Institutions, Integration, and Geography:

In Search of the Deep Determinants of Economic Growth

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The spectacular gap in incomes that separates the world's rich and poor nations is the central economic fact of our time. Average income in Sierra Leone, which is the poorest country in the world for which we have data, is almost 100 times lower than that in Luxembourg, the world's richest country. Nearly two-thirds of the world's population lives in countries where average income is only one-tenth the U.S. level (Figure 1).[1] Since the starting points for all these countries were not so far apart prior to the industrial revolution, these disparities must be attributed almost entirely to differences in long-term growth rates of per-capita income. The world is split sharply between countries that have managed to sustain economic growth over long periods of time and those that have not. How do we make sense of this?

The economics of growth has come a long way since it regained center stage for economists in the mid-1980s.[2] The early focus on theoretical models that generate self-sustaining growth and endogenous technological advance has been increasingly replaced with attempts to shed light on the diversity of experience with economic growth.[3] On the empirical front, the search for correlates of growth has gone beyond economic variables (such as physical and human capital, and price distortions) to examine "deeper" determinants of economic

[1] These figures refer to per-capita gross domestic product, adjusted for differences in purchasing power parity. The source is the World Bank's World Development Indicators 2001 CD-ROM.

[2] Solow (1956) is the landmark in the neoclassical analysis of economic growth. The resurgence of theoretical interest in growth in the 1980s can be traced to Romer's (1986) work on models with increasing returns to scale.

[3] Two book-length treatments of the theoretical literature on technological progress and growth are Grossman and Helpman (1991) and Aghion and Howitt (1998).

performance (such as geography and institutions).[4] Our understanding of the economic growth process has increased considerably as a result.

However, there remain serious gaps in the existing research. Consider some of the questions that come to mind after a cursory look at the cross-national record of the last few decades. How has China managed to grow so rapidly despite the absence of full-fledged private property rights? What happened in India after the early 1980s to lift its growth rate by approximately three percentage points? How have Mauritius and Botswana managed to avoid the problems that other countries in the rest of Sub-Saharan Africa have succumbed to? Why did countries like Brazil, Mexico, or Venezuela do so well until the early 1980s and so poorly thereafter? How did Indonesia manage to grow over a thirty-year period despite weak institutions and highly distorted microeconomic policies--and why did it collapse so spectacularly in the aftermath of the Asian financial crisis of 1997? Why do the Philippines and Bolivia continue to stagnate despite a sharp improvement in their "fundamentals" since the 1980s? What explains the very sharp divergence in the performance of the former socialist economies since the early 1990s? It would be fair to say that neither the cross-national growth literature nor existing country studies have made adequate progress in answering these and many other fundamental questions.

Of course, there is no shortage of country studies in the literature. But we have few examples of country studies that are explicitly informed and framed by the developments in recent growth theory or growth econometrics. Alwyn Young's (1992) work on Singapore and

[4] See, among others, Barro (1991), Gallup and Sachs (1998), Hall and Jones (1999), and Acemoglu et al. (2001). Temple (1999) provides an excellent survey of the empirical growth literature.

Hong Kong, Robert Lucas's (1993) quantitative exercise on South Korea, and Paul Romer's (1993) short discussion of Mauritius and Taiwan are rare exceptions.[5]

This volume begins to fill some of the holes. It offers a series of analytical country narratives that try to provide answers to selected growth puzzles--those that I have enumerated above as well as many others. These narratives explore the respective roles of microeconomic and macroeconomic policies, institutions, political economy, and initial conditions in driving patterns of technological convergence and accumulation in selected countries. Since the authors tend to be growth theorists and macroeconomists rather than country specialists, these are not country studies in the usual sense of the word. The strength of the chapters lies in drawing the connections between specific country experiences, on one side, and growth theory and cross-national empirics, on the other. The authors evaluate and extend our understanding of economic growth using the country narratives as a backdrop.

As the organizer of this collaboration and the editor of the volume, I must take full responsibility for the speculative nature of the efforts that resulted. I encouraged the authors to be bold and imaginative even if that meant going out on a limb. I even insisted that they take on countries about which they knew little, so that their vision and judgment would not be clouded by preconceptions. (I can now confess my amazement at how many of the contributors complied!) The compensating benefit, I hope, is that the authors have felt less restrained by conventional wisdom and more inclined to break new ground. They have formulated new insights for modelers to formalize, and new hypotheses for the econometricians to test. And if, as a by-product, they have ended up teaching us (and themselves) something about the individual countries, all the better!

[5] See also Rodrik (1995), which focuses on the growth transition of South Korea and Taiwan in the early 1960s and 1970s.

Some organizing principles

To organize our thinking about the economics of growth, it helps to distinguish between the "proximate" and "deep" determinants of growth. Figure 2 shows the standard way in which economists think about the determination of income. The total output of an economy is a function of its resource endowments (labor, physical capital, human capital) and the productivity with which these endowments are deployed to produce a flow of goods and services (GDP). We can express this relationship in the form of an economy-wide production function, with *a* representing total factor productivity. Note that *a* captures not only the *technical* efficiency level of the economy, but also the *allocative* efficiency with which resource endowments are distributed across economic activities. The growth of per-capita output can in turn be expressed in terms of three proximate determinants: (a) physical capital deepening; (b) human capital accumulation; and (c) productivity growth.

Conceptually, this is a straightforward decomposition, and it has given rise to a large literature on sources-of-growth accounting. But one has to be careful in interpreting such decompositions because accumulation and productivity growth are themselves endogenous. This prevents us from giving the sources-of-growth equation any structural interpretation. For example, observing that 80 percent of the growth is "accounted" for by accumulation and the rest by productivity does not tell us that growth would have been necessarily 80 percent as high in the absence of technological change; perhaps in the absence of productivity change, the incentive to accumulate would have been much lower and the resulting capital deepening significantly less. Indeed, to the extent that growth is driven by other fundamental determinants, not directly captured in the growth-accounting framework, the causality my well run backwards, from growth to accumulation and productivity instead of the other way around.

For these reasons it is best to think of accumulation and productivity change as proximate determinants of growth at best. The deeper determinants are shown in Figure 3. While there is no shortage of candidates, I find a three-fold taxonomy useful:

1. geography;
2. integration (trade); and
3. institutions.

