce and implement policies.

The two examples illustrate how special interests can benefit from public policies at the expense of the general public, but they are not meant to belittle the importance of another issue: that is, how the interests of minority groups should be protected from "the tyranny of the majority." Stein and Tommasi do not spend much space on

this issue either. However, this is a very important issue, and more research should be conducted on it. The remainder of this note presents the two examples.

The Public Interest and Corporate Governance

To illustrate the role of government in corporate governance, consider the case of securities firms in China. There are about 130 securities firms in China. Their business lines include investment banking, asset management, and retail brokerage services, among others. Most of these firms are wholly or partially owned by various levels of governments, most by local governments. They are treasured by their government owners because they bring many benefits to state-owned enterprises under the jurisdiction of the government owners and sometimes to government officials.

These firms hold two types of accounts for investment in the securities markets: accounts owned by their brokerage clients, and accounts owned by the firms themselves for managing their own assets. The retail clients often leave some cash in their accounts to facilitate future trading. To protect the interests of the retail clients, the government has issued regulations forbidding unauthorized transfers of funds between retail-client accounts and the securities firm's own accounts.

In reality, however, the "firewall" between the two types of accounts required by the government regulation have turned out to be a "paper wall"; the regulation was written on paper but poorly enforced. As a result, it was a widespread practice for securities firms to divert funds from client accounts to make investment for their own accounts. If the investment paid off well, the diverted funds would be retuned to the client accounts when the clients needed to use the money. However, if the investment went badly, the securities firm would have difficulty paying back the clients. This problem got very severe when the whole market was in decline. In some cases, the securities firm would have gone bankrupt if there had been no cash infusion into the firm.

If the securities firm had gone bankrupt, its brokerage clients would have lost their money not because they had made bad investment choice themselves but because their funds had been diverted from their accounts to make risky investment by the firm without their authorization. The poor enforcement of the firewall between the client accounts and the securities firm's own account was partly responsible for the problem. Therefore, the government faced considerable pressure from brokerage clients to bail out the securities firm. Meanwhile, the government owner of the securities company also lobbied the central government to keep the securities firm afloat by injecting news funds into the firm. Usually, it was the central bank that was footing the bill for the bailout.

The problem did not go away with the bailout. The securities firms formed the expectation of being bailed out when they ran into trouble and kept repeating the same practice. After all, when they gambled by investing clients' funds without authorization in risky assets, they would reap big profits if the investment happened to go well, and they did not have to bear the cost if the investment went bad. For

example, one securities firm had only 100 million yuan in capital but owed its clients 2 billion yuan in 2002. After a round of bailouts, it lost more money in its gambles and its deficit increased to 4 billion yuan in 2004. In total, the government spent tens of billions of yuan to bail out securities firms in trouble.

Several lessons related to governance and ownership can be learned from this example. First, the general public interest can be damaged when the government as the regulator is forced to bail out a firm for its corporate governance failure. A good corporate governance system should prevent this from happening. Corporate governance is sometimes narrowly defined as the collection of mechanisms that protect the interests of investors so that they can obtain sufficient return to cover their costs of investment and therefore have continued incentives to invest in the future. An even narrower definition focuses on the interests of shareholders. However, creditors are also important investors, and their interests cannot be ignored either. To protect investor interests, one should find ways, including proper bankruptcy rules, to mitigate the potential conflicts between insiders and investors of a firm. The insiders whose expropriation activities one should protect the investors from include controlling shareholders as well as the management. In emerging markets where the rule of law is inadequate to control government expropriation, ways should also be found to protect the investors from the government. If we focus only on investor interests, the conventional corporate governance mechanisms seem useful in China. Bai and others (2004) find that publicly listed firms in China with better conventional corporate governance mechanisms tend to have higher market valuation.

However, our example shows that merely protecting investor interests is not enough. Members of the general public are also stakeholders whose interests should be protected by the corporate governance mechanisms. In the literature, people have considered the interests of employees, customers, and other suppliers as stakeholders that should be protected by corporate governance mechanisms. The interests of the general public have also been considered when the government is an investor or when firms may cause environmental damages. However, except for the banking sector, the discussion seems to have ignored the possible damage to the public interest when the government, as the regulator, is forced to bail out firms due to their governance failure. This issue needs to be considered when discussing corporate governance.

The second lesson is that in addition to the policy-making process that is emphasized by Stein and Tommasi, the specific policy of firm ownership matters: not only for corporate governance but also for government behavior. In our example from China, the lobby of local government owners of the securities firms played an important role in pressing for the bailout. Furthermore, it seems that society is more ready to tolerate the bailout of a state-owned enterprise (SOE) than a private enterprise.

Third, if some interests, especially the general public interest, are not represented in the policy-making arena, the close cooperation emphasized by Stein and Tommasi among players that are in the arena may damage the interests of those who are not represented. In the example, the general public is the silent majority in the matter. The securities firms, their owners, and their clients are all politically very vocal. The close cooperation between these vocal stakeholders and the policy makers made it more likely for the bail out to happen.

Fourth, the weakness of the bureaucracy in its regulation enforcement capabilities is another reason for the public interest to be sacrificed. This supports Stein and Tommasi's consideration of the development of the civil service as a determinant of policy outcomes. In our example, if the firewall between the clients' accounts and the securities firm's own accounts had been well enforced, the pressure for bailout would have been much weaker. The enforcement failure was partly due to strong influence of the government owners of the securities firms, but the weak capability of the bureaucracy was also responsible.

Public Interest and Privatization

The privatization process in China also illustrates the difficulty of making policies in the interest of the general public and the danger of special interests colluding with one another at the expense of the public interest.

An SOE in China typically employs too many workers. If it is privatized, the new owner most likely will lay off many of these workers. If the prospect for the laid-off workers to be reemployed by other firms is poor and the social security system is so rudimentary that it is more efficient for the firm to provide the social safety net than for the government to do so, then privatization is costly.

Privatization also brings some benefits to the government owner of the SOE. When an SOE is privatized, the government owner gets the proceeds from privatization and also gets rid of the burden of supporting the SOE from failing.

SOEs in China are not all owned by the central government. Most are owned by local governments at the county, city, or provincial level. Different levels of the government trade off the cost and benefit of privatization differently. All levels of the government take full account of the benefits of privatization, but the local governments consider only part of the cost of privatization because laid-off workers may migrate to other regions in the country. Therefore, local governments may be too aggressive in their privatization efforts and their action may not be in the interest of the whole country. This argument is consistent with the empirical findings in Bai, Lu, and Tao (2006a, 2006b, and 2006c). Bai, Lu, and Tao (2006a) find that privatization tends to reduce the number of employees in the firm on average. Bai, Lu, and Tao (2006b) further find that this is true only for SOEs affiliated with the lower two levels of the government. Bai, Lu, and Tao (2006c) find that for lower-level governments, an SOE affiliated with them is more likely to be privatized if there are more surplus workers in the firm; for higher-level governments, the opposite is true.

The way debt is dealt with when an SOE is privatized suggests that local government owners of SOEs may collude with the buyers, and sometimes the management of the firm, to write off the debt owed by the firms at the expense of banks owned by the central government. Local governments often have close relations with the buyers of the privatized SOEs, but they do not have any stake in the banks to which privatized SOEs owe their money (except in the case of city commercial banks, which are very small compared to central government-owned banks). Therefore, local governments have incentives to help the buyers negotiate a debt write-off from the banks

in the process of privatization. This benefits both the local governments and the new owners of the firms, but is costly to the bank and in turn to the interests of the general public. There is evidence that when a firm is privatized, the level of debt owed by the firm and the financial expenses of the firm both decrease on average (Bai, Lu, and Tao 2006a). Furthermore, this is true only for SOEs affiliated with lower-level governments, but not true for those affiliated with higher-level ones (Bai, Lu, and Tao 2006b). Finally, for lower-level governments, an SOE is more likely to be privatized if it owes more debt. For higher-level governments, the opposite is true (Bai, Lu, and Tao 2006c).

Given that privatization is often used by the local government owners of SOEs to benefit themselves or people with close connections to them at the expense of laid-off workers and the banks owned by the central government, it is not surprising that the evidence does not suggest a significant real improvement in firm performance after privatization. Bai, Lu, and Tao (2006a) find that the profits of a firm tend to increase after privatization, but the profit increases come mainly from the reduction of management expenses and financial expenses. The former may be the result of laying off mid-level managers, and the latter may be due to the debt write-off.

If so, there is not much real improvement. More research is needed if better data become available to further identify the concrete sources of the profitability improvement. Existing data does not allow us to identify other potential benefits of privatization, such as the reduction of bailout or other potential costs of privatization to the government, such as selling the firm at too low a price. Again, more work is needed.

References

Bai, Chong-En, Jiangyong Lu, and Zhigang Tao. 2006a. "How Does Privatization Work in China?" Tsinghua University.

———. 2006b. "The Multitask Theory of State Enterprise Reform: Empirical Evidence from China." *American Economic Review Papers and Proceedings* 96 (2): 353–7.

———. 2006c. "Divergent Interests between Central and Local Governments: Testing Theories of Public Ownership." Tsinghua University.

Bai, Chong-En, Qiao Liu, Joe Lu, Frank M. Song, and Junxi Zhang. 2004. "Corporate Governance and Market Valuation in China." *Journal of Comparative Economics* 32 (4): 599–616.

Judicial Foundations of a Market System

Judicial Reform in Developing Economies: Constraints and Opportunities

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This essay focuses on three recurring problems that bedevil efforts to design and implement effective legal and judicial reform projects. The first problem is a straightforward resource constraint problem: Improving the capacity and quality of a judicial system requires material and human resources that are in short supply in developing economies. The second problem is an incentive compatibility problem: The ability of the judicial system to perform a positive role in promoting development depends on the willingness of affected parties to use the courts to resolve disputes and to abide by judicial decisions, and on the willingness of judges and other legal officers to behave in a manner that is consistent with the requirements of a well-functioning judicial system. The third problem is an institutional version of the General Theory of the Second Best: When a legal system is suboptimal in more than one respect, improving the law or the courts along one dimension may not improve overall institutional performance, and may even worsen it. Scholars and practitioners should pay greater attention to the inherent tradeoffs induced by resource scarcity; the importance of making sure that individual incentives are aligned with institutional objectives; and the dangers that particular institutional reforms that appear to be welfare-improving when considered in isolation may have counterproductive effects, if other institutional reforms are unachievable.

Over the last decade, there has been an extraordinary increase in the attention paid to the role that public institutions play in promoting economic development.[1] Indeed, the assertion that "institutions matter" has become commonplace, perhaps even cliché. This institutionalist revival in the development community has included a resurgence of interest in the role that legal and judicial institutions play, or ought to play, in promoting material improvements in the quality of life of the world's poor. Academics and policy analysts have sought to better understand the relationship between legal institutions and economic performance, while the development community has promoted legal and judicial reform projects that range from modest

efforts to improve court administration to ambitious attempts to eliminate judicial corruption, promote judicial independence, and craft better, more equitable, and more market-friendly legal systems.

The diversity and complexity of the debate about legal and judicial reform, and of the myriad reform projects that have already been undertaken, put a comprehensive overview of the field beyond reach. My purpose here is a more modest one. First, I want to identify what I see as basic and recurring problems that bedevil efforts to design and implement effective legal and judicial reform projects. Second, I hope to suggest some conceptual tools that can be used to address these difficulties.

I have three particular problems in mind. The first is a straightforward resource constraint problem. Improving the capacity and quality of a judicial system requires material and human resources that are in short supply in developing economies. The second problem is what one might think of as an incentive compatibility problem. The judiciary's capacity to perform the economic and other functions assigned to it by law-and-development theorists depends in large part on the willingness of affected parties to use the courts to resolve disputes and to abide by judicial decisions, and on the willingness of judges and other legal officers to behave in a manner that is consistent with the requirements of a well-functioning judicial system. But creating appropriate incentives often proves difficult. The third problem is an institutional version of the General Theory of the Second Best: When a legal system is suboptimal in more than one respect, improving the law or the courts along one dimension may not improve, and may even worsen, overall institutional performance. Understanding this principle is important to understanding, and attempting to avoid, the pitfalls associated with the necessarily incremental and partial nature of virtually all legal and judicial reform efforts.

Why Reform Judiciaries?

It may be useful to remind ourselves why reforming legal and judicial institutions in developing countries is thought to be important. In sketching an answer, I will glide over an even more basic set of conceptual questions. Simply defining "courts," "law," and "lawyers" in comparative or historical contexts can be a challenge, given the variation in institutional arrangements and functions. There is also the vexed question of whether certain qualities of the legal system ought to be considered constitutive of, not merely causally connected to, "development" properly understood (Sen 2000). Without disparaging the significance of these conceptual controversies, for reasons of brevity I will not engage them here. Instead, I use terms like "law," "courts," and "judicial" to refer to the set of institutional arrangements that conventionally carry those labels, even though I acknowledge that substantial institutional variation exists. As for "development," I will focus on the instrumental role of legal and judicial institutions in promoting social welfare, rather than on the intrinsic value of such institutions.

With these definitional preliminaries out of the way, what can we say about the appropriate role of the judicial system in promoting economic development? Generally, the primary service provided by courts is thought to be reliable and efficient dispute

resolution. This service is important to development for at least three reasons.

First, courts enforce contract and property rights, and secure property and contract rights are important for fostering productive investment and arms' length economic transactions (North 1990; World Bank 2005, ch. 4).

Second, state-funded courts may improve economic performance by correcting various market failures. For example, judicial imposition of legal liability for certain types of harm may induce private parties to internalize what would otherwise be negative externalities associated with their conduct. To put the same point in more Coasian terms, a well-functioning judicial system may allocate liability in such a way that total social costs (including the transaction costs associated with bargaining around the initial allocation of legal rights) are minimized (Coase 1960).

Third, judicial enforcement can make commitments—particularly commitments by government—more credible. The basic credible commitment problem identified by Finn Kydland and Edward Prescott (1977) has particular salience for the governments of developing economies, which need to convince both their citizens and international investors to invest in the long term without fear that the government will expropriate the value of these investments (Brunetti and Weder 1994; Henisz 2000). Because courts are supposed to resolve disputes according to preexisting legal commitments—whether contained in contracts, statutes, or constitutions— judicial dispute resolution by independent, effective courts helps enable parties, including government, to bind themselves to take or forgo certain actions under specified circumstances.

To be sure, at least some of these functions can be performed by other institutions, or even by private parties. Thus the American Arbitration Association, the International Chamber of Commerce, the World Bank's International Center for the Settlement of Investment Disputes, and a host of other providers offer conflict resolution services that compete with state-backed courts. But, while competitive private provision of dispute resolution services can be both healthy and desirable (Benson 1990; Landes and Posner 1979), there are several reasons why public provision of dispute resolution services, in the form of effective courts, is superior to exclusive reliance on the private market. First, many forms of private dispute resolution are inherently limited in size or scope (Bueno de Mesquita and Stephenson 2006; Greif 1993). Second, many nongovernmental substitutes for judicial dispute resolution produce significant negative externalities. For example, Curtis Milhaupt and Mark West (2000) show that in the absence of effective state dispute resolution and contract enforcement in Japan, the Yakuza (the Japanese mafia) provides an unsavory substitute. Likewise, Diego Gambetta (1993) found that the Sicilian mafia arose to supply landowners with protection from predatory attacks in an environment where state-supplied law enforcement and dispute resolution was unavailable. Third, courts develop rules, doctrines, and principles that offer guidance for the resolution of future disputes. This is particularly so in common law countries, but it is increasingly the case in civil law countries as well (MacCormick, Summers, and Goodhart 1997). This body of judge-made (or judge-"discovered") law is a public good that benefits individuals other than the parties to the dispute. It would therefore tend to be undersupplied in a private market for dispute resolution services (Landes and Posner 1979).

The preceding summary of the role of the judiciary in economic development is both abstract and general. Specifying the optimal set of judicial and legal institutions for any given country is a much more difficult and context-specific task, one that is well beyond the scope of this essay. The point I want to emphasize is that even if we could specify the optimal judicial and legal institutions for any given developing country, reformers who wanted to bring about progress toward that ideal could not escape three challenging problems: resource constraints, incentive compatibility, and the second best problem. It is to these three issues that I now turn.

Three Dilemmas for Judicial Reformers

Resource Constraints

The first important limitation on the ability of legal and judicial reform to improve overall economic well-being in developing countries is the simple fact that material and human resources are limited. This observation is not especially interesting analytically, but it has great practical significance. After all, every dollar spent on judicial reform is a dollar that cannot be spent on other public goods or put toward economically productive private investment. Every hour spent by government officials drafting judicial reform legislation or investigating methods for improving judicial performance is an hour that could have been spent on other legislative activities. And every talented young man or woman in a developing country who decides to become a lawyer or a judge generally forgoes the possibility of becoming an engineer or a doctor or an entrepreneur (Murphy, Shleifer, and Vishney 1991). (For that matter, every academic paper about legal reform diverts time and attention from papers on other aspects of the development project.)

This is not to disparage the importance of legal and judicial reform as part of the larger project of economic reform. Clearly, legal and judicial reform has some role in the overall development project. The question, from a practical standpoint, is how much of a role it should have when resources are scarce. This is not a question that admits of easy or generic answers. My point, which may be obvious but is nonetheless worth restating, is that devoting development resources to judicial reform projects, and allocating those resources among various judicial reform projects, entails difficult trade-offs. It is therefore important to think more critically about the role of judicial reform as part of a larger development strategy, and about how to set institutional reform priorities.

The prioritization issue relates to a more general set of debates in the academic and policy communities about the degree to which high-quality institutions—including but not limited to judicial institutions—are primarily a cause or a consequence of economic growth (Acemoglu, Johnson, and Robinson 2001; Chong and Calderon 2000). The short, simple, and not very helpful answer to this question is "both." But we need to know more about the nature of the causal relationships in order to make intelligent decisions about how to allocate scarce human and material resources in developing countries. If, for example, a well-functioning judicial system is a necessary precondition for large-scale economic activity, then it might make sense to devote

substantial resources up front to improving the court system. If, on the other hand, a great deal of economic progress and social welfare can be generated with a more modest court system, then it may make sense to devote relatively fewer government resources to the court system early on, targeting these resources instead at other things—such as health care, basic education, and infrastructure—thought to be more important for priming the pump of economic growth. Of course, the productivity of these other sorts of reforms may depend on a well-functioning system for regulating service delivery and resolving disputes, which may require a reasonably effective judicial system. The point is not that judicial reform should be postponed entirely, but rather that resource constraints mean that the allocation of scarce resources to different types of reform efforts involves difficult questions of prioritization.

A similar resource constraint problem, and a similar set of hard choices, appears when we think about how to allocate resources among different types of judicial reform projects. There are, to be sure, some low-hanging fruit: straightforward, inexpensive reforms that yield a very high payoff. Thus, for example, the simple introduction of a computerized list of the jail population can significantly reduce the time those suspected of a crime are held before trial (Hammergren forthcoming). In most instances, however, such low-cost, easy reforms were embraced long ago, leaving the more complex, expensive, and politically controversial ones to be taken up. But usually it is simply impossible, in light of limited resources, for developing country governments or the donor community to tackle all of these at once, and it therefore becomes necessary to pick and choose among different projects.

In that situation, how should priorities be set? Is it more important to train judges or to computerize the case filing and tracking system? Is it more important to invest in fighting judicial corruption or in educating the poor about their legal rights? Does it make more sense to concentrate resources on creating a few highly capable specialized tribunals—say, to deal with disputes involving foreign investors or major business transactions—or to spread resources more widely to improve the average local court? Again, all these things may be valuable, and these choices are "more-less" choices, not "either-or" choices. But they are choices nonetheless, and as Linn Hammergren's forthcoming review of the Latin American experience with judicial reform over the past 25 years shows, there has not been sufficient attention in the field to issues of prioritization and sequencing of judicial reform efforts (ch. 7).

The lack of attention to prioritization and sequencing reflects what Thomas Carothers (2006) has dubbed "the problem of knowledge." Despite more than a decade of experience with programs of all types, knowledge about what factors are conducive to success, and why, remains scarce. This knowledge gap itself reflects a resource problem: the unwillingness of donor agencies and developing country governments to invest in better up-front analysis and more thorough post-reform evaluation (Carothers 2006; Hammergren 2002; Messick 2000). Yet without more robust data on judicial systems and reform experiences, analyzed in the context of the ongoing research on the role of institutions in development, the ability to set appropriate reform priorities is unlikely to improve.

Incentive Compatibility

In order for the judiciary to perform the functions generally assigned to it by law and development theorists, the relevant parties must have appropriate incentives. Individuals must have an incentive to rely on the courts to adjudicate their disputes rather than relying on alternative, socially undesirable dispute resolution mechanisms or forgoing certain transactions altogether. Those with the power to disregard judicial decisions or to subvert judicial independence must have an incentive to refrain from such activities. And the judges themselves must have an incentive to carry out the functions assigned to them.