Geography relates to the advantages and disadvantages posed by a country's physical location (latitude, proximity to navigable waters, climate, and so on). Integration relates to market size, and the benefits (as well as costs) of participation in international trade in goods, services, capital, and possibly labor. Institutions refer to the quality of formal and informal socio-political arrangements—ranging from the legal system to broader political institutions—that play an important role in promoting or hindering economic performance.

Figures 4, 5, and 6 display some illustrative scatter plots, showing the relationship between each of these three factors and incomes. I use distance from the equator as the measure for "geography," the share of trade in GDP as the measure of integration, and a commonly employed subjective index for the quality of institutions. A first pass through the data indicates that all three are significantly correlated with per-capita income. Such correlations are the stock-in-trade of the growth empiricist. The problem however is that neither trade nor the quality of institutions is truly endogenous, which creates severe difficulties when it comes to interpretation. I shall return to this issue below.

Geography. Geography plays a direct and obvious role in determining income because natural resource endowments are shaped in large part by it. The quality of natural resources depends on geography. Commodities such as oil, diamonds, and copper are marketable resources that can be an important source of income. Soil quality and rainfall determine the productivity of land. Geography and climate determine the public-health environment (the inhabitants' proclivity to debilitating diseases such as malaria), and shape the quantity and quality of human capital.

Geography also influences growth via the other two factors. Geography is an important determinant of the extent to which a country can become integrated with world markets, regardless of the country's own trade policies. A distant, landlocked country faces greater costs of integration. Similarly, geography shapes institutions in a number of ways. The historical experience with colonialism has been a key factor in the institutional development (or lack thereof) of today's developing countries, and colonialism itself was driven in part by geopolitical considerations—consider the scramble for Africa during the 1880s. The natural resource endowment bequeathed by a country's geography also shapes the quality of institutions. Natural-resource booms, for example, are often associated with the creation of rent-seeking and rent-distributing institutions—the so-called resource curse.

Geography is arguably the only exogenous factor in our three-fold taxonomy. Trade and institutions are obviously endogenous and co-evolve with economic performance. Nonetheless, it is useful to think of these as deep causal factors to the extent that they are not fully determined by incomes per se. Trade is obviously shaped in large part by a country's conscious choice of policies; and institutional development is at least partly a choice variable as well (or in any case can be determined by developments exogenous to the economy).

Trade. The significance of integration in the world economy as a driver of economic growth has been a persistent theme in the literatures on economic history and development economics. An influential article by Jeffrey Sachs and Andrew Warner (1995) went so far as to argue that countries that are open to trade (by the authors' definition) experience unconditional convergence to the income levels of the rich countries. Leading international policy makers from the World Bank, IMF, WTO, and OECD frequently make the case that integration into the world economy is the surest way to prosperity. The traditional theory of trade does not support such extravagant claims, as it yields relatively small income gains that do not translate into persistently higher growth. However, it is possible to tweak endogenous growth models to generate large dynamic benefits from trade openness, provided technological externalities and learning effects go in the right direction. Capital flows can enhance the benefits further, as long as they go from rich countries to poor countries and come with externalities on the management and technology fronts.

Institutions. Institutions have received increasing attention in the growth literature as it has become clear that property rights, appropriate regulatory structures, the quality and independence of the judiciary, and bureaucratic capacity could not be taken for granted in many settings and that they were of utmost importance to initiating and sustaining economic growth. The profession's priors have moved from an implicit assumption that these institutions would arise endogenously and effortlessly as a by-product of economic growth to the view that they are essential pre-conditions and determinants of growth (North and Thomas 1973).

Once one moves beyond general statements of the kind that property rights are good for growth and corruption is bad, there is much that remains unclear. Which institutions demand priority? What are the specific institutional forms that are required? Do these differ across countries according to level of development, historical trajectory, and initial conditions?

Interrelationships. As the arrows in Figure 3 indicate, the basic framework is rich with feedback effects, both from growth back to the "causal" factors, and among the "causal" factors. There are reasons to think, for example, that as countries get richer, they will trade more and acquire high-quality institutions. Much of the cross-national empirical work on institutions has been plagued by the endogeneity of institutional quality: are rich countries rich because they have high-quality institutions, or the other way around? Only very recently has work by Acemoglu, Johnson, and Robinson (2001) provided convincing evidence that institutional quality is truly causal.[6] Similarly, there are hints in the empirical literature of a two-way interaction between trade and institutions: better institutions foster trade (Anderson and Mercuiller 1999), and more openness to trade begets higher-quality institutions (Wei 2000). These feedbacks make simple-minded empirical exercises of the type shown in Figures 4-6 highly suspect. They require extreme care in laying out the hypotheses and in ascribing causality. While case studies do not necessarily possess a methodological advantage here, they at least have the advantage of allowing a "thick" description of the interactions among geography, trade, and institutions.

Determinants of development such as institutions and geography change slowly, or hardly at all. Yet countries like China and India have gone through remarkable transformations during the last two decades in their economic performance, while many others have experienced sharp deteriorations. This suggests that moderate changes in country-specific circumstances (policies and institutional arrangements), often interacting with the external environment, can produce discontinuous changes in economic performances, which in turn set off virtuous or

[6] Acemoglu et al. (2001) rely on colonial legacy, in turn linked to variation in settler mortality, as an instrument for institutional quality.

vicious cycles. In-depth country studies can highlight these important interactions in ways that cross-country empirics cannot.

<u>The questions</u>

Which are the arrows in Figure 3 that matter most, and why? That is the central question of growth economics. The major debates in the literature on economic growth and development can be viewed as arguments about the relative strengths of the various arrows in Figure 3. Those who stress the primacy of geography (climate, resources, and health) emphasize the arrows that emanate from that particular box--both to incomes (via endowments and productivity) and to trade and institutions. Those who view integration into the world economy as the key to growth emphasize the outward arrows from trade to incomes and institutions. The institutionalists emphasize the primacy of institution building, arguing that more trade and higher incomes are the result of better institutions.

Econometric results can be found to support any and all of these categories of arguments. However, very little of this econometric work survives close scrutiny (see the critique by Rodríguez and Rodrik 2000 of the literature on trade), or is able to sway the priors of anyone with strong convictions in other directions. Moreover, there is little reason to believe that the primary causal channels are invariant to time period, initial conditions, or other aspects of a country's circumstances. There may not be universal rules about what makes countries grow. For a small country near major shipping routes, trade may indeed be the shortest route to economic salvation. For a large country located in a geographically disadvantaged region, a period of institution building may be the only way to escape poverty. Analytical country narratives, informed by growth theory and the cross-national evidence, can play a useful role in developing such contingent hypotheses and testing them (albeit informally).

It needs to be emphasized that case studies and cross-national econometrics are not substitutes for each other. They can be used in a complementary fashion to advance our understanding of the growth process. Ideally, case studies can generate novel hypotheses that in turn suggest new cross-national tests. A claim based on case studies that does not find support from cross-country regressions requires close scrutiny. By the same token, any cross-national empirical regularity that cannot be meaningfully verified on the basis of country studies should be regarded as suspect.

Some answers from the country narratives

The country narratives are too rich to summarize in an introductory chapter, and I shall not attempt to do so. However, some themes that emerge are worth sketching out as a road map to the reader.

The quality of institutions is key. Institutions that provide dependable property rights, manage conflict, maintain law and order, and align economic incentives with social costs and benefits are the foundation of long-term growth. This is the clearest message that comes across from the individual cases. China, Botswana, Mauritius, and Australia--four cases of success in our sample--all owe their performance to the presence (or creation) of institutions that have generated market-oriented incentives, protected the property rights of current and future investors, and enabled social and political instability.

Consider the case of Botswana, presented by Daron Acemoglu, Simon Johnson and James Robinson. Per capita income in Botswana grew at 7.7 percent annually between 1965 and 1998. The proximate reasons for this outcome are easy to list. Law and order were maintained. Diamond revenues were managed exceptionally well. The bureaucracy was efficient and run along meritocratic lines. Hard budget constraints were the rule (and not the exception) in the public sector. There were large public investments in education, health and infrastructure. The exchange rate was set at a competitive level. However, policies were not uniformly "good" in the conventional, Washington Consensus sense of that word. The government in Botswana has intervened massively in the economy and the public sector accounts for a much larger share of the economy than is true on average in Africa. The key to Botswana, Acemoglu et al. argue, is that institutional arrangements have protected adequately the property rights of actual and potential investors. The authors provide a rich, textured account of the political and historical roots of these arrangements.

In the absence of good public institutions, growth has been difficult to achieve on a sustained basis. And when growth has taken place, it has either proved fragile (as in post-1997 Indonesia) or incapable of delivering high levels of social outcomes in areas such as health, education, or gender equality (as in Pakistan). In his chapter on Indonesia, Jonathan Temple describes the Indonesian implosion of 1997 as a case of outgrowing existing, weak institutions. Pakistan's failures in social development, despite respectable growth until very recently, are documented in painstaking detail in William Easterly's chapter. Easterly attributes this failure to the "roving bandit" syndrome (Olson 2000): State institutions dominated by a highly fragmented set of military and landed elites have had little incentive to produce public goods and therefore have not done so.

State institutions are not the only ones that matter. Social arrangements can have equally important and lasting consequences for economic growth. Gregory Clark and Susan Wolcott's discussion of Indian economic history illustrates this. They argue that India's backwardness is due in large part to the inability to *employ* technology, and not to an inadequate *diffusion* of technology per se. Their evidence from the textile industry shows that while identical machines were used in India in Britain, these machines were operated much less profitably in the former. The problem in India is neither allocative inefficiency nor inadequate technology; the problem is low technical efficiency despite access to state-of-art technology. The authors speculate that the answer lies in the nature of the employment relationship and its variation across societies. In productive economies, workers exert more effort in the workplace than can be justified purely by monitoring or by direct financial incentives because they expect everyone else to act in that manner. India, the authors argue, is characterized by a mutual-shirking equilibrium, rather than a mutual gift-giving equilibrium. In this view, India's poverty is largely unconnected to government policy or public institutions.

<u>Trade--or, more specifically, government policy toward trade--does not play nearly as important a role as the institutional setting</u>. All of the successful countries in our sample have benefited from trade and foreign investment. But as the narratives make clear, specific public policies that are directed at international economic integration or disintegration do not correlate very well with economic performance once one looks at the evidence carefully.

Take Australia, for example. Australia's relative decline vis-a-vis the U.S. or other rich countries is often attributed to the country's inward-looking policies. But as Ian McLean and Alan Taylor note, there is a timing problem in asserting this claim. While the Australian government sharply changed its policies towards integration in the first three decades of the 20th century (imposing higher tariffs, import licensing, and a stop to Asian immigration), Australia's relative decline compared to the U.S. and California took place largely before this change in "growth strategy."

Mauritius provides another illustration. According to Arvind Subramanian and Devesh Roy, the level of trade protection in Mauritius has long been among the highest even within Sub-Saharan Africa, and has come down appreciably only in the late 1990s--more than two decades after the onset of high economic growth. India was able to double its growth rate in the 1980s prior to the liberalization of its highly restrictive trade regime, which came a decade later (see below). Yingyi Qian argues that the impact of China's growing openness to trade and direct foreign investment came mainly through domestic institutional changes.

Geography is not destiny. Consider Australia and Mauritius again. As Mclean and Taylor stress, Australia is the only rich OECD economy that contains large areas of tropical land. Much of Australia is desert or arid, with low and highly variable rainfall. Soil quality is poor. Mauritius is a tropical country, with a high degree of dependence on an export commodity buffeted by terms-of-trade shocks. Botswana, which has the added disadvantage of being landlocked, has obviously not suffered greatly from being geographically disadvantaged either. Botswana and Mauritius both started out with extremely poor initial conditions. Good institutions, it appears, can overcome geographical constraints and lousy initial conditions.

Good institutions can be acquired, but doing so often requires experimentation, willingness to depart from orthodoxy, and attention to local conditions. The narratives in this volume go beyond simply asserting that "institutions matter." Indeed, one advantage of case studies is that they can provide a richer account of where good institutions come from, the shape they take, and how they need to evolve to support long-term growth.