Consider first the private parties who we would like to encourage to use the courts rather than other mechanisms to resolve their disputes. Of course, it is manifestly not the case that a society or an economy is better off if all potentially justiciable controversies are litigated, as that would entail an enormous social cost (Shavell 1997). Many nonjudicial dispute resolution mechanisms may often be more efficient (from both a private and a social perspective) than the court system, and therefore decisions to forgo judicial adjudication may often reflect a market success rather than a market failure (Bueno de Mesquita and Stephenson 2006). But, we might reasonably suppose that, in an ideal world, the judiciary would be the best forum for the resolution of some nontrivial subset of private disputes, either because alternatives are unavailable or because they are too socially costly. In this subset of cases, the private parties to a dispute must have incentives to rely on the court system. There are a number of reasons, however, why such incentives may not be present.

The first and most obvious reason is that the court system may fail to provide dispute resolution services of acceptable quality. Judges or court administrators may be incompetent, venal, or corrupt, and the law itself may be inefficient or unfair. Or, the private costs to litigants of using the court system—attorneys' fees, filing fees, and other court costs—may be inefficiently high (Shavell 1997). Perhaps there are too few courts or is too much delay in hearing or deciding cases. Redressing these and similar failings is the bread and butter of most judicial reform efforts.

There are also more subtle disincentives to reliance on judicial dispute resolution. Katharina Pistor's (1996) examination of Russian businesses' use of the courts to resolve commercial arbitration in the early 1990s provides an interesting illustration. Numerous observers claimed that during this period Russian businesses tended not to use the courts to resolve commercial disputes; instead, firms relied on nonlegal (or illegal) enforcement mechanisms. Contrary to this prevailing conventional wisdom, Pistor suggests that the reluctance of many Russian businesses to use the courts to resolve contractual disputes was not because the courts were inefficient or because enforcement was unreliable. Rather, the reason had to do with the gross inefficiencies of the Russian legal system, particularly the tax system, which induced most businesses to engage in numerous illegal or semilegal transactions. Going to court would risk disclosing these transactions—even if they were only peripherally related to the dispute at issue—which would often result in undesirable consequences for the firm.

The upshot, for legal and judicial reformers, is that bad law, or other bad collateral effects of invoking the judicial process, can deter use of otherwise efficient and effective judicial institutions. The point may seem obvious in the abstract, but the

more significant lesson here is that, when private parties are not using the courts, it is important to understand why. Improving the law may be of little relevance if judicial institutions are dysfunctional, but improving judicial institutions may likewise prove futile if private parties have strong incentives to avoid the courts for other reasons.

Another hypothesized deterrent to socially efficient use of the court system is "legal culture." It is often claimed, particularly but not exclusively in the context of developing countries, that the use of courts to resolve disputes is considered culturally taboo or otherwise inappropriate, and therefore the use of the courts is inefficiently low and reliance on nonjudicial dispute resolution mechanisms is inefficiently high (Bierbrauer 1994). There are at least two problems with this hypothesis, however. First, it is difficult to specify in advance those cultural norms that pose a socially undesirable impediment to judicial adjudication. Indeed there are several counterexamples in which reliance on judicial dispute resolution became widespread, despite what one might have supposed were adverse cultural norms.[2] Second, many of the examples cited in support of the proposition that cultural predispositions deter use of the courts may actually be examples of the more mundane—though important—type of problem described earlier: the courts simply are not working well, and therefore they are not an efficient alternative to nonjudicial dispute resolution mechanisms (Bueno de Mesquita and Stephenson 2006). A cultural aversion to relying on the formal court system may be an effect, rather than a cause, of a poorly functioning judicial system.

Despite these concerns, however, the question whether specific cultural characteristics deter (or encourage) reliance on judicial dispute resolution is clearly important. If such effects do exist and can be identified, then cultural norms may be both an important constraint on reform and themselves an object of reform. If not, then judicial reformers should be wary of cultural determinist arguments about what sorts of judicial systems will or will not "take" in a particular cultural context.

Up to now, the discussion has focused on the incentives of private parties to rely on the judiciary for the resolution of disputes. An equally significant incentive compatibility question concerns the government. The government must have incentives both to abide by adverse judicial decisions to which it is a party and to enforce against other parties judicial decisions with which the government disagrees. The problem of creating adequate incentives for the government to respect judicial independence and authority is particularly salient if we believe that one of the most important functions of the judiciary is to enable the government to make credible commitments. Appropriate government incentives are important for private dispute resolution as well, since most judicial rulings rely on the government's willingness to enforce them in order to be effective.

There is now a sizable literature on the political and economic factors that may induce governments to respect the rulings of an independent judiciary even when the government dislikes a given decision.[3] One of the most interesting and persuasive explanations for why governments may have an incentive to respect adverse judicial decisions involves the role of long-term political competition between rivals for legislative and executive power. The hypothesis is that, when political competition is robust and the competitors tend to be long-lived political parties, then holders of

political power may prefer to respect the limits imposed by independent courts so long as their rivals do the same when they are in power. Mark Ramseyer (1994) developed this hypothesis to explain why courts in the United States exhibited so much more independence than courts in Japan under LDP rule. I have formalized Ramseyer's hypothesis and provided cross-country statistical evidence of a correlation between stable political competition and judicial independence (Stephenson 2003). The hypothesis finds further support in Thomas Ginsburg's (2003) study of judicial politics in East Asia and Andrew Hanssen's (2004) analysis of the variation in judicial independence across U.S. states. If the findings of this research prove robust, it will put to rest the claim that rule of law reforms can and should precede democratic reform (Zakaria 2003). If an independent judicial constraint on the government depends on robust and stable democratic competition, then attempts to promote judicial independence, or to implement legal or institutional reforms that presume an independent judiciary, are likely to founder in the absence of such competition. The scathing critique of the World Bank's efforts to promote judicial reform in Peru under President Fujimori may lend some case-specific support to this general conclusion (Lawyers' Committee on Human Rights 2000).

Another political mechanism that is sometimes thought to provide the government in power with sufficient incentives to respect independent courts is public support for the judiciary. On this account, because judicial independence improves social welfare—for instance, by ensuring that the government respects welfare-enhancing limits on its own power—attempts by the government to subvert judicial independence or to defy judicial decrees would be detected by public watchdogs and punished by public opinion (Sutter 1997; Vanberg 2001). Anecdotal support for this view is occasionally drawn from instances in U.S. political history in which perceived attempts to defy the courts have triggered political punishment. The negative public reaction to President Roosevelt's plan to "pack" the Supreme Court and to President Nixon's hints that he might defy a Supreme Court order to turn over incriminating evidence during the Watergate investigation are the most prominent examples. President Johnson's willingness to call out the National Guard to enforce the Supreme Court's school desegregation decisions and the negative public reaction to congressional attempts to meddle in the recent Terry Schiavo fiasco in Florida may also illustrate the political support for insulating judicial decisions from government interference.

The implication of this hypothesis, if it proves correct, may be that it is important for judicial reformers to promote a "rule of law culture" in which defiance or manipulation of courts engenders political opposition. But figuring out exactly what that entails is not easy. Moreover, there are reasons to doubt whether a "rule of law culture" is really an independent factor that causes the public to rise to the defense of independent courts. Indeed, there are a number of troubling cases in which an apparent "rule of law culture" proved transient or powerless in the face of determined government hostility to the courts. For instance, Malaysia in the late 1970s and the early to mid-1980s was generally seen as having a greater public commitment to judicial independence and the rule of law than most developing countries. Malaysia also boasted a relatively sophisticated and organized bench and bar. Despite this, after a series of politically controversial rulings provoked a constitutional crisis in 1988, Prime Minister

Mahatir forced out the Lord President of the Supreme Court and cowed the Court into submission (Harding 1990).

It may be that public willingness to defend the courts from political interference arises not because of some general, abstract political commitment to judicial independence, but rather because in certain circumstances, the public is rationally distrustful of government decisions that fail to obtain judicial approval (Stephenson 2004). If that is so, it is not at all clear that the general public would have sufficient incentives to protect the courts from government action that clearly benefited large and powerful political constituencies. The policy implications of this perspective on public support for the courts may differ from those of the "rule of law culture" perspective, in that the key to ensuring an effective judicial check in this view may be developing institutions and practices in which politically relevant constituencies rationally place a high value on the signal sent by judicial decisions, rather than attempting to promote a more general cultural change in affective attitudes toward the courts.

A final incentive compatibility issue concerns the incentives of the judges themselves. If the judges do not have incentives to decide cases in an appropriate manner, the judicial system will cease to function effectively as a forum for dispute resolution or as a source of new or improved law. One source of bad judicial incentives, already discussed, are threats and promises offered by the government in power. But even if the government has incentives to respect judicial decisions, the judges themselves may lack appropriate incentives. The most obvious problems here are the various forms of improper influence brought to bear by interested parties, either in the form of threats (the problem of judicial coercion) or promises (the problem of judicial corruption). This sort of problem is easy to define but hard to combat.

Another concern regarding judicial incentives is that even if judges are not corrupt, their interests may not align with social interests. For instance, judicial decisions, especially in controversial cases, may reflect judges' preexisting political or ideological commitments. Political scientists who study U.S. legal institutions have documented ideological voting on the U.S. Supreme Court and elsewhere, though the extent and significance of ideology in this context is a matter of considerable controversy (Segal and Spaeth 2002). Others have suggested that, in addition to advancing ideological or political goals, judges are concerned with their reputations (Posner 1993; Schauer 2000). This can be a good thing, if judges benefit from a reputation for probity and impartiality. But it can be a bad thing if the judge cares about his or her reputation for loyalty to a particular cause, faction, or ethnic group—a concern that may be particularly acute in deeply divided societies.

The more general take-away point here for those interested in promoting economic development through judicial reform is the importance of thinking about the judges (and other legal professionals) who must carry out the business of the judicial system not as generic idealized arbiters but as flesh-and-blood human beings who are both rational and fallible. If judicial reform is to achieve its intended goals, it must succeed in aligning judicial incentives with social incentives. One particularly nettlesome problem with efforts to address this issue is that many of the mechanisms that would facilitate the government's ability to monitor judges and punish those who are

biased or corrupt may also make it easier for the government to undermine judicial independence. That is, there is a well-known tension between promoting judicial accountability and promoting judicial independence. Furthermore, any attempt to address an incentive problem by relying on external monitors merely shifts the incentive compatibility problem up one level.

The Institutional Version of the General Theory of the Second Best

There is yet a third problem that judicial reformers often encounter. This problem is sometimes described as the problem of "partial" or "incremental" reform, or as the problem of the "interdependence" of legal rules and institutions. The basic idea is that individual reforms that look like good ideas when considered in isolation can sometimes have unintended negative consequences. This problem can be conceptualized as an institutional version of the General Theory of the Second Best described by R.G. Lipsey and Kelvin Lancaster (1956).

Though the General Theory of the Second Best may be familiar to many readers, let me offer a quick and informal summary. When a market contains multiple imperfections, correcting or redressing a subset of those imperfections does not always lead to overall improvements in social welfare. In fact, in some cases the correction of some but not all market failures can lead to an overall *reduction* in social welfare. Although the "first best" world may be the one in which all market distortions have been corrected, if the elimination of certain market failures is not possible for some reason, then the "second best" world is not necessarily the one in which other market distortions are minimized. The correction of some market distortions can worsen others.

Consider a stylized illustration involving a monopolist that produces a good with some negative externality, such as environmental pollution. Both the monopoly and the externality are market failures. If an otherwise well-functioning market is dominated by a single firm, the lack of perfect competition means that, relative to the social optimum, the market price will be too high and the quantity will be too low. In an otherwise efficient market for a good that imposes a significant negative externality, the quantity produced will be too high and the market price will be too low. Now imagine a market in which both market failures are present. If both failures could be eliminated—say, through the combination of effective antitrust policy and an optimal tax on the externality—then we would be in the world of the first best. But if one of the market failures is uncorrectable, or simply uncorrected, fixing the other one might make matters worse. Suppose, for example, that the market becomes competitive but the negative externality problem is left unaddressed. The market price will drop and the quantity produced and consumed will increase. This exacerbates the costs imposed by the negative externality, and if this externality is sufficiently costly, then the social welfare loss may exceed the social welfare gain.

Though the General Theory of the Second Best has typically been applied to classic market failures like the ones just described, the basic insight also applies to legal and judicial reform, and to institutional reform more generally. Of course, it may be more difficult to specify the "first best" conditions for complex public institutions than to

do so for markets, but let us assume for the moment that we could adequately characterize a particular constellation of institutions as first best. When actual institutional arrangements deviate from this institutional optimum in multiple respects, reforms that "improve" institutions along some but not all of these dimensions may not improve—and may in some cases worsen—overall social welfare. If certain institutional reforms are simply off the table, at least for the time being, then would-be legal and judicial reformers in the developing world are likely to find themselves confronting a version of the second best problem. A failure to appreciate the fact that movements toward first best legal and judicial institutions do not necessarily lead to better overall performance can lead the most well-intentioned reformers astray.

A simple, generic example of the legal-judicial version of the second best problem concerns the optimal complexity of legal rules. Many legal rules may be thought, with justification, to be too crude. Such rules may be inferior, from a social welfare perspective, to either more complex rules or more discretionary standards. There are ongoing debates in the legal and economic literature about the optimal precision of legal rules and about the relative virtues of rules and more discretionary standards,[4] but we can assume for purposes of illustration that in the first-best world, legal rules would entail a reasonable amount of complexity and/or room for judicial discretion. But the first best world also involves sophisticated judges subject to the right incentives. In the real world, certain legal systems may be characterized by crude legal rules and unsophisticated judges. "Improving" the legal rules to make them more complex and nuanced might be a move toward the first-best world along that dimension; however, the overall effect might be negative if unsophisticated judges make more welfare-reducing errors when attempting to implement complex legal rules than would be the case if these unsophisticated judges implemented cruder but simpler legal rules (Posner 1998; Hay, Shleifer, and Vishney 1996).

We can illustrate this general problem with a more concrete example. Although it is generally believed that private agreements between suppliers and customers or manufacturers can be welfare-enhancing, it is also possible that such vertical arrangements may facilitate monopolistic pricing (Posner 2001). It is often difficult to distinguish between good and bad vertical contracts. A sophisticated judiciary, aided by high-priced advocates, may be reasonably good at applying a general "reasonableness" standard without making too many errors. But if the bench and bar are unsophisticated, a country might do better to adopt a simple rule—either banning or permitting all vertical integration contracts—than to allow unsophisticated courts to try to evaluate particular arrangements on a case-by-case basis.

In this simple example, the policy implication appears to be that improvements in the quality and sophistication of the judiciary must precede improvements in the quality of the law. It is also possible to imagine a different example in which improvements in the sophistication of the judiciary, without improvements in the quality of the law, can make matters worse rather than better. Suppose that the law on the books is a bad, welfare-reducing law, but that sophisticated parties have figured out how to get around it, and the unsophisticated judiciary is generally unable to detect such subterfuge. In the first-best world, we might have both efficient law and sophisticated judges. But suppose that we have both bad law of the sort just

described and also unsophisticated judges, and that it is not possible to improve the law. Will improving the sophistication of the judiciary in this situation improve over-all welfare? Not necessarily: The improvement in judicial sophistication may make it impossible to avoid the application of the bad, welfare-reducing legal rules. This example is a close cousin of the hypothesis that, at least in some contexts, corruption can be efficiency-enhancing because it allows parties to avoid excessively cumber-some regulatory requirements, and therefore efforts to combat corruption may be counterproductive if unaccompanied by regulatory reform (Huntington 1968).

Another example of how the second best problem can affect the pursuit of judicial reform goals involves the credible commitment problem discussed earlier. In the first-best world, we might want governments to enact welfare-enhancing legal rules that are enforced by independent courts with the power to constrain the government. This constraint is important because firms' willingness to commit assets to long-term projects may be contingent on their confidence that the government will honor its promises not to expropriate these firms' profits. But suppose we are in a world where the law is growth-retarding rather than growth-promoting, and the judiciary is under the government's thumb. Reforms that strengthen the independence of the judiciary without altering the legal rules to which the state has committed itself may make matters worse because the courts may impede efforts by the government to adopt socially desirable legal reforms. Possible, though controversial, real-world illustra-tions of this problem might be the decisions by a number of courts in Latin America and Eastern Europe to block, usually on constitutional grounds, neoliberal economic reforms thought by domestic governments and outside advisors to be important for economic growth. For instance, a recently created chamber of the Costa Rican constitutional court, Sala IV, was designed to safeguard individual rights, but has had the unintended consequence of obstructing economic liberalization (Handberg and Wilson 2000).[5]

The lesson here is not necessarily that welfare-improving changes in the law must always precede credibility-enhancing improvements in judicial power. Imagine, for example, that law is bad and the judiciary is weak. In this institutional environment, the government's only source of credibility might be reputational. That is, the govern-ment might have to demonstrate its credibility by sticking to its announced policy no matter what. If there were a truly independent court and sufficiently cumbersome impediments to policy change, then the government might be able to change its economic policies without a significant loss of credibility, since the government would be as credibly committed to the new policy as to the old. But if we are in a second-best world where no serious constraints on policy change exist, attempts to revise the legal rules might lead to a net loss of social welfare if the loss of government credibility due to the unexpected change in policy outweighs the welfare gain from the improvement in the content of the law. In contrast to the earlier example, here improvements in the credibility-enhancing mechanisms, such as judicial independence, would need to precede improvements in the substantive content of the law.

Let me give another, more concrete example of how the institutions that affect dis-cretion and credibility can give rise to a second-best problem in the context of legal

and institutional reform. This example is drawn from Brian Levy and Pablo Spiller's (1994) analysis of telecommunications regulation in Jamaica. Prior to 1966, Jamaica's telecommunications regulation strategy involved detailed licensing agreements between the government and Jamaica's domestic telecommunications company. These contractual agreements specified relatively precise rates of return over a long period of time, typically 25 years; they could not be modified without the company's consent; and they were enforceable in Jamaica's independent courts. According to Levy and Spiller, this system provided a relatively high degree of credibility and engendered high rates of investment in the telecommunications sector.

The problem with a contractual, license-based system of regulation, however, is its lack of flexibility. Even when dramatic technological, economic, or political changes made a modification to the rate of return desirable, such a change could not be implemented under the Jamaican license-based system without the licensee's consent. Though the design of optimal regulatory institutions is a complicated and con-troversial topic in its own right, one might reasonably suppose that in a world of first-best institutions, telecommunications regulation would ensure credibility but would also entail more flexibility—perhaps through the use of an independent public utility commission (PUC) subject to appropriate institutional incentives and constraints—than the contractual scheme in pre-1966 Jamaica allowed.

In apparent response to the perceived rigidity of the license-based approach to regulation, in 1966 Jamaica decided to move to a different system. The Jamaican Public Utilities Act of 1966 established an independent regulatory commission, the Jamaican Public Utilities Commission, to regulate domestic telecommunications services. The statute directed the Commission to set a "fair" rate of return. The result, according to Levy and Spiller, was disastrous: The relationship between the Commission and the Jamaican Telephone Company quickly deteriorated, rate increases lagged behind inflation, and investment and network expansion ground to a virtual halt. The reason, Levy and Spiller explain, was that Jamaica in that period lacked institutions that could impose substantive restraints on the Commission's decisions. In contrast to the United States, which has had a reasonably successful (albeit imperfect) experience with rate-setting by independent utility commissions, Jamaica lacked the cluster of formal and informal institutional constraints on bureaucratic discretion necessary to maintain credibility. Also, although the Jamaican courts had proven adept at independently enforcing license contracts, their approach to what we would think of as administrative law—in particular, their review of bureaucratic discretion—was deferential to the point of being ineffectual. The problems in the Jamaican telecommunications sector lasted until the Commission was abolished and replaced with a new license-based scheme (albeit one that differed in many respects from the pre-1966 system).

This example provides a nice illustration of the second best problem. Even if we stipulate that a first best world involves the use of administrative law rather than contract law to determine public utility rates, this does not necessarily mean that changing a system from one that relies on contract law to one that relies on admin-istrative law will necessarily improve the performance of the regulated sector. In a

country like Jamaica that lacks the political and legal institutional endowments necessary to make an administrative law system credible and workable, a regulatory system based on long-term contracts, while imperfect, may well be second best.

Let me give one more historical example of the second best problem in a context that may have particular relevance for present-day legal and judicial reformers. This example is drawn from Rachel Kranton and Anand Swamy's (1999) account of the introduction by the British colonial government of civil courts into the Bombay Deccan region of India in the nineteenth century. Prior to the British introduction of civil courts, agricultural credit markets in this region were dominated by local moneylenders who relied on their own resources and other nonlegal mechanisms to recover loans. Reliance on such costly, personalized enforcement mechanisms meant that the scope of operation for any given moneylender was geographically limited, which led to a segmented market characterized by local oligopolies and high interest rates.