In Botswana's case, Acemoglu et al., speculate that the roots of Botswana's unusually good institutions lay in a combination of factors: tribal institutions that encouraged participation and imposed constraints on elite behavior; the limited effect of British colonization on these tribal institutions as the colonizers had little interest in Botswana until relatively late; the relative power of rural interests which created an overlap between Botswana's area of comparative advantage and the economic interests of the elites; and last but not least, the wise and foresighted leadership exhibited by post-independence political leaders. The final element in this list reminds us not to be too deterministic about the source of high-quality institutions. Choices made by political leaders make a big difference.

Perhaps nowhere has this been clearer than in China. Qian's discussion of China focuses on what he calls "transitional institutions"--institutions that can differ greatly from off-the-shelf, "best practice" institutions that are often the object of institutional reform in the developing world. Transitional institutions can have the virtue of being more suited to the realities on the ground on both economic efficiency and political feasibility grounds. Qian shows how the Chinese leadership experimented and purposefully crafted imperfect, but feasible institutional arrangements. He discusses four specific examples: dual-track reform, which liberalized prices at the margin while maintaining the "plan track" in place; township and village enterprises, which represented an intermediate form of ownership between private and state ownership; Chinese-style federalism, which left the regions with significant autonomy and created healthy economic competition among them; and anonymous banking, which allowed financial development while restraining the capacity of the state to expropriate large depositors. These "transitional institutions" succeeded because of their high ratio of economic benefits to political costs. They improved economic incentives without requiring a significant redistribution of income, large-scale (and risky) institutional reforms, and the expenditure of large amounts of political capital.

The Chinese example demonstrates that successful institutions often have heterodox elements. This is a lesson that comes across also from the narratives on Botswana and Mauritius. As noted before, Botswana mixed up market-friendly institutions with heavy state intervention and a large public sector. Mauritius combined its outward export-processing zone with centralized wage bargaining and (for a developing society) unusually generous welfare state.

The country narratives suggest that "good" institutions--in the sense of institutions that promote and sustain growth--must often have elements that are highly specific to a country's circumstances. An approach to institutional reform that ignores the role of local variation and institutional innovation is at best inadequate, and at worse harmful. China, Mauritius, Botswana are examples of countries that have done very well over extended periods of time with a heterodox mix of institutional arrangements. In effect, these countries have combined orthodox elements with local heresies. As some of the other cases discussed in this volume demonstrate, property rights, sound money, and open trade in themselves do not always do the trick. For example, Clark and Wolcott note that pre-independence (1873-1947) India's relative performance lagged despite institutional arrangements that would be regarded as ideal by many economists: secure property rights, free trade, open capital markets, and social and political stability. In his comparative analysis of Vietnam and Philippines, Lant Pritchett points to the paradox that the country whose policies and institutions best fit today's conventional wisdom (Philippines) is doing poorly, while the one with divergent institutions (Vietnam) does very well.

The experience of former socialist economies, discussed by Georges de Menil, further reinforces the role of local context. The three countries closest to Western Europe (Poland

Hungary and the Czech Republic) have done very well. What seems to have been key for these countries, as de Menil emphasizes, is their relationship with the European Union (EU). The EU provided a plausible institutional model for these countries, in view of a common historical heritage and relatively short experience under communism. Furthermore, this model was backed up with the carrot of eventual accession to the EU. Consequently, structural reform was effective and took hold relatively quickly in Poland, Hungary and the Czech Republic. For countries further to the east, this same type of institutional reform proved to have worse "fit" and less political feasibility. Hence the finding that distance from Dusseldorf and the number of years under communism together are the best predictors of a transition economy's relative economic performance.[7]

The narratives on Mexico and Bolivia complement these macro-level analyses by providing more specific detail on how institutional arrangements matter to economic performance. Maite Carreaga and Barry Weingast focus on fiscal federalism in Mexico. Their key point is that good institutions are those that provide public officials with the incentives to provide market-fostering public goods at least cost in terms of corruption and rent seeking. Thinking in such terms helps endogenize the concept of "good governance." The Mexican history with federalism provides a rich laboratory for studying the consequences of changes in legal provisions with respect to revenue sharing. Carreaga and Weingast argue that greater dependence on locally generated revenues and greater electoral competition increase the provision of market-fostering public goods. They present evidence that is consistent with these expectations.

[7] See Mukand and Rodrik (2002) for a formal model of institutional choice that accounts for this finding.

Bolivia has undertaken extensive macroeconomic reform, liberalization, and privatization since 1985. Yet economic performance has remained lackluster. Daniel Kaufmann, Massimo Mastruzzi, and Diego Zavaleta attempt to sort out the institutional reasons for this failure. Their main story is that the reform agenda has not been appropriately targeted on the most glaring trouble spots on the institutional front. Relying on a worldwide enterprise data set for benchmarking, they document the large variance in institutional quality that exists *within* Bolivia, with institutions relating to macroeconomic stability generally perceived as working much better than those relating to the rule of law. The authors identify petty corruption, uncertain property rights, and inadequate courts as the source of problem. Enterprises react to these by withholding investments and taking shelter in the official economy. An important virtue of the data set and approach taken in this chapter is that the authors are able to unpack "institutional quality," and show how aggregate indices or country averages can be misleading. The clear implication of the Bolivia story is that institutional and governance shortcomings vary across national contexts, and that institutional reform agendas have to focus on the constraints that happen to bind the most locally.

<u>The onset of economic growth does not require deep and extensive institutional reform</u>. This is perhaps one of the most important (and encouraging) lessons that emerge from the country narratives. It is also a lesson that is sharply at variance with conventional wisdom on institutional reform, which holds that the complementary nature of institutional reforms requires a long list of such reforms to be pursued simultaneously.

To appreciate the logic of the conventional wisdom, here is a thought experiment. Imagine a Western economist had been invited in 1978 to give advice on reform strategy to the Chinese leadership. How would she formulate her advice, in light of what we "know" today?

Being a sensible economist, she would presumably know that the place to start would be agriculture, as the vast majority of the Chinese population lives in the countryside. Liberalization of crop prices would be number one item on the agenda. Cognizant that price incentives make little difference when farm incomes accrue to communes, she would immediately add that privatization of land must accompany price liberalization. Reminded that the obligatory delivery of crops to the state at controlled prices is an important implicit source of taxation, she would then add that tax reform is also required to make up for the loss in fiscal revenues. But another problem then arises: if the state cannot deliver food crops to urban areas at below-market prices, will urban workers not demand higher wages? Yes, that requires some reforms too. State enterprises need to be corporatized so they can set their wages and make hiring and firing decisions freely. (Privatization would be even better of course.) But if state enterprises now have autonomy, will they not act as monopolies? Well, anti-trust regulation, or trade liberalization as a short cut, can take care of that problem. Who will provide finance to state enterprises as they try to restructure? Clearly, financial market reform is needed as well. What about the workers who get laid off from the state enterprises? Yes, that's why safety nets are an important component of any structural adjustment program. And so on.