The British colonial authorities believed that the introduction of well-functioning civil courts would facilitate arm's-length credit transactions, thereby introducing more competition into the rural credit market and lowering interest rates to competitive levels. Therefore, they introduced civil courts capable of enforcing simple debt contracts—but, importantly, incapable of enforcing more complex exclusive dealing or state-contingent contracts. If the British civil courts had simply failed to work—if they turned out to be corrupt and unreliable, or if nobody had used them—then this case might simply be another illustration of the importance of incentive compatibility, or an example invoked by those who advance the claim that legal and institutional "transplants" generally do not work. But what makes Kranton and Swamy's account of the British introduction of civil courts in the Bombay Deccan so interesting is that the courts *did* have their intended effect of increasing the feasibility of arms' length transactions, thereby stimulating competition and lowering interest rates. At least in the short term, the introduction of effective judicial contract enforcement in the Bombay Deccan appeared to be a great success.

There was a problem, though. The problem had to do with the impact of effective enforcement of simple debt contracts on the ability of borrowers to insure against financial risk. Prior to the introduction of effective civil contract enforcement, if a borrower found himself unable to repay his debt due to natural disaster or some other misfortune, the local moneylender had an incentive to forgive or roll over the debt rather than to seize and sell the farmer's land. If the defaulting farmer retained his land and remained financially viable, then the moneylender could be confident that this farmer would provide a stream of super-competitive interest payments on future loans. Once the civil courts made arms' length transactions feasible, however, no moneylender could be confident of extracting a future stream of monopolistic profits from any individual borrower, and so the incentive to forgive or roll over debt instead of seizing assets dropped considerably. The result, as Kranton and Swamy persuasively argue, was economic disaster and widespread rioting when exogenous economic shocks, including a sudden drop in the international price of cotton, led to widespread defaults and asset seizures by creditors.

The situation in central India prior to the British reform of the civil court system was not first best. Instead, it was characterized by at least two relevant legal/institutional

failures. First, the absence of effective civil contract enforcement led to monopolistic interest rates and an undersupply of credit. Second, the region lacked both an adequate public social safety net and the institutional infrastructure for a well-functioning private insurance market. The introduction of judicial institutions that could effectively enforce simple debt contracts alleviated the first market failure but, in so doing, it exacerbated the second one. This example may be especially salient for modern legal and judicial reformers, given the fact that many rural and poor urban communities may still rely primarily on informal insurance mechanisms. Legal and judicial reforms—even, and perhaps especially, successful ones—may sometimes disrupt these risk-spreading mechanisms.

I have dwelled on these examples of the institutional version of the second best problem because it is, in my view, underappreciated in the literature on institutional reform. It should not, however, be interpreted as a counsel of despair. Incremental institutional reform can, and often does, lead to improvements in overall welfare: The theory of the second best shows that correcting some but not all market imperfections *may* lead to social welfare reductions, not that it necessarily will do so. And, even when partial reform does have counterproductive effects, these problems may be short lived if the initial incremental reform efforts are followed by more extensive reform of other institutions. The important lesson is that individual reforms cannot be considered in isolation, and that we can and should draw on the tools of economic analysis, applied in a particular context, to try to identify situations in which certain institutional reforms that appear to be movements toward an unachievable first-best world will actually move us away from an achievable second best.

Conclusion

In this short essay, I have attempted to provide a summary of some of the difficult problems that confront reformers who hope to address the problem of global poverty through the reform of institutions, particularly legal and judicial institutions. The goal is to encourage both scholars and practitioners to pay greater attention to the inherent trade-offs induced by resource scarcity; the importance of making sure that individual incentives are properly aligned with institutional objectives; and the dangers that particular institutional reforms that appear to be welfare-improving when considered in isolation may have counterproductive effects, if other institutional reforms are unachievable.

The more general lesson, it seems to me, is the importance of greater cooperation between those in the policy and scholarly communities who specialize in more abstract and general economic theory and those who possess detailed, country-specific knowledge of particular institutional environments. The need for such cooperation seems self-evident, yet for some reason the communication between technically minded general theorists and context-sensitive country experts has sometimes been characterized by misunderstanding and mutual skepticism. My hope in elaborating on some of the more difficult and recurring generic problems in the field of legal and judicial reform is that the exercise will make an incremental contribution to thinking

more seriously and collaboratively about ways to identify and avoid these pitfalls in the context of specific legal and judicial reform efforts.

Notes

1. For two recent examples, see Acemoglu and Robinson (2006) and Greif (2006).
2. See, for example, Kranton and Swamy (1999); Lee (1993).
3. For a summary of various theories, see Stephenson (2003).
4. See, for example, Kaplow (1992).
5. To be clear, I am agnostic as to the desirability of the particular economic reforms at issue. I proceed under the assumption that these reforms would have been welfare-enhancing in order to illustrate the nature of the problem.

References

Acemoglu, Daron, and James Robinson. 2006. *Economic Origins of Dictatorship and Democracy*. Cambridge: Cambridge University Press.

Acemoglu, Daron, Simon Johnson, and James Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91: 1369–1401.

Benson, Bruce. 1990. *The Enterprise of Law: Justice Without the State*. San Francisco: Pacific Research Institute for Public Policy.

Bierbrauer, Gunter. 1994. "Toward an Understanding of Legal Culture: Variations in Individualism and Collectivism Between Kurds, Lebanese, and Germans." *Law and Society Review* 28 (2): 243–64.

Brunetti, Aymo, and Beatrice Weder. 1994. "Political Credibility and Economic Growth in Less Developed Countries." *Constitutional Political Economy* 5 (1): 23–43.

Bueno de Mesquita, Ethan, and Matthew Stephenson. 2006. "Legal Institutions and Informal Networks." *Journal of Theoretical Politics* 18: 40–67.

Carothers, Thomas C. 2006. *Promoting the Rule of Law Abroad: In Search of Knowledge*. Washington, DC: Carnegie Endowment.

Coase, Ronald. 1960. "The Problem of Social Cost." *Journal of Law and Economics* 3: 1–44.

Chong, Alberto, and Cesar Calderon. 2000. "On the Causality and Feedback between Institutional Measures and Economic Growth." *Economics and Politics* 12 (1): 69–81.

Gambetta, Diego. 1993. *The Sicilian Mafia: The Business of Private Protection*. Cambridge: Harvard University Press.

Ginsburg, Thomas. 2003. *Judicial Review in New Democracies: Constitutional Courts in Asian Cases*. Cambridge: Cambridge University Press.

Greif, Avner. 2006. *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. Cambridge: Cambridge University Press.

Hammergren, Linn. 2002. *Reforming Courts: The Role of Empirical Research*. Washington, DC: World Bank (PREM Note 65).

———. Forthcoming. *Envisioning Reform: Practical and Conceptual Obstacles to Improving Judicial Performance in Latin America*. The Pennsylvania State University.

Handberg, Roger, and Bruce Wilson. 2000. "Costa Rica's New Constitutional Court: A Loose Political Cannon?" *South Eastern Latin Americanist* 43 (4): 58–79.

Hanssen, Andrew. 2004. "Is There a Politically Optimal Level of Judicial Independence?" *American Economic Review* 94: 712–29.

Harding, Andrew. 1990. "The 1988 Constitutional Crisis in Malaysia." *International and Comparative Law Quarterly* 39: 57–81.

Hay, Jonathan, Andrei Shleifer, and Robert Vishny. 1996. "Toward a Theory of Legal Reform." *European Economic Review* 40: 559–67.

Henisz, Witold. 2000. "The Institutional Environment for Economic Growth." *Economics and Politics* 12 (1): 1–31.

Huntington, Samuel P. 1968. *Political Order in Changing Societies*. New Haven: Yale University Press.

Kaplow, Louis. 1992. "Rules Versus Standards: An Economic Analysis." *Duke Law Journal* 42 (3): 557–629.

Kranton, Rachel, and Anand Swamy. 1999. "The Hazards of Piecemeal Reform: British Civil Courts and the Credit Market in Colonial India." *Journal of Development Economics* 58: 1–24.

Kydland, Finn, and Edward Prescott. 1977. "Rules Rather than Discretion: The Inconsistency of Optimal Plans." *Journal of Political Economy* 85: 473–90.

Landes, William, and Richard Posner. 1979. "Adjudication as a Private Good." *Journal of Legal Studies* 5 : 235–84.

Lawyers' Committee on Human Rights. 2000. *Building on Quicksand: The Collapse of the World Bank's Judicial Reform Project in Peru*. New York.

Lee, Tahirih. 1993. "Risky Business: Courts, Culture, and the Marketplace" *University of Miami Law Review* 47: 1335–1414.

Levy, Brian, and Pablo Spiller. 1994. "The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation." *Journal of Law, Economics, and Organization* 10 (2): 201–46.

Lipsey, R.G., and Kelvin Lancaster. 1956. "The General Theory of the Second Best." *Review of Economic Studies* 24 (1): 11–32.

MacCormick, Neil D., Robert S. Summers, and Arthur L. Goodhart, eds. 1997. *Interpreting Precedents: A Comparative Study*. Brookfield: Ashgate/Dartmouth.

Messick, Richard E. 2000. *International Support for Civil Justice Reform in Developing and Transition Countries: An Overview and Evaluation*. http://www1.worldbank.org/publicsector/legal/donorsupported.doc.

Milhaupt, Curtis, and Mark West. 2000. "The Dark Side of Private Ordering: An Institutional and Empirical Analysis of Organized Crime." *University of Chicago Law Review* 67: 41–98.

Murphy, Kevin, Andrei Shleifer, and Robert Vishney. 1991. "The Allocation of Talent: Implications for Growth." *Quarterly Journal of Economics* 106: 503–30.

North, Douglass. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.

Pistor, Katharina. 1996. "Supply and Demand for Contract Enforcement in Russia: Courts, Arbitration, and Private Enforcement." *Review of Central and East European Law* 22 (1): 55–87.

Posner, Richard. 1993. "What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does)." *Supreme Court Economic Review* 3: 1–41.

———. 1998. "Creating a Legal Framework for Economic Development." *World Bank Research Observer* 13 (1): 1–11.

———. 2001. *Antitrust Law, 2nd* Edition. Chicago: University of Chicago Press.

Ramseyer, Mark. 1994. "The Puzzling (In)dependence of Courts: A Comparative Approach." *Journal of Legal Studies* 23: 721–47.

Schauer, Frederick. 2000. "Incentives, Reputation, and the Inglorious Determinants of Judicial Behavior." *University of Cincinnati Law Review* 6: 615–36.

Segal, Jeffrey A., and Harold J. Spaeth. 2002. *The Supreme Court and the Attitudinal Model Revisited.* Cambridge: Cambridge University Press.

Sen, Amartya. 2000. "What Is the Role of Legal and Judicial Reform in the Development Process?" Speech delivered at the World Bank Conference on Legal and Judicial Reform. http://www1.worldbank.org/publicsector/legal/legalandjudicail.pdf.

Shavell, Steven. 1997. "On the Fundamental Divergence between the Private and Social Motive to Use the Legal System." *Journal of Legal Studies* 26 (2): 575–612.

Stephenson, Matthew. 2003. "'When the Devil Turns...': The Political Foundations of Independent Judicial Review." *Journal of Legal Studies* 32: 59–89.

———. 2004. "Court of Public Opinion: Government Accountability and Judicial Independence." *Journal of Law, Economics, and Organization* 20: 379–99.

Sutter, Daniel. 1997. "Enforcing Constitutional Constraints." *Constitutional Political Economy* 8: 139–50.

Vanberg, Georg. 2001. "Legislative-Judicial Relations: A Game-Theoretic Approach to Constitutional Review." *American Journal of Political Science* 45: 346–61.

World Bank. 2005. *A Better Investment Climate for Everyone: World Development Report 2005.* Washington, DC: World Bank.

Zakaria, Fareed. 2003. *The Future of Freedom: Illiberal Democracy at Home and Abroad.* New York: W.W. Norton Co.

Transforming Judicial Systems in Europe and Central Asia

JAMES H. ANDERSON AND CHERYL W. GRAY

This paper updates a recent World Bank report, Judicial Systems in Transition Economies: Assessing the Past, Looking to the Future *(Anderson, Bernstein, and Gray 2005) by incorporating the findings of a large survey of enterprises throughout the region undertaken in spring 2005, the third EBRD-World Bank Business Environment and Enterprise Performance Survey, or BEEPS (EBRD and World Bank 2005). The study emphasizes that judicial reform is a critical challenge for most transition countries. The majority of these countries have made progress in establishing independence in their judiciaries, but accountability, transparency, and efficiency have lagged behind. Many transition countries need to focus now on strengthening the fairness and honesty of their courts—which requires broad actions along many fronts to select the right judges and support staff, train, remunerate, and evaluate them adequately, and provide infrastructure and IT systems to promote efficiency and transparency. More generally, transition countries share many of the same priorities and concerns as other countries, whether developed or developing, notably strengthening judicial accountability.*

The judicial systems in the transition countries of Central and Eastern Europe and the former Soviet Union are under heightened scrutiny these days, 17 years after transition began. In Central and Eastern Europe, the European Union is exerting strong pressure on new members and candidate countries to root out corruption and improve the functioning of their judiciaries. Further east, judicial systems in Russia and other countries in the former Soviet Union have been increasingly in the spotlight due to high-profile roles in controversial cases, such as the Yukos case in Russia and the dispute surrounding the presidential elections in Ukraine. As economic reforms mature and these countries become increasingly interconnected with the outside world, the need for good governance and the constraints imposed by weak judicial systems are rising in visibility and importance.[1]

A recent World Bank report, *Judicial Systems in Transition Economies: Assessing the Past, Looking to the Future (*Anderson, Bernstein, and Gray 2005, hereinafter *Judicial Systems in Transition Economies*), reviewed the transition countries' experience with judicial reform since 1990 and drew on numerous data sources to compile a snapshot of the state of their judiciaries in the first few years of the twenty-first century. This paper updates that report by incorporating the findings of a large survey of enterprises throughout the region undertaken in spring 2005, the third EBRD-World Bank Business Environment and Enterprise Performance Survey, known as BEEPS (EBRD and World Bank 2005), described in detail in the annex. This paper goes into further detail on the judicial reform programs underway in transition countries and addresses three broad questions:[2]

- What kinds of judicial reforms are needed for successful transition from socialism to market-based economies, and in what sequence are they likely to occur?

- How much progress has been made in this transition, both by individual countries and by subregion, and what factors may explain the extent of progress to date?

- How do firms' evaluations of judicial systems in transition countries, and by implication the priorities and challenges that these systems face, compare with those in more advanced countries? To what extent do transition countries share common concerns and priorities with countries in Western Europe?

From Plan to Market: Judicial Systems and the Sequencing of Reforms

When looking from the vantage point of 1990, the magnitude of the changes needed to adapt the judicial systems of transition countries to the needs of a market economy seemed daunting. While on their face they had many of the elements of Western judicial systems—such as courts, judges, lawyers, prosecutors, and bailiffs—the roles, capacities, and expectations of each set of actors were fundamentally different. The entire purpose of the legal system under communism was to enforce the interests of the working class, as represented by the communist party. Courts and judges were part of the executive branch and fully subordinated to the political leadership of the communist party. There was no idea of limited government, checks and balances, or individual or corporate rights vis-á-vis the state. Laws in the commercial sphere dealt primarily with relationships between administrative agencies and the regulation of production by state-owned entities to meet centrally coordinated output targets. Most commercial disputes were handled through state-sponsored arbitration, while formal courts and judges handled criminal and civil matters (such as family law and minor personal property issues). The position of judge was not particularly prestigious and was often staffed on a part-time basis. Courthouses were drab and unwelcoming, designed for an inquisitorial system of criminal prosecution where the defendant was almost always found guilty.

Far-reaching changes would clearly be needed in the transition from socialism to capitalism. The existing legal framework—constitutions as well as civil, criminal, and commercial legislation—would need to be rewritten to recognize and respect

individual rights and limitations on state power, and the public would need to be educated about its new rights and how to enforce them. Judiciaries would need to be made independent of the executive branch to enable them to safeguard these rights and limitations. Many new laws—from property to evidence to banking to securities to bankruptcy laws—would need to be drafted and put in force to meet the needs of a private market economy, and the number of qualified judges and their training and knowledge base would need to be significantly expanded in order to understand and enforce these laws. Existing courthouses, often in dilapidated condition, would need to be renovated to improve public access and serve new due process requirements, and many new ones would need to be built to meet the rapidly expanding demand for dispute resolution. Finally, in the absence of heretofore strong executive control, new mechanisms would be needed to ensure capacity, accountability, and professionalism not only of judges but also of the many related professions—such as lawyers, bailiffs, notaries, trustees, and court clerks—that make a judicial system work.

Judicial Systems in Transition Economies describes the path of legal and judicial reform and the progress made in the 1990s. It documents how changes in the legal framework ("legal extensiveness") went much faster than institutional reforms ("legal effectiveness") and how, among institutional reforms, establishing independence took precedence over building capacity or ensuring accountability.[3] Overall, judicial reform tended to take a back seat to fundamental political and economic reforms, as reformers dealt with the pressures of declining output, rising inflation, and the scramble by some to appropriate state property—whether through state-sponsored programs of privatization or less legitimate means—that arose immediately after the collapse of communism.

There is some logic to this sequencing. Institutions do not change in a vacuum; rather they change in response to pressure from within or without. Privatization of state assets, the creation of property rights and a private business class, and the increase in foreign trade and foreign investment that resulted from economic liberalization have led to an increasing demand for more objective dispute resolution mechanisms and better-functioning regulatory and judicial systems in many transition economies. Many countries are seeing a flood of new cases entering their judicial systems as a result of liberalization. In Russia, for example, the total number of cases filed with the commercial courts nearly doubled between 1995 and 2000, with tax and bankruptcy cases rising particularly quickly. In Ukraine some 6 million new cases enter the courts each year, to be handled by about 6,500 judges. Increasing demand has spurred training and investment in judicial systems that have slowly increased their capacity, as well as broader economic growth that helps to increase the resources available to the legal system as a whole.

Figure 1 places countries on a continuum along two dimensions: the demand for judicial services (dependent in part on the extent of economic reform) and the resources available to the country's legal system to deliver judicial services (approximated by a country's per capita GDP).[4] The proxy used to measure demand is the average of the percentage of firms that have used the courts and the mean EBRD transition indicator for 2005. The proxy used for resource availability is the log of gross domestic product (GDP) per capita, based on the view that greater GDP per capita translates into greater resource availability, which is itself expected to translate over

FIGURE 1. Resource Availability and Demand for Judicial Services, 2005
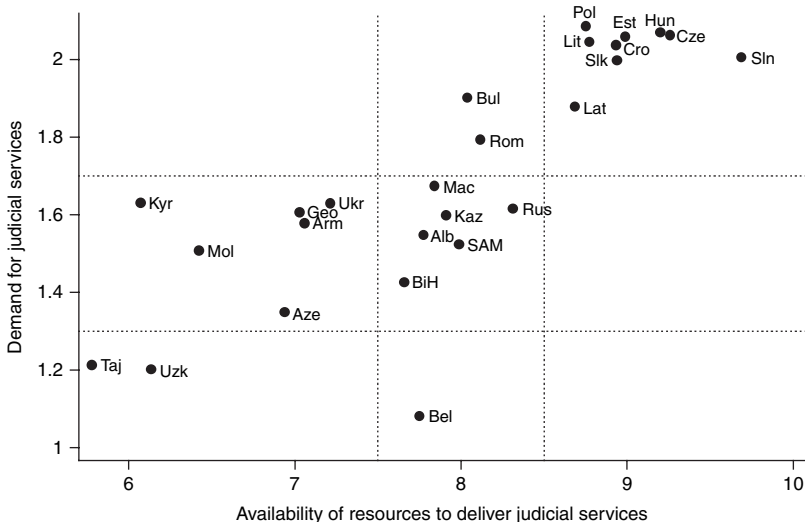
Sources: BEEPS, EBRD Transition Report, World Development Indicators.

Note: Resource availability is the log of GDP per capita (2004); demand is based on court usage (2005) and the EBRD transition indicators (2005). Alb = Albania; Arm = Armenia; Aze = Azerbaijan; Bel = Belarus; BH = Bosnia and Herzegovina; Bul = Bulgaria; Cro = Croatia; Cze = Czech Republic; Esp = Spain; Est = Estonia; Geo = Georgia; Ger = Germany; Gre = Greece; Hun = Hungary; Ire = Ireland; Kaz = Kazakhstan; Kyr = Kyrgyz Republic; Lat = Latvia; Lit = Lithuania; Mac = FYR Macedonia; Mol = Moldova; Pol = Poland; Por = Portugal; Rom = Romania; Rus = Russian Federation; SAM = Serbia and Montenegro; Slk = Slovak Republic; Sln = Slovenia; Taj = Tajikistan; Tur = Turkey; Ukr = Ukraine; Uzb = Uzbekistan.

time into stronger capacity. The intention here is not to prove an exact relationship (for which more refined proxies may be required) but rather to illustrate a key insight: that "demand" is as important as "supply" in pushing the judicial reform process forward, and countries at the poorest and least economically reformed end of the spectrum are unlikely to be the ones where immediate prospects for change are greatest.