The logic of the recommendations is impeccable, even if their practicality is questionable. The recipients of such advice would be excused if they reached the conclusion that this reform business is too hard to accomplish in one's own lifetime. Luckily, actual experience with successful reform provides a different lesson: an ambitious agenda of complementary institutional reforms is *not* needed to kick-start growth. As we know with hindsight, the Chinese reformers were able to take imaginative shortcuts that sidestepped the complementarities that might have otherwise ruined a partial and gradual approach. Dual-track price reform and the introduction of the household responsibility system enhanced agricultural production incentives at the margin without requiring ownership reform, undercutting fiscal revenues, and upsetting the social balance in urban areas. As Qian makes clear in his narrative, this may not have been an ideal reform by textbook standards, but it worked.

Is China a special case? Let's look at the world's next most populous country, India, which has recently managed to roughly double its rate of economic growth. How much reform did it take for India to leave behind its "Hindu rate of growth'" of three percent a year? J. Bradford DeLong shows that the conventional account of India, which emphasizes the liberalizing reforms of the early 1990s as the turning point, is wrong in many ways. He documents that growth took off not in the 1990s, but in the 1980s. What seems to have set off growth were some relatively minor reforms. Under Rajiv Gandhi, the government made some tentative moves to encourage capital-goods imports, relax industrial regulations, and rationalize the tax system. The consequence was an economic boom incommensurate with the modesty of the reforms. Furthermore, DeLong's back-of-the-envelope calculations suggest that the significantly more ambitious reforms of the 1990s actually had a smaller impact on India's long-run growth path. DeLong speculates that the change in official attitudes in the 1980s, towards encouraging rather than discouraging entrepreneurial activities and integration into the world economy, and a belief that the rules of the economic game had changed for good may have had a bigger impact on growth than any specific policy reforms.

In short, the experiences of the world's largest two developing economies indicate that modest changes in institutional arrangements and in official attitudes towards the economy can produce huge growth payoffs. Deep and extensive institutional reform is not a pre-requisite for growth take-offs. That is the good news. The bad news is that the changes that are required can be highly specific to the context. The "transitional institutions" of India and China, to use Qian's term, look very different. And for a good reason: the binding constraints on growth differed in the two countries. The mark of a successful reform is its ability to concentrate effort on the binding constraints.

Sustaining high growth in the face of adverse circumstances requires ever stronger institutions. India and China are both very low-income countries. So is Vietnam, which has been growing quite rapidly under a Chinese-style strategy that defies conventional wisdom on institutional reform. Pritchett, who analyzes the Vietnamese record and compares it to the Philippines', suggests that countries that are in the process of escaping from low-level poverty traps may be fundamentally different from middle-income countries. The policies required to initiate a transition from a low-income equilibrium to a state of rapid growth may be qualitatively different from those required to re-ignite growth for a middle-income country. At low levels of income, with reasonable institutions and reasonable policies, it may be easy to achieve high growth up to semi-industrialization. But the institutional requirements of re-igniting growth in a middle-income country can be significantly more demanding. Pritchett notes that per-capita GDP in the Philippines remains lower than its level in 1982, even though institutional quality (with the transition to democracy after 1982) has increased significantly. Pritchett speculates that the trouble may be that uncertainty about the rules of the game has increased. In his words, "what trips countries up is the *transition* from one set of 'institutions' to another." The uncertainty over the rules of the game that accompanies comprehensive, but poorly managed institutional change is a fundamental roadblock to sustained economic growth.

Indonesia provides an apt illustration of the dangers of letting institutional reform lag behind growth. Jonathan Temple describes Indonesia as a case of "growing into trouble." In his view, growth was not accompanied with the good fundamentals that would have provided the economy with the resilience to handle adverse shocks. Indonesia' economic performance since the mid-1960s was facilitated by three fortuitous circumstances: oil, the green revolution, and high-growth neighbors. But rapid growth, Temple argues, made institutional weakness a great liability. Indonesia's political and economic institutions were unable to handle the adjustments required in the wake of the Asian financial crisis. The upshot is that Indonesia remains mired in a crisis that appears to have put a complete stop to its growth process. Perhaps what set countries like China and India (as well as South Korea or Taiwan) apart from Indonesia is that these countries have used economic growth as an opportunity to undertake further institutional reforms along the way.

The growth collapse in the case of a country like Venezuela is much harder to explain on the basis of conventional indicators of institutional weakness. As Ricardo Hausmann explains in his narrative, Venezuela was seen as the most stable democracy in Latin America, with a strong party system, free press, and solid labor and business organizations to negotiate social conflicts. Yet Venezuela's growth rate, once Latin America's fastest at 6.4 percent per annum, has collapsed to the point where output per worker in the non-oil economy is almost half what it was in 1980. What happened? Hausmann focuses on two explanations. The neoclassical explanation is that the decline in the value of oil exports has reduced income and correspondingly (non-traded) output. But Hausmann's calculations suggest that this cannot account for more than half of the collapse. The second factor is a rise in country risk, reflected in Venezuela's country ratings and contractual interest rates, which has reduced the desired capital stock. What lies behind this, according to Hausmann, is the inability to settle distributive conflicts in the wake of a collapse in oil income. Venezuela has simply become a riskier environment, which in turn has eroded the quality of public institutions and their legitimacy. This argument is reminiscent of the importance Pritchett attaches to the rules of the game. It suggests that countries can trip even when their institutions appear strong by conventional yardsticks.