For those countries in the bottom left corner, the priorities should be to build basic demand for impartial dispute resolution through continued market reforms and to take initial steps to create or reinforce the independence and accountability of the judiciary. As countries move toward the upper right, the demand for more extensive and far-ranging judicial reform strengthens and there is a greater likelihood that efforts at reform will succeed, given greater resource availability. Three clear examples now are Bulgaria, the Former Yugoslav Republic of Macedonia, and Romania, where the demands for reform—both internally from the business community and externally from the European Union—are very strong and the likelihood of improvement high.

Progress in Building Judicial Systems, 1990–2005

The first five or so years of transition, until the mid-1990s, saw little real change in the judiciaries in transition countries. As noted above, other priories—most notably

economic liberalization, privatization, and stabilization—took center stage, and little attention and few resources were devoted to longer-term institution building. The efforts that were made during this early period focused on constitutional change to lock in political reforms and judicial independence (as described further below), as well as the rapid preparation and adoption of commercial legislation. By the late 1990s, it became increasingly clear that weak capacity in the legal and judicial system was impeding investment and growth and contributing to corruption and poor governance. Citizen feedback mechanisms highlighted a growing distrust of legal institutions (Rose and Haerpfer 1994, 1996, 1998), and inability to implement or enforce new legislation led donors to focus more on the need for resources and capacity building (Anderson, Bernstein, and Gray 2005). In many countries in the region, strong and concerted efforts at change began in earnest only at the close of the decade. In some—primarily the countries that are also less advanced in economic and political reforms—those efforts are only just beginning; in a few, they have not yet begun. Progress along various dimensions of judicial reform and capacity building is outlined below.

Judicial Independence and Accountability

Independence of the judiciary is fundamental to a democratic political system and a free market economy, and most former socialist countries began their judicial reform efforts by moving to make their judiciaries independent from the executive branch of government. They were often assisted by foreign donors and democracy-promoting nongovernmental organizations (NGOs), which also focused primarily on judicial independence (rather than judicial capacity building) in the early years. New constitutions enshrined the principle of judicial independence, and new institutions—typically some type of judge-controlled judicial council for overall governance and a related judicial department for day-to-day court administration—were set up to oversee the selection and oversight of judges (often in conjunction with parliament and the minister of justice) and the day-to-day management of the courts. The process of establishing judicial independence was closely intertwined with the deepening of democratic processes in the overall political system; in general, the more democratic the political system, the more independent the judiciary has become. Judiciaries are now legally independent in virtually all European transition countries and are moving strongly in that direction in many Commonwealth of Independent States (CIS) countries (with the exception of the few regimes where democracy has not yet taken hold). Indeed, judiciaries zealously promote and guard their independence, and there are often tense relationships between them and ministries of justice.

The principle issue at present in most transition countries is not ensuring greater judicial independence—although admittedly de jure independence (typically supported by judiciaries and government leaders alike) may not always be fully matched by de facto independence. The most pressing issue in many transition countries is ensuring judicial accountability, given newfound independence. As judiciaries have gained independence, their ability to ensure accountability has not kept pace. Most observers think that judicial corruption has increased during the 1990s along with the increased role and discretion of judges in the market economy. The paradox

is that judicial independence is necessary for true economic and political reform, but lack of judicial accountability is a major obstacle to economic development. Reform-minded ministers of justice want to push for greater accountability, but independence has taken away most of their levers of influence. Some chief justices are also pushing for greater accountability but face an uphill struggle to change entrenched and dysfunctional norms and practices.

Evidence from the 2005 BEEPS survey throws light on the issue of accountability. Firms asked about honesty in the judiciary reported improvements in some countries from 2002 but deterioration in others (figure 2).[5] It is particularly striking how poorly most countries fare. The only transition country where a majority of firms saw courts as honest in mid-2005 was Estonia. Perceptions of honesty improved in a number of countries—one of the most notable being Georgia,[6] where a strongly

FIGURE 2. Firms' Assessments of Courts as Honest and Uncorrupted, 2002 and 2005
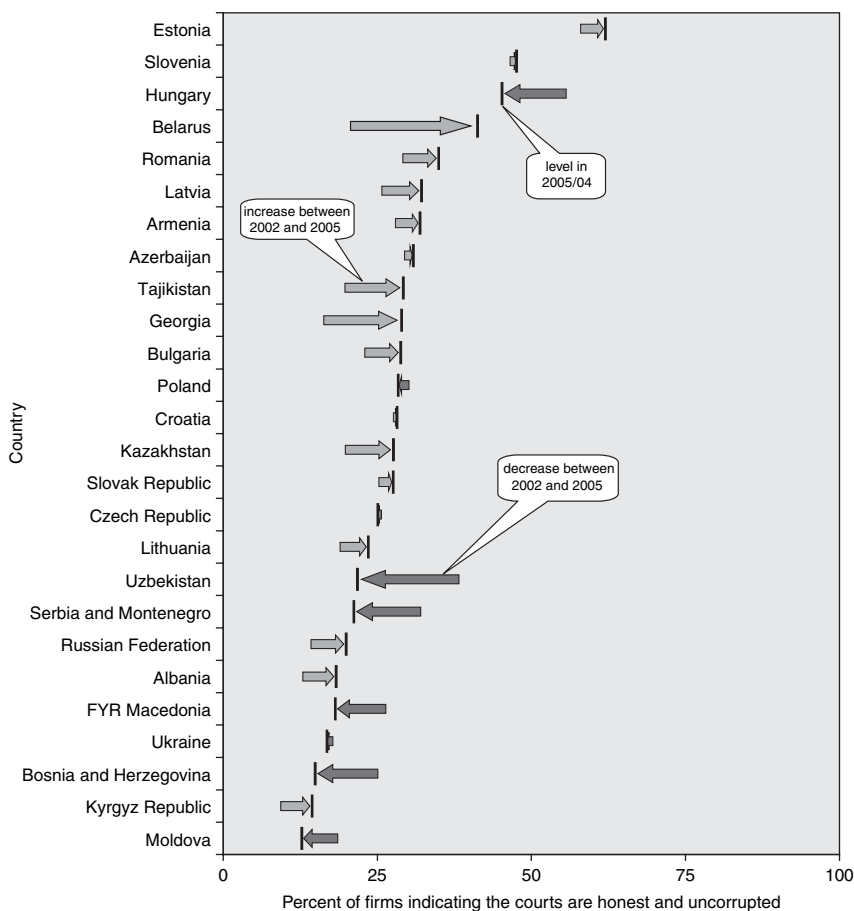
Source: BEEPS 2002, 2005.

Note: The chart shows the percent of firms indicating the courts were frequently, usually, or always "honest and uncorrupted" (4, 5, or 6 on a six-point scale). The sample includes all firms with nonmissing data.

reformist government is trying hard to tackle corruption—but worsened in Bosnia and Herzegovina, Hungary, FYR Macedonia, Moldova, Serbia and Montenegro, and Uzbekistan. On average about one-third of business managers viewed courts as honest, and even fewer in some of the new EU members such as the Czech Republic, Lithuania, Poland, and the Slovak Republic. Overall the change from 2002 to 2005 in the region as a whole was not substantial, and as of now there is little evidence that judicial corruption has been tackled successfully in most transition economies (Anderson and Gray 2006).

It is interesting to compare perceptions of firms in the BEEPS sample that have been to court and those who have not, as these two groups often have different perspectives. Studies in the U.S. state of Wisconsin, for example, found that the general public has a different and often more pessimistic view of the courts than recent court users (Kritzer and Voelker 1998). Similarly, firms in the BEEPS sample that have actually used courts provided somewhat better assessments of honesty than those that have not, although the assessments of the former group have not changed significantly over the past three years, while assessment of the latter have improved (figure 3). However, firms that had actually been to court reported that unofficial payments are more frequent at courts than did firms that have not used the courts (figure 4).[7] These two findings appear contradictory, in that one would typically equate higher levels of bribery with lower perceptions of honesty. One possible explanation is that some of the bribes might be paid to court functionaries to speed up the judicial process and may not be perceived as undermining the honesty of the judges themselves. Moreover, the patterns evident in figures 3 and 4 are regional patterns. For some individual countries, firms that use courts provide better assessments of the extent of bribery (Hungary and Poland), and for others firms that use courts provide worse assessments of honesty (Serbia and Montenegro). Trends may also be somewhat contradictory. While the overall assessment of the honesty of

FIGURE 3. Assessments of Honesty in Courts
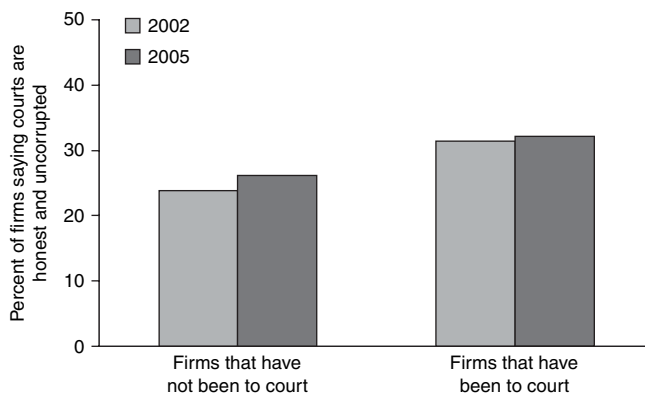
Source: BEEPS 2002, 2005.

Note: The chart shows the percent of firms indicating the courts were frequently, usually, of always "honest and uncorrupted" (4, 5, or 6 on a six-point scale). The sample includes all firms with nonmissing data. Each country was given an equal weight.

FIGURE 4. Frequency of Bribery at Courts
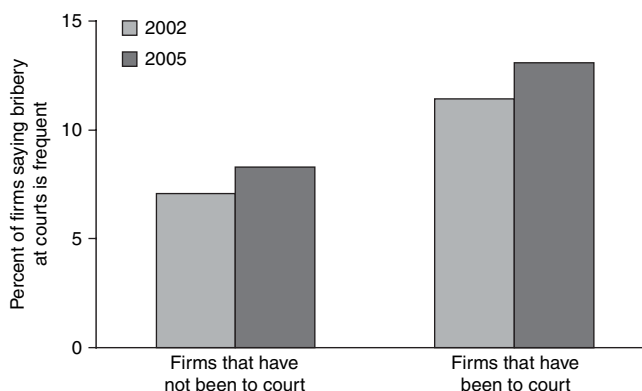
Source: BEEPS 2002, 2005.

Note: The chart shows the percent of firms indicating that firms frequently, usually, or always use unofficial payments when dealing with courts (4, 5, or 6 on a six-point scale). The sample includes all firms with nonmissing data. Each country was given an equal weight.

courts in the Slovak Republic improved only slightly (figure 2), the assessments of firms that had actually used the courts improved considerably.[8]

What would it take to establish true accountability in the judiciary? A myriad of individual steps are needed, including ensuring merit-based systems for judicial appointment, promotion, and disciplinary proceedings; providing adequate judicial salaries; and prosecution of some high-profile corruption cases, whether related to the judiciary or to government more broadly. Only through the "carrot" of professional stature and remuneration and the "stick" of potential punishment for wrongdoing—together with the incentives and self-enforcement mechanisms that arise from transparency (see below)—can corruption be successfully tackled in the judiciary or any other branch of the public sector.

Judiciaries and governments are aware of the dismal stigma of corruption, and significant steps are being taken to address it in many countries. In Romania, Russia, and Ukraine, for example, judicial salaries have been raised substantially to a level that compares reasonably to average private sector salaries.[9] This move has raised the status of the profession, its "value" to incumbents, and its attractiveness to potential candidates. The process of judicial selection is also being tightened. Georgia, for example, was one of the first countries to introduce examinations for judges, and other transition countries have followed suit. While the examination process itself is not without difficulties,[10] it is a step in the right direction compared to selection processes of old. As a complement to merit-based selection of judges, the Slovak Republic has put major efforts into strengthening government's capacity to prosecute cases of judicial corruption, including setting up a special court and prosecution office to deal with cases of corruption and organized crime.

Public Information and Transparency

Transition countries are also taking important steps to teach citizens about their rights and to increase the transparency of the legal system. In Armenia, for example,

a television show called "My Rights," in which a government official played the role of a judge hearing cases, became the most popular show on television in its two years of production. Much to his surprise, the government official, formerly a deputy minister of justice, became a national star and was recently appointed as a judge. In Russia, the government set up a network of "Legal Information Centers" in public libraries and other locations in the late 1990s, where the public can access information on laws and the justice system. In Croatia (and many other transition countries), the courts are adopting an automated case management system that will not only improve efficiency but also produce better statistical data to monitor performance. Countries' judiciaries and ministries of justice throughout the region are establishing Web sites to publicize laws, judicial calendars, and decisions in individual cases.

As with other areas of reform, there is still a long way to go, and public information and transparency remains an area fraught with resistance. Judiciaries were not at all open and transparent in Soviet times, and there remains a concern for confidentiality that clouds many judges' views of the issue (and may serve to protect more corrupt or less competent judges). In speaking with judicial leaders in the region, one often hears the view that case decisions should not or need not be made public, either because litigants' privacy needs to be protected or because the public "would not be interested" in most routine decisions. It is also true that even in Western Europe, not all decisions of lower-level courts are necessarily published.[11] While privacy rights are a concern, however, problems of accountability and corruption are serious enough in transition economies to justify strong measures to promote transparency. Most privacy concerns can be handled through special rules, such as the use of generic names, such as "John Doe," in lieu of actual names.

Judicial Infrastructure and Management

Enormous needs for infrastructure faced the courts in the transition economies in the 1990s. Courthouses were typically run-down and dreary places (particularly in locations outside of capital cities), a legacy of the relatively low status and minor role of communist judiciaries. They often shared space in a building with other government agencies or even private businesses or apartments. Courtrooms were small and limited in number. As the number of cases rose with the expansion of market economies in the 1990s, it became increasingly difficult to find premises to hold trials and to accommodate the increasing number of citizens who wanted to observe them. Without sufficient trial space, litigants and judges were sometimes forced to meet in closed offices, raising further suspicions of impropriety. Furthermore, the trial venues that did exist were not well outfitted. They did not give the public a sense of confidence in the independence and impartiality of the system. They often did not have space to accommodate juries where needed[12] or to allow defendants to confront accusers or cross-examine witnesses. Indeed, criminal defendants often sat in cages in the middle of the courtrooms, as in communist times—hardly a reflection of the concept of "innocent until proven guilty."

The equipment needed to run courts efficiently was also lacking. Few judges had access to computers, and few of the computers that did exist had access to the Internet. Paper-based case files were bulky, difficult to manage, and easy to "lose"

or tamper with. Courts in far-off locations had difficulty keeping up-to-date on recent legislation or changes in judicial policy. Months could sometimes go by after parliamentary adoption of new legislation before all judges were aware of the changes. For example, until recently Albanian judges had limited or no access to new laws due to a lack of funds needed to provide each judge with a copy of the Official Gazette. The release in early 2006 of the Armenian Legal Information System, which contains all Armenian legislation in a database accessible and searchable from the Internet, has improved the situation in that country.

Economic downturns in the 1990s contributed to these problems by severely limiting the resources available to judiciaries or ministries of justice to update their facilities. Few international donors focused on judicial capacity building, and in any case most donors were not allowed to fund building construction or renovation. Yet without access to resources, how could such ill-equipped judiciaries hope to meet the rising demand for their services?

Fortunately this situation is now changing. The economic upturns since 2000 have provided more resources to government budgets, and some of those resources are going to judicial systems (both for infrastructure and for increases in judicial salaries, as noted above). The World Bank and other donors are providing substantial funding to upgrade existing courthouses and information technology (IT) infrastructure,[13] supplementing substantial renovation programs financed by government budgets. Courts are increasingly installing computer equipment, modern case management software, and procedures and support staff to enhance court management. They are connecting district and higher-level courts together through wide-area networks and developing Web sites for information sharing (as noted above). In Russia, for example, almost all courts now have computers, and a new federally funded program will help support full connectivity among all of the courts in each of the two court systems (the commercial, or "Arbitrazh," courts and the courts of general jurisdiction). The needs in Europe and Central Asia are enormous, however, and there is still a long way to go to equip these judicial systems with adequate infrastructure and IT systems to serve the public efficiently and effectively.

Judicial Education and Training

Judicial reforms would be incomplete without also addressing judicial education and training. Not only were communist-era judges ill prepared for the kinds of cases that arise in a market economy, but the sheer volume of cases has expanded dramatically, meaning that both more well-trained judges and more efficient ways of handling the caseload are needed.

With regard to basic legal education, the demand for places in law schools has expanded tremendously. Many new private law schools have opened to serve this demand, although quality varies widely. The best law graduates typically seek lucrative positions in private law firms or international companies, but recent increases in judicial salaries in many transition countries have made the judicial profession more attractive than it was in the 1990s.[14] Unfortunately, endemic corruption can be a major problem in higher education, as in other areas in transition economies. Some

countries—such as Albania and Georgia—have responded to this concern by instituting new written entrance examinations to allocate university positions. This does not always make the problem disappear. The 2005 round of testing for entrance to the Tirana law school was itself marred by corruption, as it was discovered by the authorities that the answers had been sold in advance. On the positive side, however, the corruption was detected and announced nationwide, and the exams were readministered in full.

Most transition countries are expanding their judicial training programs for new and in-situ judges. Judicial academies are being equipped and expanded, often with donor support, and several international groups are also sponsoring independent multicountry judicial training. New opportunities are arising for e-training programs, taking advantage of the increasing computer networking described above. Given the enormous changes in laws and judicial norms, however, the need for effective and timely judicial training typically far outpaces its availability. While more advanced in some new EU members, judicial training systems are still in relative infancy in most transition countries, particularly in South-East Europe and the CIS.

Supporting Professions: Lawyers, Notaries, and Bailiffs

Judges do not operate in a vacuum, and judicial systems cannot be effective unless the many supporting professions, including attorneys and bailiffs, also function effectively. Yet all of these professions were in the same position as the judiciaries at the start of the 1990s: that is, either nonexistent or totally ill prepared for the needs of a market economy.

Of these supporting professions, private attorneys have arguably developed the furthest, thanks to strong market incentives and significant investments from abroad. Most transition economies have a large and growing number of law firms, both domestic and foreign, with significant competition among them. Quality is not always assured, however, and prices can be high (in part because bar associations have, as elsewhere, sometimes functioned more as cartels than quality assurers), but overall the profession has grown rapidly in most transition countries.

The notary profession—also populated by private attorneys—has similarly flourished in some settings, albeit with mixed economic impact.[15] In some cases, the mix of complex legislation and the heavy regulatory role of notaries have added to the duration of judicial proceedings, although in other countries the notary process offers a way to circumvent court proceedings altogether. In Poland, for example, parties can proceed directly to execution of a judgment if certain documents are notarized (World Bank 2006).

The role of bailiffs is to enforce judicial decisions, and this is a particularly problematic area in transition economies. As can be seen in figure 5, only about 40 percent of firms surveyed in the BEEPS believed that courts could enforce judicial decisions. Interestingly, the problem seems to be worse in the new EU members than in the former Soviet Union (and worst of all in South-East Europe), a pattern that could be partially explained by the much larger demand for courts and number of judgments to be enforced in the higher-income transition countries.

**FIGURE 5. Firms' Assessments of Courts' Ability to Enforce Decisions, 2002–05**
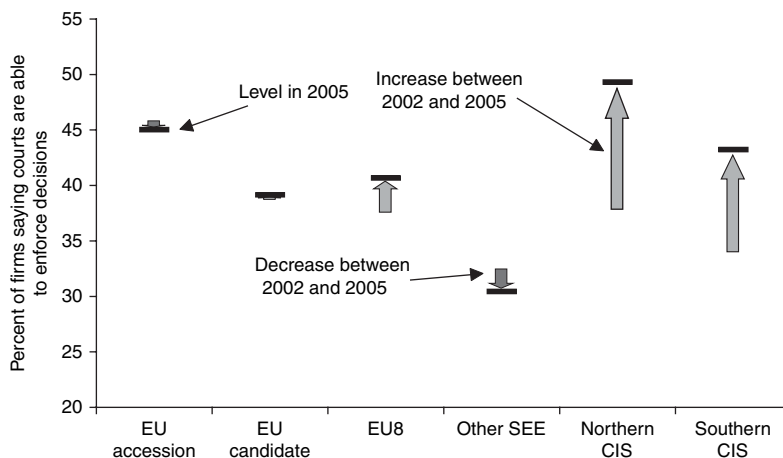
Source: BEEPS 2002, 2005.

Note: EU accession includes Bulgaria and Romania; EU candidate is Croatia; EU8 includes Poland, Czech Republic, Slovak Republic, Slovenia, Hungary, Latvia, Lithuania, and Estonia; other SEE includes Albania, FYR Macedonia, Bosnia and Herzegovina, and Serbia and Montenegro; northern CIS includes Belarus, Russian Federation, Ukraine, and Kazakhstan; southern CIS includes Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Tajikistan, Moldova, and Uzbekistan. Regional averages allow each country in the region the same weight.

Regulating bailiffs appropriately involves combining incentives for vigorous collection with supervision to be sure that even the smallest case receives attention. Some countries have moved toward private incentives for bailiffs, but not always with a governance framework to ensure accountability. Russia adopted new legislation for bailiffs in the late 1990s, giving notaries the right to a 5 percent incentive payment when enforcing judgments. The general view, however, is that this has not been well implemented in practice and that judgments in Russia are still very difficult to enforce. FYR Macedonia has decided to follow an emerging trend in Western Europe by creating a private profession of enforcement agents or bailiffs. The bailiffs will be licensed and regulated by the ministry of justice but will be a private profession working in the market to enforce judicial decisions. Poland continues to have a mixed system. Bailiffs are court officials, with rights and immunities commensurate with public office and with the number of bailiffs fixed by law. In all other respects, however, they operate no differently than private business, funded entirely by a fixed 15 percent of successful collections and hiring staff and outfitting their offices from these proceeds exactly as a private firm would (World Bank 2006).

Access to Justice
Finally, there has been insufficient progress in promoting access to justice in transition countries. The high cost of both lawyers and notaries are no doubt a significant reason why judicial proceedings are considered by many firms to be unaffordable: most notably, again, firms in South-East Europe (figure 6). Providing legal aid services is beyond the reach of many public budgets and has not been given significant emphasis by most transition governments. The former socialist countries in Europe

FIGURE 6. Firms' Assessments of the Affordability of Courts, 2002 and 2005
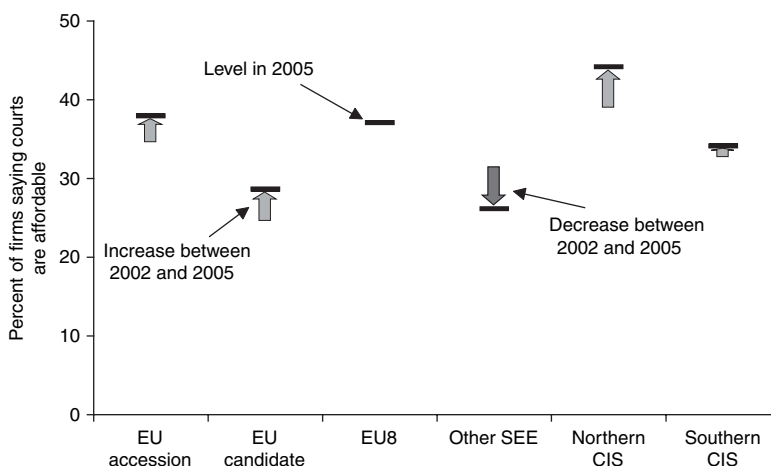
Source: BEEPS 2002, 2005.

Note: See figure 5 for country categories.

tend to be quite legalistic; indeed, in the 1980s Yugoslavia had more lawyers per capita than any other country in the world. Unlike Asia, Latin America, or Africa, for example, transition countries do not have widely accepted systems of indigenous "customary" legal processes that the poor can turn to for the resolution of disputes, nor are they particularly enthusiastic about alternative methods of dispute resolution such as formal mediation and arbitration. Thus access to justice for the broad swath of the population is likely to grow only slowly, as the economies and the judicial systems continue to grow and develop.

Is There a Standard? Comparisons with Selected Nontransition Countries

Most transition countries in the Europe and Central Asia region—including new EU members, actual or potential EU candidate countries in South-East Europe, EU "neighbors" such as Ukraine and the south Caucasus, and countries further east—look toward higher-income West European countries as models for the future. They envision societies based on respect for rule of law and well-functioning judicial systems, but believe there is still a long way to go for them to "catch up" with the West. Yet efficiency, honesty, and affordability are still challenges for judicial systems in Western Europe, as well.

For the first time in 2004 and 2005, the BEEPS survey was also conducted in a number of nontransition European countries, including Ireland, Germany (eastern and western), Greece, Portugal, and Spain.[16] While this sample of countries is not necessarily representative of all nontransition countries in Europe, comparisons between these two groups of countries is illuminating. Figures 7–10 show comparisons of the evaluations of courts by firms along four dimensions—honesty, quickness,

FIGURE 7. Firms' Assessments of Courts as Honest and Uncorrupted in 2005—Transition Countries versus European Comparator Countries
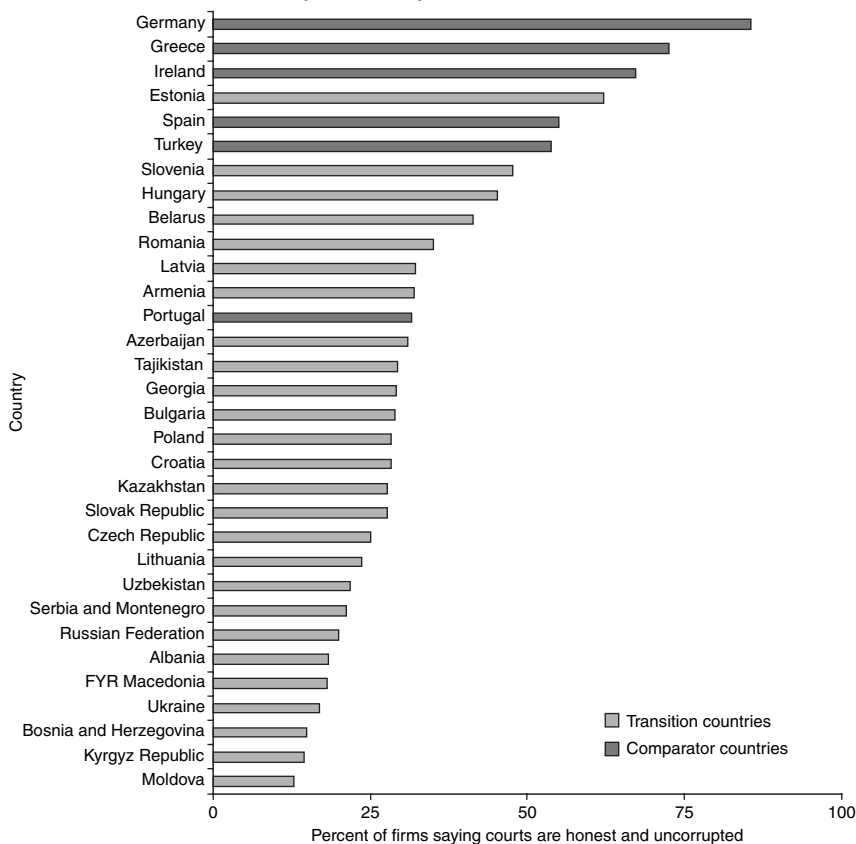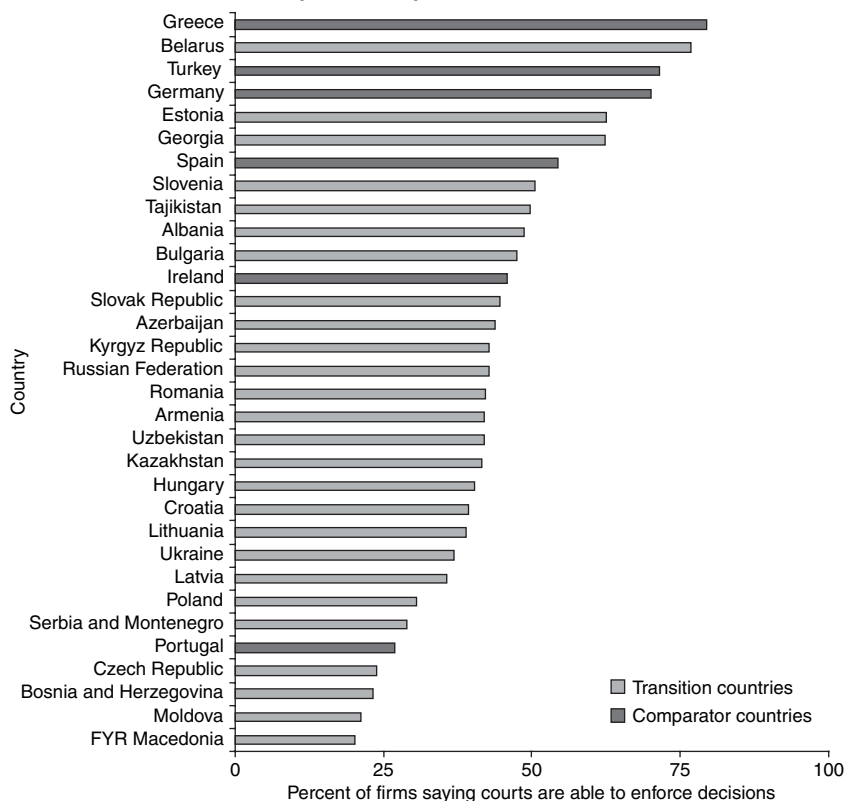
Note: Comparator countries include Germany, Greece, Ireland, Portugal, Spain, and Turkey. Transition countries and Ireland, Spain, and Turkey were surveyed in 2005. Germany, Greece, and Portugal were surveyed in late 2004.

ability to enforce decisions, and affordability—in the six nontransition European countries covered by BEEPS and in the transition countries.[17]

The most notable differences between transition countries and Western European countries are in perceptions of honesty and fairness. Germany scores much higher than any other country on honesty (figure 7), followed in order by Greece, Ireland, Estonia (the highest-scoring transition country), Spain, and Turkey. In all other countries fewer than 50 percent of firms viewed courts as honest, with Portugal scoring below a number of transition countries.

Firms in all countries have major concerns about speed (figure 8). Fewer than half the firms in any country evaluate courts as quick. In Turkey and several transition countries that score slightly better on quickness (Armenia, Azerbaijan, and Tajikistan), demand for judicial services by firms is still relatively small, which may help to explain this outcome (figure 11). Whether from the perspective of firms responding to BEEPS or of lawyers providing assessments for the *Doing Business* study on the business climate (World Bank 2005), courts appear to be the slowest in the new and

Figure 8. Firms' Assessments of Courts as Quick in 2005—Transition Countries versus European Comparator Countries
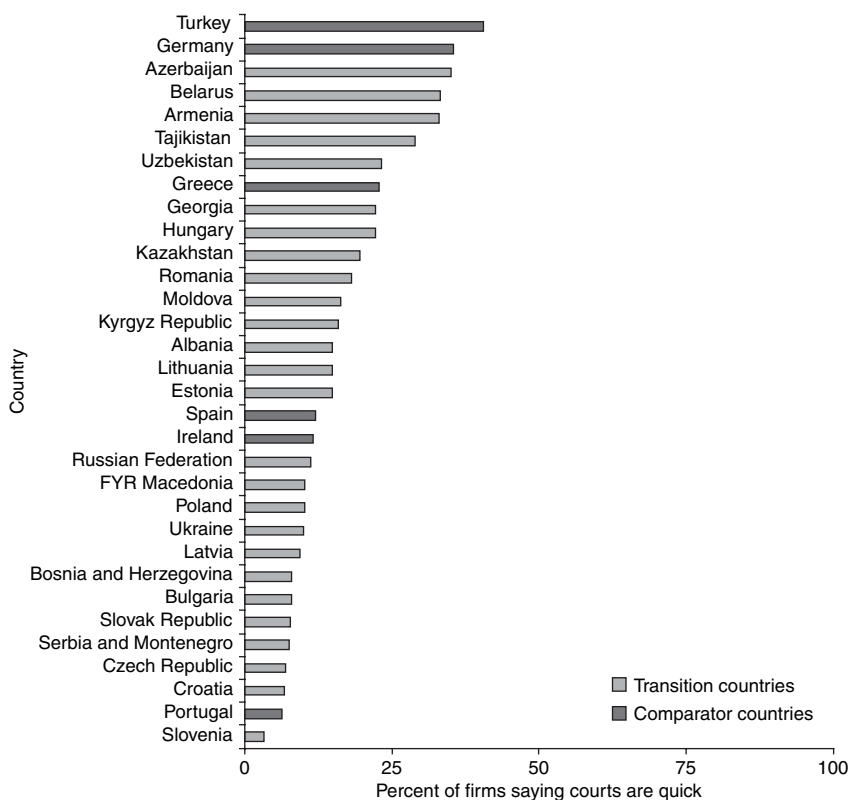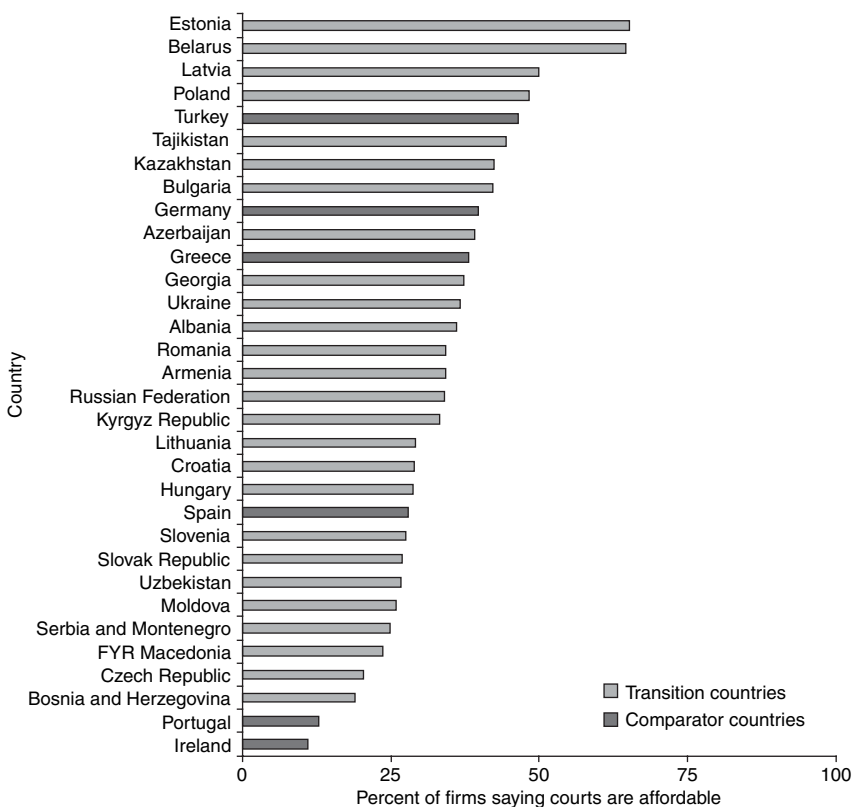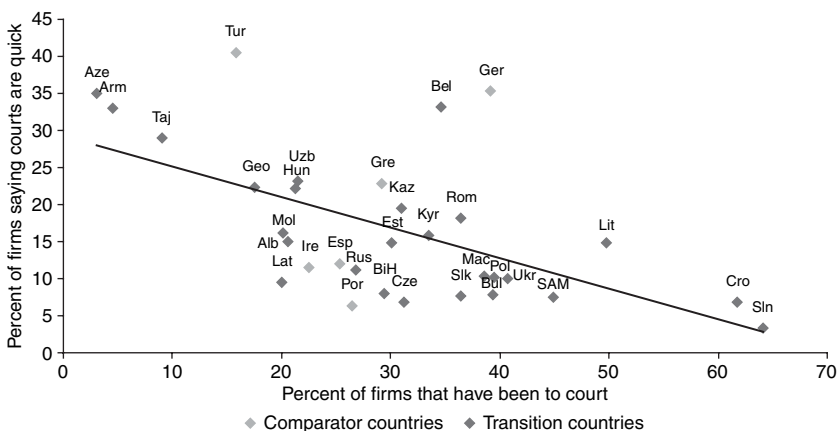

Source: BEEPS 2005.

Note: Comparator countries include Germany, Greece, Ireland, Portugal, Spain, and Turkey. Transition countries and Ireland, Spain, and Turkey were surveyed in 2005. Germany, Greece, and Portugal were surveyed in late 2004.

prospective EU members in Central, Eastern, and South-East Europe, and the situation may be getting worse rather than better (figure 12). It is critical that these countries unclog and speed up court proceedings through legal reforms to eliminate unnecessary procedures, institutional reforms to create stronger incentives for efficiency, and additional resources to increase judicial capacity where clearly warranted. Transition countries can take some comfort, however, from the fact that Ireland, Spain, and Portugal face similar challenges.

Transition countries also fare poorly relative to Greece, Turkey, and Germany in their ability to enforce decisions (figure 9), although Belarus scores better than other transition countries, perhaps reflecting the fact that it is still a centrally controlled economy.[18] Ireland and Spain fall behind a number of transition countries on this indicator, and Portugal's scores are among the lowest of all countries surveyed.

The one area where transition countries fare relatively well in comparison with Western Europe appears to be affordability, although on average only about one-third of all firms surveyed agreed that courts are affordable (figure 10). There is

FIGURE 9. Firms' Assessments of Courts as Able to Enforce Decisions in 2005— Transition Countries versus European Comparator Countries

Source: BEEPS 2005.

Note: Comparator countries include Germany, Greece, Ireland, Portugal, Spain, and Turkey. Transition countries and Ireland, Spain, and Turkey were surveyed in 2005. Germany, Greece, and Portugal were surveyed in late 2004.

significant variation among countries, with the highest marks (as well as a clear improving trend from 2002 to 2005) for Estonia, Belarus, and Latvia. Again, most Central and South-East European countries—including Bosnia and Herzegovina, the Czech Republic, FYR Macedonia, and Serbia and Montenegro—trailed behind the others and appeared to have deteriorated even further from 2002 to 2005. The two countries where firms considered courts to be *least* affordable were Ireland and Portugal. It is likely that the reasons for this are rooted as much if not more in the structure and regulation of related professions (which affects, for example, lawyers' fees) as in the extent of demand or capacity in the judicial system as a whole.

Finally, variations in assessments by firms in eastern and western Germany provide a glimpse into what happens when institutions are adopted wholesale with plenty of financial and technical support, while also illustrating the tenacious grip of history. Before the transition, the country that most resembled the former German Democratic Republic (GDR) in economic structure was Czechoslovakia, while Slovenia was the closest in per capita income. Figures 13–16 show how the Czech Republic, the

FIGURE 10. Firms' Assessments of Courts as Affordable in 2005—Transition Countries versus European Comparator Countries

Source: BEEPS 2005.

Note: Comparator countries include Germany, Greece, Ireland, Portugal, Spain, and Turkey. Transition countries and Ireland, Spain, and Turkey were surveyed in 2005. Germany, Greece, and Portugal were surveyed in late 2004.

FIGURE 11. Pressure on Court Slows Them Down

Source: BEEPS 2005/2004.

Note: Data for transition countries. Esp, Ire, and Tur refer to 2005; data for Ger, Gre, and Por refer to late 2004.

FIGURE 12. Firms' Assessments of the Courts as "Quick," 2002–05
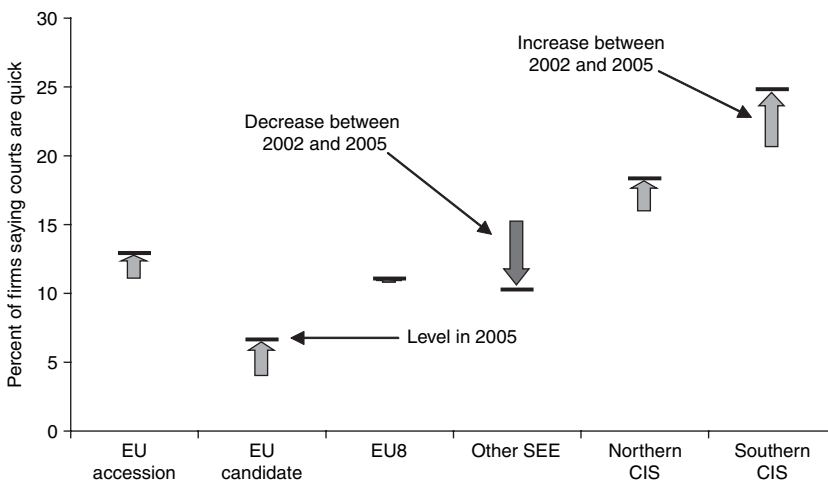
*Note:* See figure 5 for country categories.