Organization of the volume

The country narratives that follow are organized under four headings. Part II is devoted to three chapters that take a longer historical perspective on economic growth: Australia (McLean and Taylor), India (Clark and Wolcott), and Botswana (Acemoglu, Johnson and Robinson). Part III contains analyses of six cases of transitions in and out of growth: Vietnam and Philippines (Pritchett), Indonesia (Temple), India (DeLong), Mauritius (Subramanian and Roy), Venezuela (Hausmann), and Eastern Europe (de Menil). Part IV covers three studies that take a closer look at institutions: China (Qian), Bolivia (Kaufmann, Mastruzzi, and Zavaleta), and Mexico (Careaga and Weingast). Part V closes the volume with a case of growth without social development, Pakistan (Easterly), to remind us that economic growth is not all that matters.

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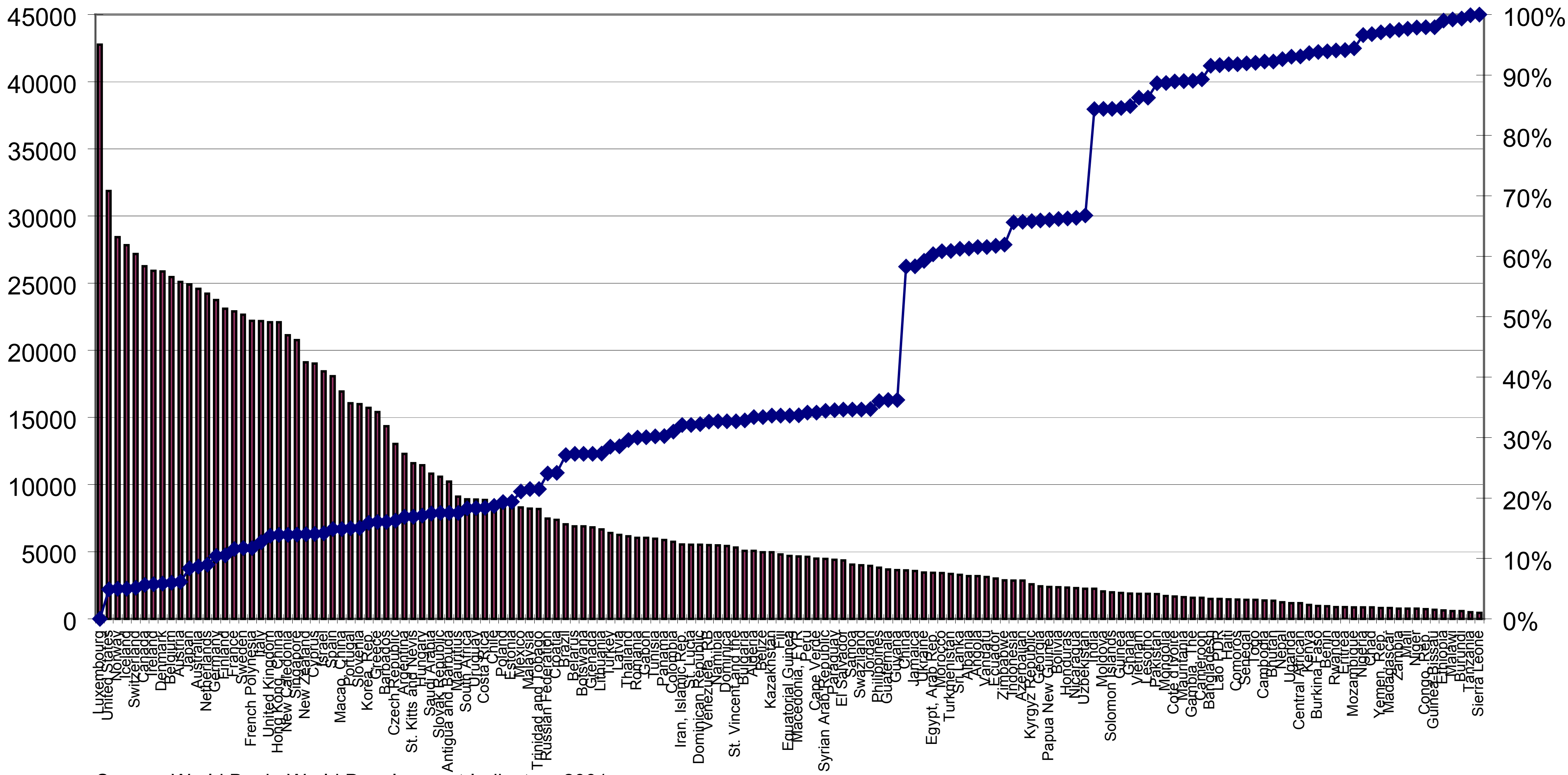
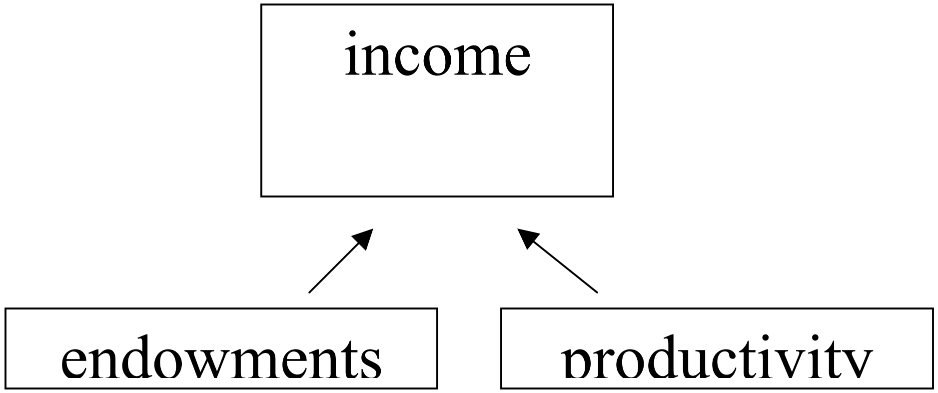
Figure 1: Global Income Distribution:

GDP per capita in 1999 (PPP-adjusted, left axis) and cumulative percent of world population (right axis)



Source: World Bank, World Development Indicators 2001.