FIGURE 13. Firms' Assessments of Court Honesty—Former German Democratic Republic, Former Federal Republic of Germany, and Transition Comparators
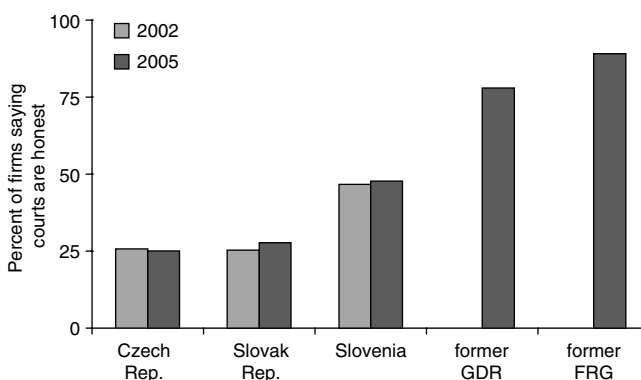
Note: Germany was surveyed in late 2004. The Czech Republic, the Slovak Republic, and Slovenia were surveyed in spring 2005.

Slovak Republic, and Slovenia compare to both eastern and western Germany today. Although firms in eastern Germany continue to provide worse assessments than those in western German along every dimension of court performance except ability to enforce decisions, their assessments are nevertheless better than those provided by firms in the other transition countries. German unification clearly had a strong positive effect on institutions in eastern Germany, but the influence of history lingers even after 15 years.

FIGURE 14. Firms' Assessments of Court Speed—Former German Democratic Republic, Former Federal Republic of Germany, and Transition Comparators
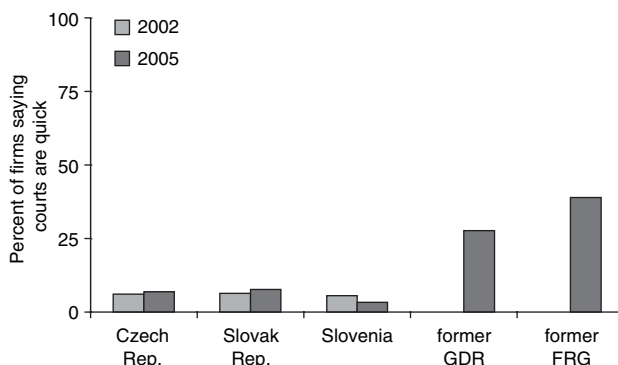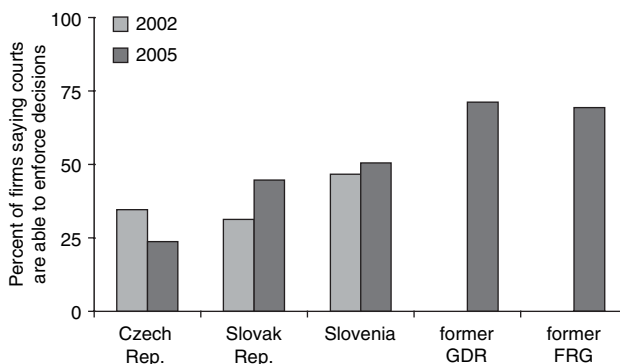

Source: BEEPS 2002, 2004, 2005.

Note: Germany was surveyed in late 2004. The Czech Republic, the Slovak Republic, and Slovenia were surveyed in spring 2005.

FIGURE 15. Firms' Assessments of Court Affordability—Former German Democratic Republic, Former Federal Republic of Germany, and Transition Comparators
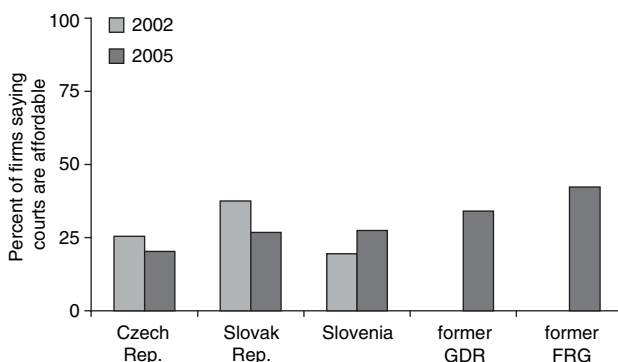
Source: BEEPS 2002, 2004, 2005.

Note: Germany was surveyed in late 2004. The Czech Republic, the Slovak Republic, and Slovenia were surveyed in spring 2005.

Conclusion

What does all this tell us? First, judicial reform is a critical challenge for most transition countries. The majority of these countries have made progress in establishing independence in their judiciaries, but accountability, transparency, and efficiency have lagged behind. Many transition countries need to focus now on strengthening the fairness and honesty of their courts—which requires broad actions along many

FIGURE 16. Firms' Assessments of Courts' Ability to Enforce Decisions—Former German Democratic Republic, Former Federal Republic of Germany, and Transition Comparators

Source: BEEPS 2002, 2004, 2005.

Note: Germany was surveyed in late 2004. The Czech Republic, the Slovak Republic, and Slovenia were surveyed in spring 2005.

fronts to select the right judges and support staff; train, remunerate, and evaluate them adequately; and provide infrastructure and IT systems to promote efficiency and transparency. Countries at the very early stages of transition may not feel the pinch, but as economic reforms proceed and private business grows, the public's demand for more capable and efficient judiciaries is likely to become stronger and stronger, creating ever greater pressures for reform (as are now evident in countries such as Bulgaria and Romania).

More generally, transition countries share many of these same priorities and concerns as other countries, whether developed or developing. Strengthening judicial accountability is also a critical challenge for some OECD countries, not to mention most countries in the developing world. And even those more advanced countries in which citizens trust the honesty and competence of their judges must grapple with problems of judicial delay, affordability, and ability to enforce decisions. Justice systems that are so slow or expensive as to be out of reach or impractical for most citizens to use, or that cannot enforce judges' decisions, are unlikely to ensure rule of law. Judicial strengthening may not be perceived by businesses as the highest priority in all societies (figure 17), but it will be a continuing challenge almost everywhere for years to come.

Annex: The Business Environment and Enterprise Performance Survey

The EBRD-World Bank Business Environment and Enterprise Performance Survey (BEEPS), developed jointly by the European Bank for Reconstruction and Development and the World Bank (2005), is a survey of managers and owners of more than 20,000 firms across the countries of central and eastern Europe, the former Soviet

FIGURE 17. Problems Doing Business, 2005

a. EU8

b. European comparators

c. EU accession, EU candidate, and other SEE

d. CIS
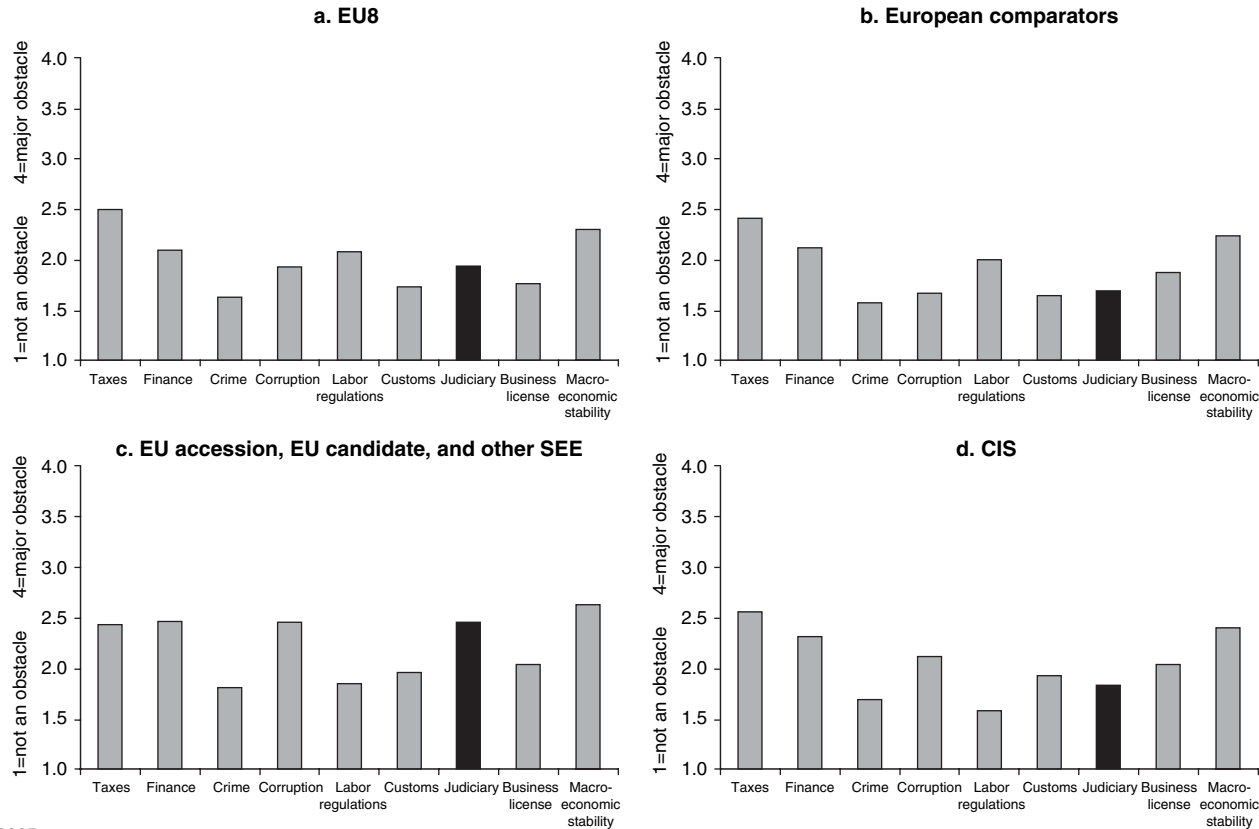
Source: BEEPS 2005.

Note: EU8 includes the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic, and Slovenia. European comparators include Germany, Greece, Ireland, Portugal, Spain, and Turkey. EU accession, EU candidate, and other SEE include Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugaslav Republic of Macedonia, Romania, and Serbia and Montenegro. CIS includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Tajikistan, Russia, Ukraine, and Uzbekistan. These groupings are for convenience. Croatia and Turkey are both EU candidate countries, but Turkey is included with the European comparators to highlight differences between former socialist and other countries. All transition countries and Ireland, Spain, and Turkey were surveyed in 2005. Germany, Greece, and Portugal were surveyed in late 2004.

Union, and Turkey. (It has not been possible to implement this survey in Turkmenistan.) The survey has been carried out in three rounds: 1999, 2002, and 2005.

The BEEPS is designed to examine the quality of the business environment as determined by a wide range of interactions between firms and the state, including in the following areas: problems doing business, unofficial payments and corruption, crime, regulations and red tape, customs and taxes, labor issues, firm financing, legal and judicial issues, and infrastructure. All questionnaires in every country in every round of the BEEPS were implemented the same way, through face-to-face interviews.

The BEEPS sample was drawn from the universe of firms in a broad range of economic activities. In each country, the sectoral composition of the sample in terms of manufacturing (including agro-processing) versus services (including commerce) was determined by their relative contribution to GDP. The BEEPS sampling approach was the same in all three rounds of the BEEPS, and was implemented nationwide in all countries.

The BEEPS sample in all three years included quotas related to size, ownership, export orientation, and geographical location to ensure sufficient numbers of firms to conduct analysis of firms with certain characteristics. From a practical perspective, the quotas that had an actual impact on the sample, compared to what would have arisen from a wholly random sample, were the ones for state ownership, for foreign ownership, and for large size. As ownership and size are highly correlated, the quotas ultimately affected a relatively small proportion of the sample.

- The 2005 round of the BEEPS consisted of 9,655 interviews.[19] Sample sizes ranged from 200 in smaller countries to about 600 in Russia. The survey was carried out in 27 countries in the World Bank's Europe and Central Asia Region (ECA). This group of countries includes Turkey and all of the former socialist countries of Europe and the former Soviet Union, except for Turkmenistan.

- The BEEPS in Comparator Countries consisted of 4,453 firms in seven countries: Germany, Greece, the Republic of Korea, Portugal, and Vietnam were surveyed in late 2004, and Ireland and Spain were surveyed in 2005. Samples ranged from 500 to 1,197 per country.

- The 2002 round of the BEEPS consisted of 6,667 interviews, covering a range of 170 to 514 firms per country. The survey was carried out in every ECA country except Turkmenistan.

- The 1999 round of the BEEPS consisted of 4,104 interviews, covering a range of 112 to 552 firms per country. The survey was carried out in every ECA country except Serbia and Montenegro, Tajikistan, and Turkmenistan.

The BEEPS is unique as a tool that allows monitoring of how firms experience and perceive their environments over a large number of countries and across time. The BEEPS is an original source of data that offers several useful features not found in aggregate indicators, including a common yardstick for country comparisons; the possibility to examine changes over time; the possibility to examine changes in more narrowly defined areas, such as the speed, affordability, credibility, and honesty of courts, as opposed to a generic "rule of law."

The BEEPS also provides a strong complement to the World Bank Group's *Doing Business* (DB) indicators. The two use different methodologies and answer related, but different, questions. Most of the DB indicators are generated by asking lawyers, accountants, and other professionals in each country about the details of the laws, rules, and procedures that govern various aspects of doing business. In order to compare apples to apples, the DB methodology presents hypothetical cases or situations that are the same for each country. The BEEPS, in contrast, asks 200 to 600 firms in each country questions about their business environment and their interactions with the state. The samples are chosen in a uniform way in each country, with sector composition divided according to contribution to GDP. Whereas DB can be thought of as a compilation of indicators *about the content of various government policies, rules, and procedures*, the BEEPS can be thought of as a compilation of indicators about *what firms are saying about the ways that these government policies, rules, and procedures affect their everyday business.*

The DB indicators and BEEPS usually point in the same direction. *Doing Business in 2006—Creating Jobs* (World Bank 2005) highlighted Europe and Central Asia as the leading reformer in 2005, and the BEEPS 2005 results also suggest improvement from 2002 to 2005 in many areas. In cases where the two diverge, there are often valid explanations. Firms may have found ways to work around problematic regulations so that they are less burdensome; conversely, the formal rules and procedures may appear benign, while nontransparent implementation may cause firms considerable difficulty. In addition, improvements captured in the *Doing Business* indicators may take time to be recognized by the business community. For example, reductions in minimum capital requirements to start a company will not help firms that already exist.

The DB indicators and assessments by firms in BEEPS tell the same broad story about judicial systems in transition countries. The two DB indicators that are most closely related to the performance of the courts are those for enforcing contracts
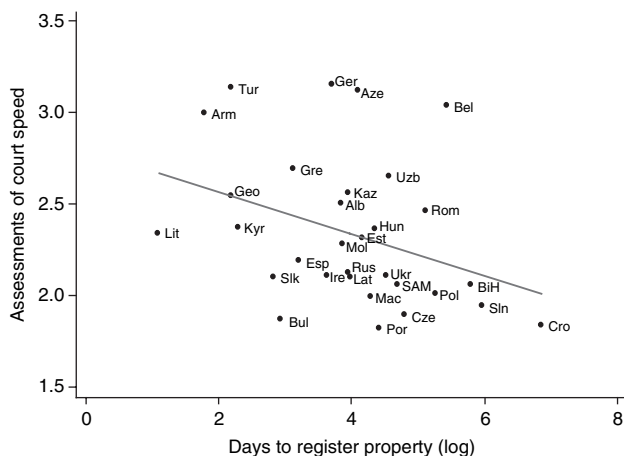
FIGURE A1. Contract Enforcement and Court Speed
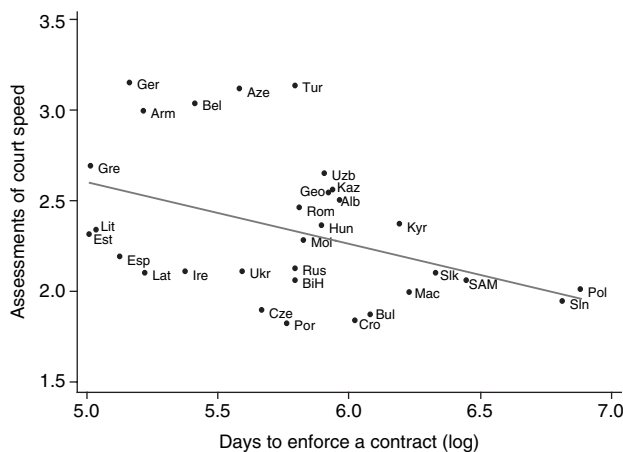
Source: The assessment of court speed measure is from BEEPS (2005); the measure of days to enforce a contract is the log of the *Doing Business* indicator (2005).

Note: See figure 1 for country names.

FIGURE A2. Property Registration and Court Speed

Note: See figure 1 for country names.

through the courts and for registering property, a function handled by the courts in many transition countries. The DB indicators include assessments by a small number of lawyers, and in some cases judges, on how long each of these processes may take for a given hypothetical situation. Both are significantly correlated with BEEPS measures of court speed (see figures A-1 and A-2).

For further information on the BEEPS, see www.worldbank.org/eca/econ.

Notes

1. For a discussion of the role of institutions in economic development, see North (1990), Bardhan (1997), Williamson (1985), and World Bank (1996, 2002, 2004). For a collection of empirical essays on the use of law, see Murrell (2001). For a recent compendium of articles on law and economic development, see Schafer and Raja (2006).

2. This is of course not an exhaustive treatment of the many interesting issues surrounding legal and judicial reform in transition economies. For example, the paper does not address the substantive content of laws and regulations and how it has changed during transition; the structure of court systems, including jurisdictional issues or the role of specialized courts; or arbitration, mediation, and other nonjudicial means of enforcing contracts and resolving disputes, which are important in every society. The survey, on which much of the paper is based, focused on private commercial law—interactions between firms and courts—rather than administrative, constitutional, civil, or criminal law.

3. "Legal extensiveness" is intended to measure the *content* of laws and regulations and the extent to which the legal framework addresses critical issues in a market economy, while "legal effectiveness" is intended to capture how those laws and regulations are actually being implemented in practice in the country concerned. Measures of legal extensiveness and legal effectiveness were constructed based on responses to the EBRD Legal Indicator Survey, available at http://www.ebrd.com/country/sector/law/about/assess/main.htm.

4. The dotted lines are clearly arbitrary and are used for illustrative purposes only.

5. Many of the figures in this paper refer to changes in indicators between the BEEPS rounds in 2002 and 2005. For country-specific analysis of the changes from 1999 to 2002, see Anderson, Bernstein, and Gray (2005). All figures in this paper depict simple averages of nonmissing observations. Further information on the BEEPS is available in the annex.

6. While the findings for Georgia are positive, it should be noted that they come in the context of generalized improvements with regard to corruption in the country. Indeed, firms' assessments of corruption in other sectors improved even more. The Transparency International (TI) Global Corruption Barometer 2005 (Transparency International 2005) suggests that citizens' assessments are similar. Although perceptions of corruption in the judiciary have not changed much in the TI survey compared to one year earlier, perceptions of corruption in other areas (police, tax, and customs) have improved markedly, shifting the judiciary to the top of the list in terms of citizens' perceptions of corruption.

7. For both of these figures, the change between 2002 and 2005 is significant for firms that have not used courts, but not for those that have. All of the differences between court users and nonusers in figures 3 and 4 are significant at the 1 percent level.

8. There may also be an issue of selection bias, if firms with a better perception of courts are more likely to use them (which appears to be the case in some but not all countries).

9. In Russia the level of salaries is not differentiated across localities, and thus it is still considered to be too low in Moscow and St. Petersburg, where the cost of living is much higher than in surrounding regions.

10. In some countries the examinations are still oral and thus thought by some observers to be open to manipulation.

11. This reflects in part the fact that cases are not "law" in civil law systems but are merely applications of law. All court decisions are published in common law systems in part because these decisions take the status of law and are binding as precedent.

12. Juries are not a common element of civil law criminal systems but have been adopted in some countries, including Russia.

13. Recent World Bank loans in Albania, Armenia, Azerbaijan, Croatia, Georgia, FYR Macedonia, Romania, and Russia and loans under preparation in Poland and Ukraine, devote a share of their resources to upgrading court houses and/or providing computers, case management software, and sound recording or other equipment (always accompanied by resources to enhance capacity, accountability, and transparency in other ways).

14. In civil law systems, a judicial career is typically chosen right out of law school and normally begins with a few years of internship. In common law systems, in contrast, lawyers typically enter judicial positions mid-career, after decades of law practice in the private sector or in government.

15. Many economists question the highly regulated and interventionist role of notaries in some European settings, such as Germany. Some transition economies, such as Russia, are moving to reduce this role.

16. The Republic of Korea and Vietnam were also surveyed but are not discussed in this paper. Germany, Greece, and Portugal were surveyed in late 2004. Ireland, Spain, and Turkey were surveyed in 2005.

17. Fairness was also measured by the BEEPS, but is not shown separately here because firms' assessments of fairness are highly correlated with their assessments of honesty.

18. One of the first major studies to employ the BEEPS data, the World Bank's 2000 report *Anticorruption in Transition—A Contribution to the Policy Debate*, describes the challenges in interpreting data from a survey oriented for private business in countries where the private sector is in its infancy, and those observations continue to hold six years later. See World Bank (2000); Gray, Hellman, and Ryterman (2004); and Anderson and Gray (2006).

19. The 2005 round of the BEEPS included 1,715 firms (included in the 9,655 number cited in the text) in a special "manufacturing overlay" in seven countries. These observations were not used in this study so that the sector proportions would be comparable across the whole sample.

References

Anderson, James H., and Cheryl W. Gray. 2006. *Anticorruption in Transition 3—Who Is Succeeding . . . And Why?* Washington, DC: World Bank.

Anderson, James H., David S. Bernstein, and Cheryl W. Gray. 2005. *Judicial Systems in Transition Economies: Assessing the Past, Looking to the Future*. Washington, DC: World Bank.

Bardhan, Pranab. 1997. *The Role of Governance in Economic Development: A Political Economy*. Paris: Organisation for Economic Co-operation and Development (OECD).

EBRD (European Bank for Reconstruction and Development). Various years. *Legal Indicator Survey*. http://www.ebrd.com/country/sector/law/about/assess/main.htm.

———. 2005. *Transition Report 2005—Business in Transition*. London: EBRD.

EBRD (European Bank for Reconstruction and Development) and the World Bank. 2005. *EBRD-World Bank Business Environment and Enterprise Performance Survey (BEEPS)*. http://www.worldbank.org/eca/governance/.

Gray, Cheryl W., Joel Hellman, and Randi Ryterman. 2004. *Anticorruption in Transition 2: Corruption in Enterprise-State Interactions in Europe and Central Asia 1999–2002*. Washington, DC: World Bank.

Kritzer, Herbert M., and John Voelker. 1998. "Familiarity Breeds Respect: How Wisconsin Citizens View their Courts." *Judicature* 82: 58–64.

Murrell, Peter, ed. 2001. *Assessing the Value of Law in Transition Countries*. Ann Arbor: University of Michigan Press.

North, Douglas. 1990. *Institutions, Institutional Change, and Economic Performance*. The Political Economy of Institutions and Decisions Series. New York and Melbourne: Cambridge University Press.

Rose, Richard, and Christian Haerpfer. 1994. "New Democracies Barometer III: Learning from What is Happening." *Studies in Public Policy Number 230*. Centre for the Study of Public Policy, University of Strathclyde.

———. 1996. "New Democracies Barometer IV: A 10-Nation Survey." Studies in Public Policy 262, Centre for the Study of Public Policy, University of Strathclyde.

———. 1998. "New Democracies Barometer V: A 12-Nation Survey." Studies in Public Policy 306, Centre for the Study of Public Policy, University of Strathclyde.

Schafer, Hans-Bernd, and Angara V. Raja, eds. 2006. *Law and Economic Development*. Northampton: Edward Elgar.

Transparency International. 2005. *Report on the Transparency International Global Corruption Barometer 2005*. Berlin: Transparency International.

Williamson, Oliver. 1985. *The Economic Institutions of Capitalism*. New York: Macmillan.

World Bank. 1996. *From Plan to Market*. World Development Report. Washington, DC: World Bank.

———. 2000. *Anticorruption in Transition—A Contribution to the Policy Debate*. Washington, DC: World Bank.

———. 2002. *Building Institutions for Markets*. World Development Report. Washington, DC: World Bank.

———. 2004. *Economic Growth in the 1990s: Learning from a Decade of Reform*. Washington, DC: World Bank.

———. 2005. *Doing Business in 2006—Creating Jobs*. Washington, DC: World Bank and International Finance Corporation. http://www.doingbusiness.org.

———. 2006. *Poland: Legal Barriers to Contract Enforcement*. Washington, DC: World Bank.

Comment on "Judicial Reform in Developing Economies: Constraints and Opportunities," by Matthew C. Stephenson, and "Transforming Judicial Systems in Europe and Central Asia," by James H. Anderson and Cheryl W. Gray

UGO PANIZZA

Comment on "Judicial Reform in Developing Economies: Opportunities and Constraints"

The objective of Matthew Stephenson's paper is to highlight the main problems that arise when countries try to devise and implement judicial reforms. On the one hand, this paper is refreshing because it cautions against the "just do it" approach to reforms and suggests that countries should stop and think before implementing deep reforms of their judicial systems (and, probably, in any other field). On the other hand, this paper could give ammunition to those who oppose reforms because they extract rents from a potentially inefficient status quo.

The paper highlights three possible problems with reforms of the judicial system: resource constraints, incentive compatibility, and second best optimality. As Stephenson makes a good case for the importance of these problems, I will play the role of the devil's advocate and try to deconstruct some of his arguments and suggest that, even with the caveats mentioned by Stephenson, reforming a poorly working judicial system is often a worthy endeavor.

Before discussing these points in detail, I would like to mention that it would be useful to have a better definition of judicial reform. This definition should at least specify the type of the reform under study and the type of court that is affected by the reform process (from more details, see my discussion of the paper by James Anderson and Cheryl Gray in the second half of this comment).

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Resource Constraint

All economists are well aware of the importance of the budget constraint and of the fact that, when implementing a given reform, policy makers need to make sure that the marginal dollar spent in a given activity must have a return that is not smaller than the return of any alternative public expenditure program and of the welfare cost of the distortion created by the mechanism used to finance the reform (either current or future taxation). However, this reasoning assumes that countries are on their efficiency frontier and hence that it is impossible to reform and improve a country's legal system without incurring more expenditure.

A testable implication of this assumption is that one should observe a positive relationship between judicial expenditure and judicial efficiency. Figure 1 plots the result of a regression of the efficiency of the judiciary (the BERI index of judicial efficiency) over total public expenditure in the judicial system (measured in PPP U.S. dollar per 1 million inhabitants) and shows that there seems to be no relationship between these two variables (the regression's coefficient is basically zero and so is the regression's R^2).

As the relationship between these two variables may be nonlinear, I also tried to take the log of justice expenditure. Figure 2 shows a positive relationship between this variable and judicial efficiency, but the coefficient is small and far from being statistically significant (the t-statistic is 0.4) and the regression's R^2 remains close to zero.

As a last experiment, I regressed judicial efficiency on the ratio between justice expenditure and total public expenditure (see figure 3). Again, I find no significant relationship between these two variables; if anything, the relationship is negative. While these are very crude exercises that use a very small set of countries (these were the only developing countries for which I could find data) and do not control for country characteristics that may affect judicial efficiency, they all yield the consistent message that there seem to be no relationship between public expenditure in justice

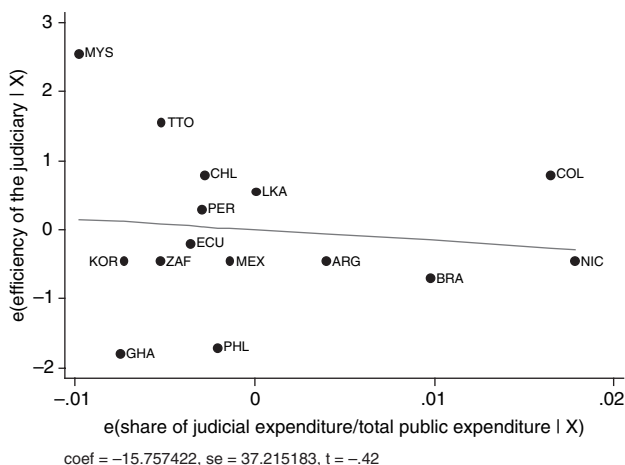**FIGURE 1. Efficiency of the Judiciary and Judicial Expenditure**

coef = .00103082, se = .02281707, t = .05
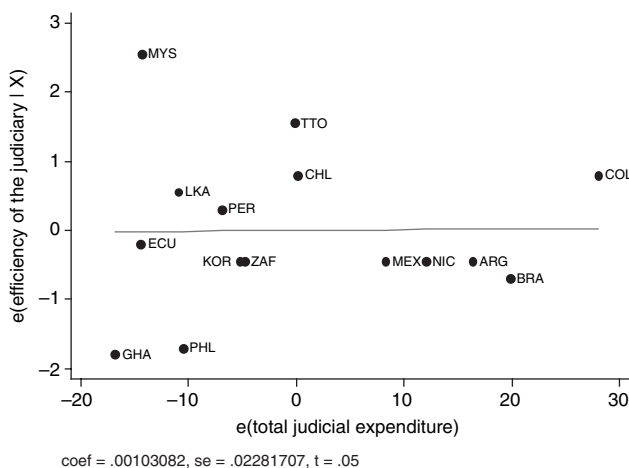
Source: Author's calculations.

Note: Judicial expenditure is total judicial expenditure per 1,000,0000 inhabitants.

FIGURE 2. Efficiency of the Judiciary and Judicial Expenditure (log specification)

coef = .11600096, se = .31780314, t = .37
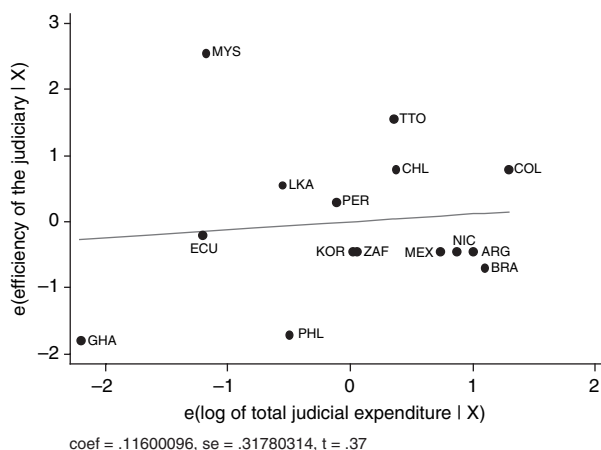
Source: Author's calculations.
Note: Judicial expenditure is the log of total judicial expenditure per 1,000,0000 inhabitants.

FIGURE 3. Efficiency of the Judiciary and Share of Judicial Expenditure over Total Public Expenditure

coef = −15.757422, se = 37.215183, t = −.42

Source: Author's calculations.

and efficiency of the judiciary.[1] This indicates that in most countries the resource constraint is not really binding and that, at the margin, countries could improve the working of their judicial systems without dedicating more resources to this sector.

Incentive Compatibility

The paper discusses incentive compatibility for three types of actors: private parties; the state, politicians, or both; and judges. It argues that private parties may not be interested in using the judicial system for two types of reasons: the judiciary system does not work well, and there is another distortion in the system that discourages private parties

from using courts (for instance, tax evasion, as in Pistor's (1996) example. I am less convinced by the "cultural" reason). Are these good reasons for not trying to reform the system? In the first case, a reform is clearly optimal because an improvement of the judicial system will induce private actors to make a greater use of the system. In the second case, a judicial reform that improves the court system may have a small impact but could still be Pareto improving (especially if the cost of the reform is low).[2]

With respect to politicians, it is certainly true that several political systems may not give politicians the incentive to have a well-working judiciary and, more generally, to implement policies aimed at increasing the welfare of the country's citizens. However, this is a deeper problem; politicians that do not have the right incentives are likely to implement bad public policies in all fields (see IDB 2005). This is a fundamental issue, but it goes well beyond the scope of this paper.

Finally, if judges do not have the right incentives, there is clearly a problem with the working of the judicial system: yet one more reason to embark in a reform program.

Second Best

At the risk of trivializing Stephenson's argument (and second best theory), one can summarize the point made in this part of the paper as follows: "If the law is bad, then it is optimal to have a bad judicial system and judges that do not apply the law." While this statement looks trivially true, I have three concerns with it. The first has to do with endogeneity and dynamics, the second has to do with uncertainty, and the third concerns the evaluation of the "optimality" of the law.

Endogeneity and dynamics

My first concern relates to the possibility of a feedback between distortions and the quality of the judicial system. Consider, for instance, the example of complex and superior legislation that becomes inferior in the presence of a bad judicial system. What if judges are bad because they cannot learn by working on more complex legal cases? Keeping the law simple might be the static second best, but in a dynamic setting it would end up in a vicious circle in which there is no improvement in judicial capacity and hence no ability to adopt more efficient laws. Clearly one should not jump from a very simple legal system to a very complex one, but one could adopt gradual reforms and generate a positive feedback between the complexity of the legal system and the ability of judges.

Uncertainty

My second concern is that a bad law applied in a consistent fashion may be superior to the uncertainty generated by a system with a poor working judiciary and an erratic application of the law. In this sense, I tend to disagree with the statement that, under certain conditions, corruption can be optimal.

How do we know what a good law is?

My final concern has to do with the definition of "good law." In democracies, laws reflect a series of compromises aimed at maintaining some sort of political equilibrium, which should reflect society's preference; with the exception of a few cases,

it is very hard to judge whether a law is purely good or bad. This is especially the case if the person giving advice is a member of a foreign development agency with limited knowledge of the local situation, who may not realize that a law that looks bad from the outside is just a second best response to yet another distortion.[3]

Finally, it is unlikely that all the laws in a given country are bad. It is hard to think that a bad judiciary would enforce good laws and not enforce bad laws (if anything, this should be the characteristics of a good judiciary).

Conclusions

It is worth concluding by restating that the objective of my discussion was to be the devil's advocate, and in this role I sometimes forced Stephenson's arguments. It is clear to me that Stephenson's objective is not to discourage countries from embarking on judicial reforms, but only to say: "Be careful when you do it." My point is that the rule of law is a necessary condition for economic development. My advice to a country with a poorly working judicial system that would like to embark on a reform process is: "Be careful. Do not imitate others, but make sure to find something that is appropriate for you. But definitely do it!"

Comment on "Transforming Judicial Systems in Europe and Central Asia"

The objective of James Anderson and Cheryl Gray's paper is to address three main issues: the types and sequencing of judicial reforms that are necessary for a successful transition from socialism to a market-based economy; the state of judicial reforms in the Europe and Central Asia region and an analysis of the factors that explain the extent of progress to date; and a cross-country comparison of the way in which firms evaluate the various judicial systems. The authors have a deep and detailed knowledge of the judicial systems of the various countries covered in the paper, but it is extremely difficult to address these three points in a single paper and the reader ends up being overwhelmed by the amount of information included. Hence the richness of the paper also ends up being its main weakness. In fact, the paper provides several interesting intuitions and facts but it cannot develop any of these themes in greater detail, as it tries to compress so much information into a relatively small number of pages.

On the basis of these considerations, rather than providing specific detailed comments and minor criticism to Anderson and Gray's paper, I will try to comment on their work by producing the outline of the paper I would like to write if I were asked to rewrite their paper. Clearly, my "shadow paper" is a rhetorical device that has the benefit of hindsight because it internalizes what I learned by reading Anderson and Gray's work.[4]

What would be the research question of a shadow paper inspired by Anderson and Gray? There are three things I found particularly interesting. The first is the tension between independence and accountability. While Anderson and Gray are not the first to raise this issue (see, for instance, Gloppen, Gargarella, and Skaar 2004),

they make a convincing case that transition countries were more successful in guaranteeing independence than in making judges accountable, and that this is an obstacle to economic development. The second is the remark that judicial corruption can be fought only by providing both carrots (higher wages) and sticks (more severe punishments for corrupted judges). Again, this is not a new idea (in Panizza 2001, I survey the literature on the relationship between public sector wages and public sector performance), but there are many people in the development community who still think that higher public sector pay is the solution to corruption. Hence it would be useful to have a research piece offering clear evidence that higher pay for judges is not a sufficient condition to combat judicial corruption. The third is the richness of the survey (BEEPS) used in the paper.

Given that there is extensive work on the characteristics of judicial reforms in transition countries (most of it done by the authors; see, for instance, Anderson, Bernstein, and Gray 2005) and that the innovation of Anderson and Gray's paper is in the use of BEEPS data, I will focus the outline of my shadow paper on this latter point.

The Shadow Paper
My shadow paper would consist of three parts. The first part would include a precise definition of judicial reform and use a taxonomy to classify judicial reforms implemented in transition countries. This section would also try to formulate a series of hypotheses as to which actors would likely be the main beneficiaries of the status quo or of the reform process. The second part would be very close to Anderson and Gray's paper and provide a brief description of cross-country data based on BEEPS. The third and last part would describe the data using firm-level observations and use firm-level data to test some of the hypotheses formulated in the first part of the paper.

Part I: Defining Judicial Reforms and Formulating Hypotheses
The term *judicial reform* is rather vague. It would be good to have a framework to classify the various types of reforms. Such a framework could classify reforms along two dimensions: the *institution* (or part of the judicial system) that is object of the reform process, and the *type* of reform to be implemented.

With respect to the first dimension, three types of courts are generally observed: the supreme (or constitutional) court; penal courts; and civil courts. Clearly, there are interactions between the three types of courts, but it is fair to think that reforms of the supreme court are much more linked with the democratization process, and reforms of the civil courts are much more linked with the business environment; penal courts fall somewhere in between.[5] From reading Anderson and Gray's paper, it is never clear whether their analysis is focused on a specific type of court or on the judicial system in general. Given the availability of data on firms' attitudes toward the judiciary, I would definitely focus on reforms of civil courts.

With respect to the second dimension, I would use a classification of the various reforms based on one of the taxonomies suggested in the literature. In particular, I would probably adopt the taxonomy proposed by Thomas Carothers (1998). This taxonomy divides judicial reforms into three types. Type I reforms focus on the

TABLE 1. A Matrix of Judicial Reforms

		Objective of the reform		
	Type	Supreme court	Penal courts	Civil courts
Type of reform	Type I			
	Type II			
	Type III			

Source: Author, based on Carothers (1998).

ongoing process of cumulative changes in the law. These reforms include important modifications to legislations or procedural codes. Type II reforms focus on the institutions that interpret and enforce the law. They involve efforts to strengthen the courts and various law enforcement agencies. Type III reforms are those that focus on the independency of the judiciary. They include changes to the process of nomination, promotion, tenure, and evaluation of judges. They also have to do with the budgetary autonomy of the judiciary.[6] I would use the following matrix to classify judicial reforms in transition countries.[7]

As a second step, I would describe both the status quo and the reform process and try to formulate a set of hypotheses as to what types of firm benefit or suffer from the status quo or from the reform process. For instance, one could divide firms according to size (large, medium, and small), sector of operation (manufacturing, financial services, nonfinancial services, construction, agriculture), location (rural versus urban, close to or far away from the capital), and need for financial resources (Rajan and Zingales 1998 provide a useful classification). These hypotheses could then be tested in part 3 of the paper.

Part II: Cross-Country Analysis
In the second part of the paper, I would follow Anderson and Gray and describe the data at the country level. However, besides using simple averages, I would also look at second moments to get an idea of the dispersion of opinion and try to correct for firm characteristics by running the following regression:

$$F_{i,j} = X_{i,j}\beta + \mu_j + \varepsilon_{i,j},$$ (1)

where $F_{i,j}$ is the assessment of firm i, located in country j, $X_{i,j}$ is a matrix of firm characteristics, β is a vector of parameters, and μ_j is a set of country fixed effects. Then I would use the fixed effects to compare countries. The advantage of this methodology is that it corrects for the fact that the characteristics of the firms included in the survey may vary across countries.

As a next step, I would look at the correlation between these country-level averages (both the simple averages and the ones obtained with the correction outlined above) and country characteristics (GDP per capita, level of democracy, corruption, rule of law, index of competitiveness, and the like). While this is not very different from what Anderson and Gray do, I do not fully agree with their interpretation of some of these correlations.

Take, for instance, their figure 1, where they assume that the log of GDP per capita is a good proxy of the capacity of delivering judicial services. This statement requires three strong assumptions: that all countries have the same capacity to tax; that the level of GDP does not depend on the quality of judicial services; and that improving judicial services requires higher expenditure. These are problematic assumptions.

With respect to the first assumption, it is well known that, when compared with industrial countries, developing countries tend to have much smaller public sectors (table 2) and that this probably due to an inferior capacity to tax. The second assumption is even more problematic. In fact, the authors are the first to recognize that a well-working judiciary is a necessary condition for economic development. With respect to the third assumption, I am not sure that budget restrictions are a key obstacle to having a well-working judiciary. It is my impression that most countries are far away from the efficiency frontier and hence they could substantially improve their judiciary without requiring a larger budget (for anecdotal evidence, see my discussion on Matthew Stephenson's paper, in the first part of this comment).