Figure 2: How economists think of income determination:



$$y = ak^{\alpha}(hl)^{1-\alpha}$$

$$\hat{y} - \hat{l} = \alpha\,(\hat{k} - \hat{l}) + (1-\alpha)\hat{h} + \hat{a}$$

per-capita GDP growth	=	capital deepening	+	human capital accumulation	+	productivity growth

Figure 3: All of growth economics on one page

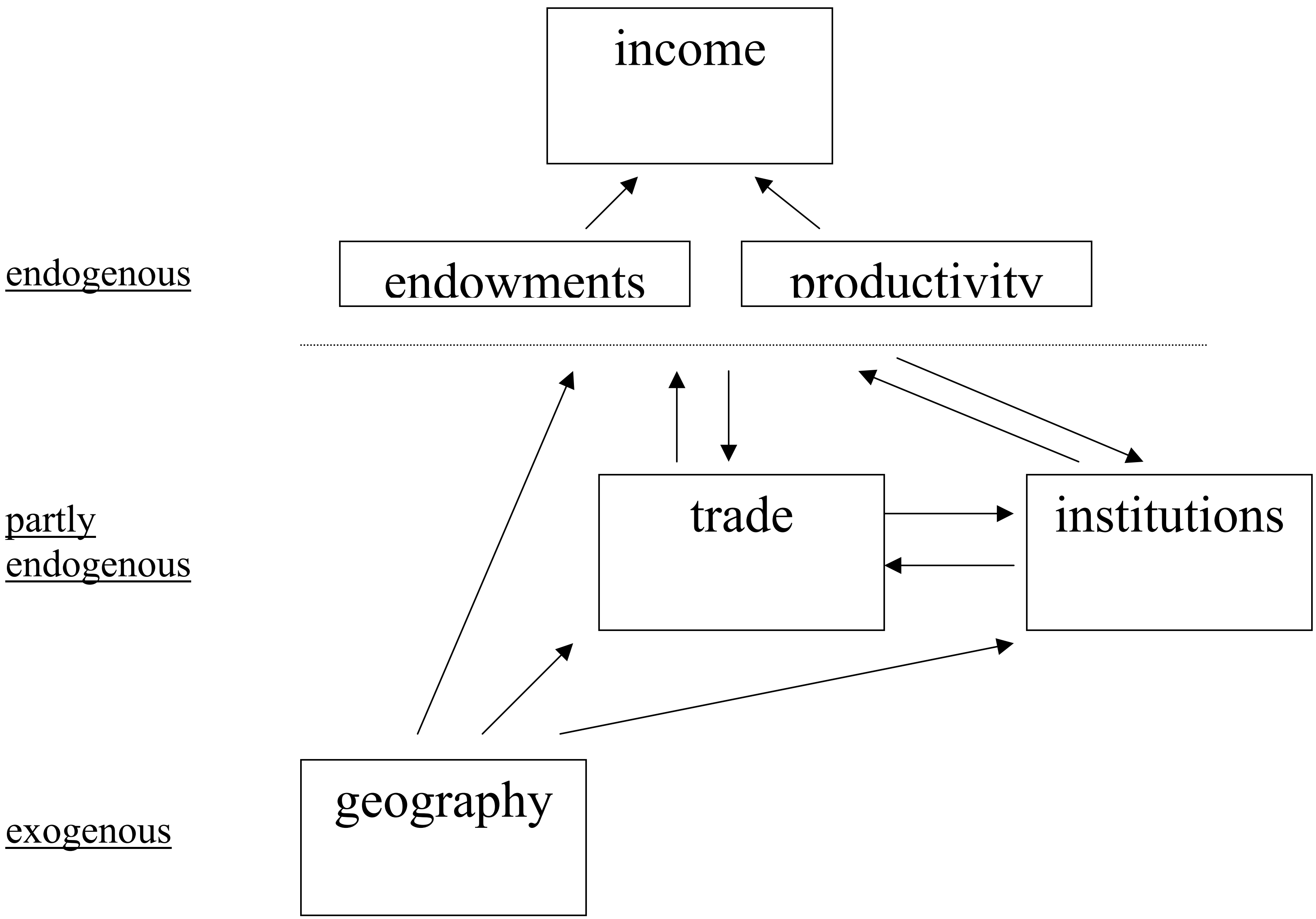


Figure 4: Partial association between income and distance from equator

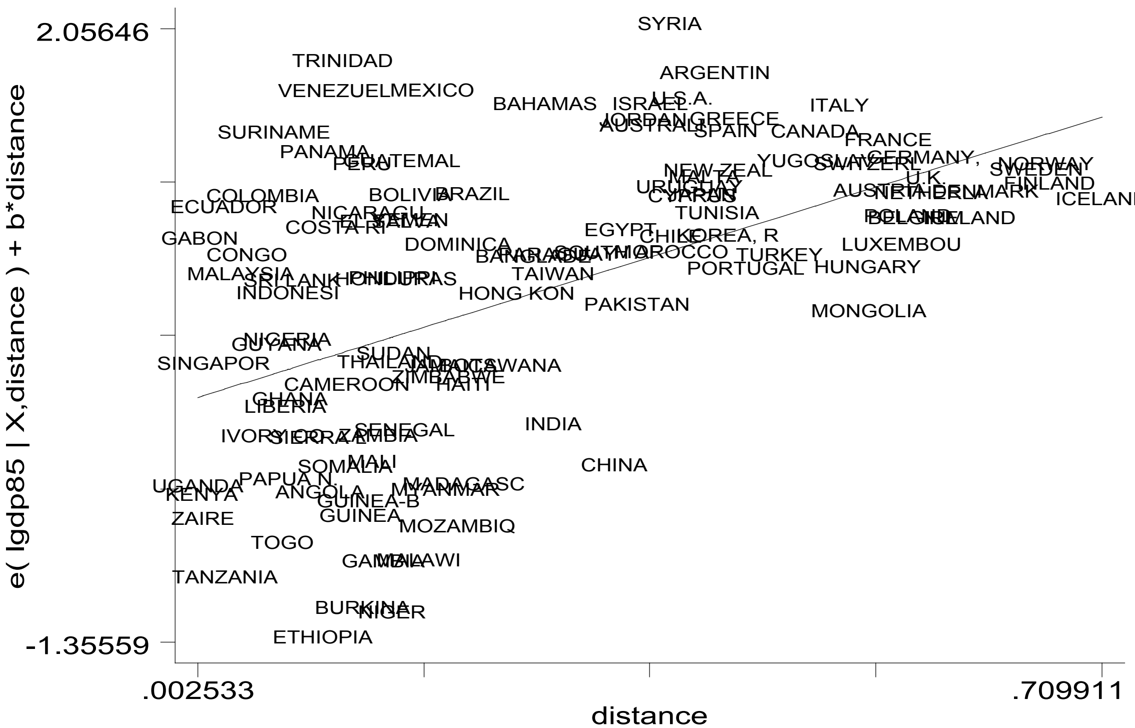


Figure 5: Partial association between income and quality of institutions

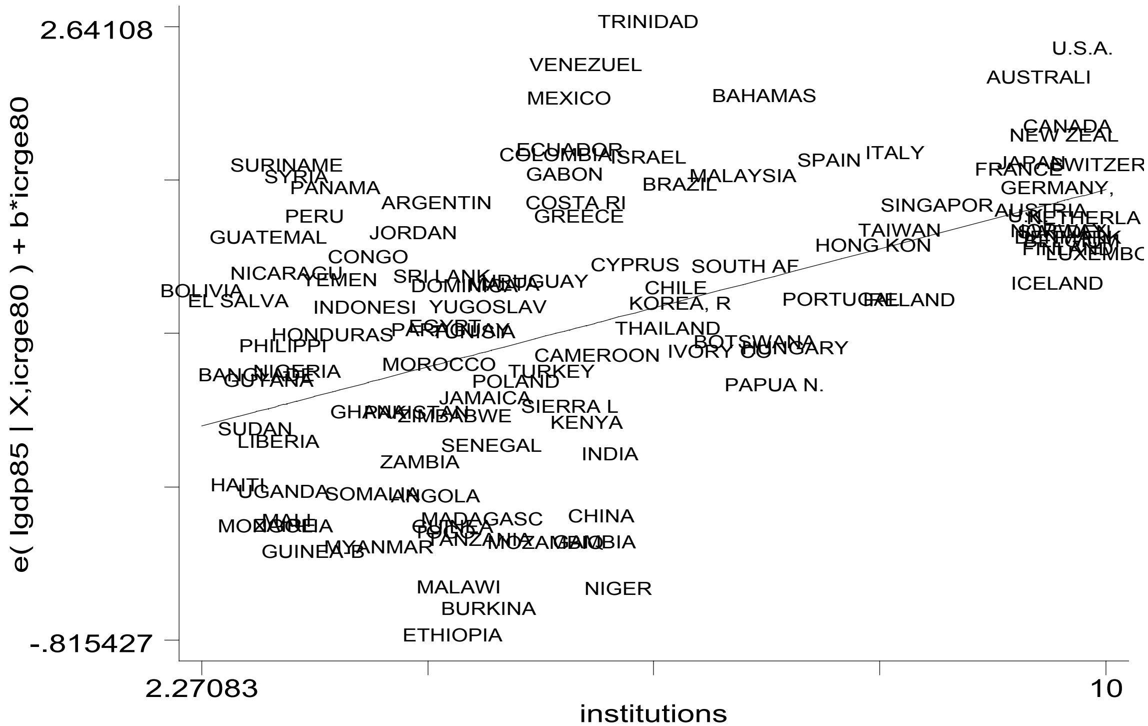
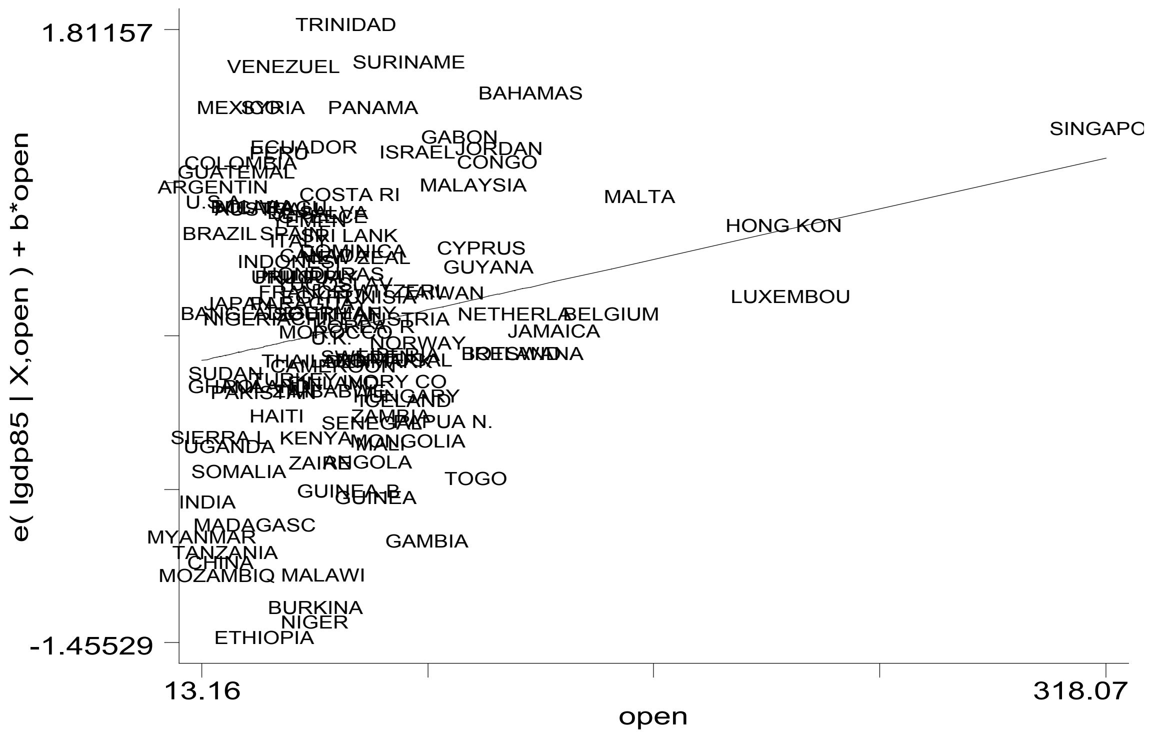


Figure 6: Partial association between income and trade



The spectacular gap in incomes that separates the world's rich and poor nations is the central economic fact of our time. Average income in Sierra Leone, which is the poorest country in the world for which we have data, is almost 100 times lower than that in Luxembourg, the world's richest country. Nearly twoâ€“thirds of the world's population lives in countries where average income is only oneâ€“tenth the U.S. level. Since the starting points for all these countries were not so far apart prior to the industrial revolution, these disparities must be attributed almost entirely to dif