I also have some problems with the interpretation of the y-axis of figure 1 in Anderson and Gray's paper. While it is trivially true that demand of judicial services can be proxied by the number of firms that use the court, it must also be true that this depends by how well courts work. More firms will use courts in countries with courts that work well and fewer firms will use courts in countries with courts that do not work well. As a consequence, both the x- and y-axis of figure 1 are partly driven by how well courts work. Hence it is not surprising that one finds a strong positive relationship between these two variables. As I said before, I still think that reporting this correlation is valuable, but one must be careful in assigning causal interpretations.

Part III: Exploiting Firm-level Data

BEEPS data are a gold mine waiting to be exploited (Recanatini, Prati, and Tabellini 2005 is an example of what one can do with this sort of data). As a first pass, I would perform three exercises.

As a first exercise, I would re-run equation (1) country by country (of course without the country fixed effects) and compare the vector of parameters, β, across countries and across different types of assessments within a country. By comparing across countries, one could answer questions of the following kind: do large (rural, sector XYZ, . . .) firms in country j have a better assessment (relative to small, urban, sector WTF, . . .) of the judicial system than similar firms in country z? By comparing within countries, one could answer questions of the following kind: do firms with a

TABLE 2. Size of the Public Sector, 1990–2004

	Country group	Mean	Median	No. of countries	No. of obs.
Total revenues/GDP	Industrial	30.24	31.72	24	199
	Developing	21.82	20.86	119	1,101
Total expenditure/GDP	Industrial	33.59	34.90	23	195
	Developing	25.45	24.80	118	1,096

Source: IMF International Financial Statistics.

given set of characteristics tend to give a better assessment of a given aspect of the judicial sector but a worse assessment of another aspect?

As a second exercise, I would compare the results described above with the hypothesis discussed in part I.[8] This would allow me to check whether judicial systems that seem to favor, say, large firms receive a positive assessment by large firms (relative to small firms).

While the previous two exercises are static analyses (focusing on the status quo before or after reform), my third exercise would exploit the panel dimension of BEEPS. Again, I would use the hypotheses formulated in part I and check whether reforms that one would expect to favor a specific type of firm have a positive effect on the assessment given by this type of firm.

Conclusions

Anderson and Gray do an excellent job of describing and comparing the main characteristics of the judicial systems in transition countries and in describing the main challenges for the reform agenda. The next step is to fully exploit the potential of the firm-level information contained in the BEEPS data. The purpose of my shadow paper is to discuss a possible way to do this. Of course some of the things I suggest are not easy to implement,[9] and perhaps are not even the best way to use this rich dataset. However, I do think that we can learn much more from going beyond the cross-country analysis of BEEPS data.[10]

Notes

1. I also found data for six industrial countries. Including these countries in the sample does not affect the results described here.
2. As a better working of judicial system will increase the benefits of using the system, some marginal firms may decide to start using the system and pay its cost in terms of disclosure.
3. Consider, for example, a country divided into two regions (call them East and West) populated by a large number of firms that have one plant in each region. Assume that there are plant-specific productivity shocks. Given these assumptions, moving some workers from a plant that receives a negative shock to a plant that receives a positive shock would clearly lead to an increase in total productivity. Hence an external observer may be tempted to judge as bad a law that prevents firms from reallocating workers across plants and advise the country that this law should be either abolished or, at the very least, not enforced. But what if this law is a second best response to another distortion (maybe in the housing or education market)? Then not applying (or eliminating) the law may lead to a reduction in total social welfare.
4. Furthermore, it allows to me to say what I would like to do without the need of actually doing it.
5. While it is hard to think of a dictatorship with an independent and well-working supreme court, there have been examples of dictatorships with well-working civil courts.
6. For more details and an application to Latin America, see Sousa (2005).
7. Anderson and Gray do a good job in classifying reforms that focus on: public information and transparency; judicial infrastructure and management; judicial education and training; and supporting professions. However, using a well-established taxonomy would probably increase the paper's readability.

8. This could be done by either simple comparisons or by pooling all countries and interacting a set of coefficients representing the hypotheses described in part I with firm characteristics.

9. For instance, formulating the hypotheses discussed in part I is a very difficult task that requires deep institutional knowledge of the judicial systems of several countries.

10. Anderson and Gray use the firm-level dimension of the data when they compare firms that have used the courts with firms that have not used the courts.

References

Anderson, James H., David S. Bernstein, and Cheryl W. Gray. 2005. *Judicial Systems in Transition Economies*. Washington, DC: World Bank.

Carothers, Thomas. 1998. "The Rule of Law Revival." *Foreign Affairs* 77 (2): 95–106.

Gloppen, Siri, Roberto Gargarella, and Elin Skaar, eds. 2004. *Democratization and the Judiciary. The Accountability Functions of Courts in New Democracies*. London: Routledge.

IDB (Inter-American Development Bank). 2005. *The Politics of Policies*. Economic and Social Progress in Latin America 2006 Report. Washington, DC and Cambridge, Mass.: Inter-American Development Bank and David Rockefeller Center for Latin American Studies, Harvard University.

Panizza, Ugo. 2001. "Public-Private Wage Differentials and Bureaucratic Quality. Evidence from Latin America." *Economia* (Fall): 97–151.

Rajan, Raghuram, and Luigi Zingales. 1998. "Financial Dependence and Growth." *The American Economic Review* 88: 559–86.

Pistor, Katharina. 1996. "Supply and Demand for Contract Enforcement in Russia: Courts, Arbitrations, and Private Enforcement." *Review of Central and Eastern European Law* 22 (1): 55–87.

Recanatini, Francesca, Alessandro Prati, and Guido Tabellini. 2005. "Why Are some Public Agencies less Corrupt? Lesson for Institutional Reforms from Survey Data." World Bank, Washington, DC.

Sousa, Mariana. 2005. "Judicial Reforms, the PMP, and Public Policy." Department of Political Science, Notre Dame University. Background paper for *Politics of Policies* (IDB 2005).

Comment on "Judicial Reform in Developing Economies: Constraints and Opportunities," by Matthew C. Stephenson, and "Transforming Judicial Systems in Europe and Central Asia," by James H. Anderson and Cheryl W. Gray

STEFAN VOIGT

Today, there seems to be widespread consensus that it is hard to exaggerate the importance of well-functioning judicial systems for the beneficial development of entire economies. This consensus, however, has emerged only recently, along with the more general consensus that institutions are crucial for economic development. The transition processes that started in Central and Eastern Europe some 15 years ago have been instrumental in bringing this consensus about. Likewise, the transition processes also helped bring another insight to the fore: namely, that institutions cannot be entirely designed "from above," and that the implementation of market-friendly institutions often takes years, if not decades.

Some people had long argued that a functioning judiciary would be crucial for the beneficial functioning of market systems, including—notably—Charles Montesquieu (The Spirit of the Laws, 1748) and Alexander Hamilton, James Madison, and John Jay (*The Federalist Papers*, 1788). However, empirical knowledge concerning the economic effects of judicial institutions, as well as the variables that determine them in the first place, is still scarce, although it has developed substantially over the last number of years.

Both papers to be discussed in this comment are important for improving understanding of the issues involved. The paper by James Anderson and Cheryl Gray hypothesizes that the transition countries in Central and Eastern Europe currently have a problem of judicial accountability rather than judicial independence. The paper does a great job in pointing to the problems of honesty, the absence of corruption, and fairness by drawing on the BEEPS survey carried out by the World Bank in three waves among almost 20,000 firms in the region.

In his paper, Matthew Stephenson is interested in the difficulties of implementing newly gained insights concerning the judiciary into real-world judicial systems. He deals with three kinds of constraints that judicial reforms systematically face: the resource constraint; the incentive compatibility of all groups of actors involved (that is, private parties, government representatives, and judges); and the sequencing of reforms, here described in terms of the familiar second best theorem. His main message is that the interdependence of various institutions needs to be explicitly taken into account; otherwise we are in for some unpleasant surprises.

Both papers are highly stimulating. Instead of discussing them in any detail here, I propose to ask three questions. First, what are the functions of the judiciary in a market system? Second, what do we know about the effects of the judiciary—and what do we not know? And third, what can be done to improve the functioning of the judiciary? In discussing these three questions, I will return to the two papers.

What are the Functions of the Judiciary in Market Systems?

Transactions between private actors are coordinated via contracts that are based on property rights in market systems. Contracts are mutual promises to do certain things and to refrain from doing other things. In developed economies, many transactions, optimally, will not be executed simultaneously but sequentially. The sequential execution of contracts suffers from a time inconsistency problem. That is to say, given that the other party has already delivered and my term comes, I have little incentive to carry out my original promise (for example, to pay) *unless* there is some third party that can credibly threaten to make me even worse off than if I pay: the judiciary. Hence the judiciary enables private parties to make credible commitments toward other parties. This can greatly increase the number of transactions taking place, prolong the planning horizon of the actors, increase the aggregate amount of investment and, at the end of the day, improve economic growth and incomes.

This welfare-enhancing function of the judiciary will materialize, however, only if a number of conditions are met. First, *legislation must be favorable to market transactions*. If private property rights are not even promised, taxes are so high that private parties have little incentive to make profits, and so forth, a judiciary will not be sufficient to increase welfare. Secondly, none of the conflicting parties can buy a favorable decision by bribing the judges. In other words, *judicial accountability* is present. Thirdly, government representatives do not put any pressure on judges, and enforce the court decisions even if they are not in accord with their own preferences. This can be referred to as *judicial independence*.

If these conditions are met, the judicial system will not only enable private actors to make credible commitments, but the government, as well. This is a crucial precondition for economic development, since the government also suffers from the problem of time-inconsistency. A simple promise to honor private property rights will not be credible. Once private actors are invested, government has incentives to renege on its promises. If, in such a situation, an independent judiciary is able to make the government stick to its promises, this will foster investment and growth.

Having dealt with the functions of the judiciary, we now turn to describe what is included in the notion of "the judiciary." It is important to note that the notion is clearly a lot broader than "the courts." Given that criminal law is involved, we would have to add "the police," "the prosecution agency," and "the prison system." Given that private law is involved, we would have to add "notaries" and "bailiffs."[1] These components can be called "the value chain of the judiciary." This use of words suggests a hypothesis: namely, that the judiciary can only be as good as the weakest element of the chain: that is, as good as its worst component.

The degree to which judicial systems will be able to generate welfare-enhancing effects will also depend on a host of other actors such as audit institutions (increasing the incentives to spend the judicial budget effectively) and anticorruption agencies (reducing the incentives to accept bribes).

What Do We Know about the Effects of the Judiciary—and What Do We Not Know?

Until recently, precious few empirical results concerning the hypotheses spelled out in the last section were available. The single most important impediment was perceived to be the difficulty—or even impossibility—of coming up with measures for both judicial independence and judicial accountability. This has changed, however, and I want to present four recent results here.

First, Feld and Voigt (2003) introduce two indicators for judicial independence: one measuring de jure independence (based on twelve different variables) and the other one measuring de facto independence (based on eight different variables). In a cross-section of some 80 countries, Feld and Voigt (2006) find that their de facto indicator has a strong and significant positive impact on economic growth, while the de jure indicator does not.

Second, judicial independence is not only a necessary condition for the impartiality of judges, it can also endanger it: judges who are independent could have incentives to remain uninformed, be lazy, or even corrupt. It is therefore often argued that judicial independence and judicial accountability are competing ends. Stephenson, in his paper, refers to this view. Anderson and Gray can be read as being optimistic concerning the compatibility of both concepts. Voigt (2005) argues that the two concepts need not exclude each other: judges could be independent from undue influences by other actors but still be accountable to the law. Voigt (2005) introduces two simple proxies for judicial accountability. One is the absence of perceived corruption among business people. The other is an indicator for the fairness of trials based on nine different components, such as the right to an appeal, timeliness of the court's decision, whether charges are presented before trial, and whether the trial is public. After controlling for standard explanatory variables, the study finds that both indicators are very significantly and robustly linked to per capita income on a basis of 75 countries.

Third, as noted in the last section, "the judiciary" encompasses many more actors than just judges. There are very few empirical studies available that deal with the value chain explicitly. In one such study (Voigt, Feld, and van Aaken 2005), it is conjectured

that prosecution agencies that are not independent from the executive will lead to higher levels of corruption, as it will be more attractive for government members to accept bribes if they can count on, say, the minister of justice to stop prosecution of their crimes. The authors present two indicators, one for de jure and one for de facto prosecutorial independence. In a cross-section of 62 countries, they find that higher degrees of de facto prosecutorial independence are indeed robustly and significantly correlated with lower degrees of perceived corruption.

The fourth and last empirical result I want to present in this section deals with the interrelationship of de facto judicial independence and the factual independence of other government agencies, such as the central bank. Various writers have observed that higher degrees of formal central bank independence are correlated with lower degrees of inflation only among the OECD countries. In less developed countries, it is, rather, the turnover rate of central bank governors that is a good predictor for inflation rates. This could mean that de jure central bank independence is only a good proxy for factual independence in OECD countries. But what are the determinants of factual central bank independence? Hayo and Voigt (2005) recently argued that high degrees of judicial independence can influence inflation rates both indirectly (by increasing average tenure of the central bank governor) and directly (by lowering transaction costs, which would lead to a lower rate of natural unemployment and an increase in potential output). There is evidence that both transmission channels are empirically relevant.

This is one case where institutions are highly interdependent: an independent judiciary is an important component for creating a stable currency. It can be hypothesized (but needs to be shown empirically) that this is also true for a host of other independent government bureaus, such as competition agencies and network industry regulators. This leads directly to the effects of the judiciary about which we do not yet know very much. Again, I would like to name four issues.

First, there seems to be a significant and highly robust correlation between judicial independence and income. Yet we do not know very much about the transmission channels through which one affects the other. We could, for example, ask whether a factually independent judiciary induces additional investment, or whether there are differential effects on human versus physical capital, or whether there are different effects concerning the origin of investment: that is, between domestic and foreign investment. Could it also be the case that a high degree of factual judicial independence enhances (total) factor productivity?

This leads directly to the second open question. The judiciary can be hypothesized to have important effects in two altogether different interaction situations. The first is in cases of conflict between private parties. As long as both sides expect the judiciary to be impartial and independent, the propensity to enter into such contracts in the first place can be assumed to be higher, which will lead to more welfare-enhancing transactions taking place, and hence to higher economic growth. The second is in cases of conflict between government and the citizens. Citizens are in need of an organization that has the power to adjudicate even against the government in case it has not followed the law. We are, in other words, dealing with the distinction between private

and public law. A second set of questions arises with regard to this distinction: Is it possible to evaluate the relative importance of either of the two channels just outlined? Does an independent judiciary increase overall government efficiency?

Third, it could be argued that the ineffectiveness of the judiciary run by the state would be comparatively less relevant with regard to private law: if private parties believe that they could make a mutually attractive deal, they might be able to agree on non-state third parties as "judges." When one deals with the state, this possibility seems to be close to impossible. This hypothesis leads directly to a third set of unanswered questions: to what extent can non-state arbitration make up for an ineffective state-run judiciary? If non-state arbitration is a substitute for state-run arbitration, this might be policy relevant: if it is less costly and time-consuming to implement the preconditions for non-state arbitration, this could be an intermediate fix for states that suffer from ineffective judicial systems.

The fourth issue deals with the question, "correlation or causation?" As of yet, it cannot be excluded that it is wealthy societies that can afford to buy a well-functioning judiciary: that is, that the causation runs from being wealthy to the judiciary, and not the other way around. To shed more light on this question, time-series data that are just emerging would be helpful. Alternatively, instrumental variables that are more truly exogenous than judicial independence could do the job.

In sum, we can be fairly certain that judicial independence as well as judicial accountability are robustly linked to income and growth, that prosecutorial independence is robustly linked to the absence of corruption, and that more independent courts also increase the factual independence of other agencies, with potentially wide-ranging effects. On the other hand, our knowledge concerning transmission channels, the effects of non-state dispute resolution, and the question of causality is still insufficient.

What Can Be Done to Improve the Functioning of the Judiciary?

If the judiciary has wide-ranging effects on the development of the economy, what can be done to improve its functioning? Is there "the" optimal way or are there different roads to an effective system? Or, more pessimistically, could countries that do not have specific conditions at their disposition be doomed to live with an ineffective judiciary? In his paper, Stephenson emphasizes the need to allocate resources among various judicial reform options competing for scarce resources. But the question is not confined to the sequence of reforms within the judiciary, but also to the kinds of steps taken within the judiciary, as well as interrelationships with other institutional arrangements that can extend well beyond the judiciary. A number of factors promise to be relevant.

First, the indicators introduced by Feld and Voigt (2003) are based on twelve and eight different variables. The authors did ask what single variables were most important for the high correlation with economic growth, and found that anchoring the basics of the judiciary within the constitution was highly relevant with regard to de jure

independence. Among the de facto independence variables, factual implementation of legal terms of the judges and paying them adequately proved to be most important. The policy advice that can be drawn from these insights seems straightforward.

Second, what about other characteristics of the judiciary, like having a supreme court (the U.S. model) or a constitutional court (the Austrian model)? Feld and Voigt (2006) find that this component of the court structure does not have significant effects on economic growth. With regard to legal families, only countries with socialist legal origins performed clearly worse than the benchmark legal origin (Scandinavian). This means that no matter whether a country has a French, an English, or a German legal origin, this will not have important consequences for its growth prospects. One question for which we do not have good answers yet is what are the effects of lay participation (either juries or lay assessors) on economic performance.[2]

Third, the effectiveness of the judiciary might also depend on institutional choices that are made with regard to other branches. Here, Feld and Voigt (2006) find that the existence of strong checks and balances enforces the impact of de facto judicial independence on economic growth. Further, the growth-enhancing effects are particularly strong in presidential systems. However, policy recommendations ought not to be drawn too hastily: presidential systems are significantly less likely to realize high degrees of de facto judicial independence in the first place.

Lastly, it could be the case that realizing high degrees of de facto judicial independence is possible only under certain conditions that are beyond the immediate reach of policy makers. Stephenson, for example, mentions the possibility that courts might only be factually independent if they enjoy broad support by the public. Hayo and Voigt (2006) have tested two closely related hypotheses: namely, that the realized degree of press freedom and the realized degree of civil society determine the degree of factual judicial independence. Their results show that press freedom is indeed an important determinant, but the degree of civil society does not survive their rigorous empirical model reduction process. Their results can even make policy makers somewhat optimistic: although the correlation between de jure and de facto judicial independence is rather low, de jure independence turns out to be the single most important predictor for the realized level of factual independence. This is, clearly, a variable under the control of policy makers. The other important determinants they found were the degree of legal trust that the population has in the judiciary and the extent of democratization of a country. These variables are much less subject to explicit policy measures.

Conclusions and Outlook

Our knowledge concerning the effects of the judiciary on economic development has substantially increased over the last number of years, but important gaps remain. De facto independence is far more important than the formal independence of the judiciary. Yet improving the functioning of the judiciary is not beyond the reach of governments.

Notes

1. In both kinds of law, private lawyers will regularly play an important role. The terms on which they work are, to a large extent, defined by the respective legislation—and hence by the state.
2. Voigt (2006) is a conceptual paper, not an empirical one.

References

Feld, Lars, and Stefan Voigt. 2003. "Economic Growth and Judicial Independence: Cross Country Evidence Using a New Set of Indicators." *European Journal of Political Economy* 19 (3): 497–527.

———. 2006. "Making Judges Independent—Some Proposals Regarding the Judiciary." In *Democratic Constitutional Design and Public Policy—Analysis and Evidence,* ed. R. Congleton and B. Swedenborg, pp. 251–88. Cambridge, Mass.: MIT Press. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=597721.

Hamilton, Alexander, James Madison, and John Jay. 1788, lst edition. Reprinted in 1961. *The Federalist Papers*, with an introduction by C. Rossiter. New York: Mentor.

Hayo, Bernd, and Stefan Voigt. 2005. "Inflation, Central Bank Independence, and the Legal System." http://papers.ssrn.com/sol3/papers.cfm?abstract_id=724661.

———. 2006. "Explaining de facto Judicial Independence." Forthcoming in *International Review of Law and Economics.*

Montesquieu, Charles L. de. 1748, 1st ed. Reprinted in 1989. *The Spirit of the Laws* (Cambridge Texts in the History of Political Thought). Cambridge: Cambridge University Press.

Voigt, Stefan. 2005. "The Economic Effects of Judicial Accountability." http://papers.ssrn.com/sol3/papers.cfm?abstract_id=732723.

———. 2006. "Civil Society Elements in European Court Systems—Towards a Comparative Analysis." http://www.asp-research.com/Papers%20CiSoNet/MadridPres.pdf.

Voigt, Stefan, Lars Feld, and Anne van Aaken. 2005. "Power over Prosecutors Corrupts Politicians: Cross-country Evidence Using a New Indicator." Paper presented at the Annual Meeting of the Public Choice Society, New Orleans, March. http://www.pubchoicesoc.org/papers2005/Voigt_Feld_van_Aaken.pdf.

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