

Globalization, Inequality, and Poverty since 1980

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Globalization has been a force for growth and poverty reduction in a diverse group of countries, including China, India, Mexico, Uganda, and Vietnam. I define globalization as the growing integration of economies and societies around the world as a result of flows of goods and services, capital, people, and ideas. The main theme of my paper is that integration accelerates development. Workers with the same skills – be they farmers, factory workers, or pharmacists – are less productive and earn less in developing economies than in advanced ones. Integration through trade in goods, foreign investment, international telecommunications, and migration reduces these gaps by raising productivity in the developing world. In this way globalization can be a powerful force for poverty reduction.

The first section of the paper puts the issue of globalization in historical context. Globalization has come in waves, with the first great modern wave in the 1870-1910 period. That first wave of globalization came to an end with World War I and the Great Depression. The second wave, from 1950 to 1980, saw unprecedented integration among rich countries, while most developing countries chose to restrict their involvement in foreign trade and investment. These early waves of globalization provide some useful lessons. First, among the countries participating in globalization there was “convergence,” with poorer economies growing especially fast and catching up with richer ones. Second, the review of history reminds us that globalization can be stopped and reversed – with very unpleasant consequences. Hence the importance of international cooperation to maintain and extend an open system for trade and investment.

What is distinctive about the third wave of globalization that began in the late 1970s is that for the first time large developing countries chose to open up to foreign trade and investment (section 2). Growth rates in a wide range of countries have accelerated as they have integrated with the global economy – China, India, Mexico, Uganda, and Vietnam are all examples. The experience of these countries is consistent with endogenous growth models in which technological advance plays a key role in growth, and integration of a backward region with a more advanced one accelerates technological learning. The post-1980 globalizers have not merely liberalized trade and investment, they have more generally put in place sound institutions and policies for productive investment and growth. While a group of developing countries, with a total of 3 billion people, have increased their integration with the world economy, the rest of the developing world actually trades less today than 20 years ago.

One of the most common views of contemporary globalization is that it is leading to higher inequality within countries. I show in section 3 that this is not so. There is no systematic relationship between any measure of globalization and changes in household inequality. Some countries open up and inequality rises; in others it goes down. In general the more rapid growth that developing countries experience as they integrate with the global economy translates into poverty reduction. China has seen the most dramatic poverty reduction in history. Poverty reduction has been strong in a number of other globalizers as well. Between 1993 and 1998, the number of absolute poor in the globalizing developing countries declined by an estimated 120 million, while poverty increased in the rest of the developing world by 20 million. While globalization is not associated with higher inequality within countries, it does redistribute income among groups. Winners and losers will be found both among the rich and among the poor in

each society. The fact that integration produces winners and losers is one reason why it is so controversial.

Section 4 looks at what is happening to global income inequality. After at least two hundred years of rising inequality, the trend has changed during this most recent wave of globalization – that is, global inequality has been fairly flat for the past 20 years, with even some modest evidence of declining inequality. What has led to this shift is the fact that the globalizing developing countries grew at an average per capita rate of 5% per year in the 1990s, while rich countries grew at 2%. That by itself was a strong force toward greater equality. However, more than 1 billion people live in countries or regions within countries that are barely participating in globalization and have not grown during the period.

The final section looks at issues of economic geography: why some locations in the developing world are globalizing and others are not. Economic activity is highly concentrated geographically. The concentration can be explained by three factors. First, many locations have poor institutions and policies. The non-globalizing developing countries have not done as much to liberalize trade and investment and have significantly worse property rights and rule of law, compared to the globalizing ones. Second, geography presents challenges of disease and isolation, that are often difficult to overcome, even with good policies. Third, agglomeration economies lead to the clustering of economic activity. The role of geography suggests a number of important areas for further research. First, geography is connected to the role of migration in globalization. If some locations are poor because of weak institutions and/or difficult geography, then flows of goods and capital cannot equalize wages between these places and “good” locations. Migration is currently the missing flow in globalization, and there is an important research agenda looking at the actual and potential impact of migration on poverty reduction. Second, it is difficult to separately identify the effects of institutions, geographic challenges, and agglomeration economies. More research at the firm level could help identify the importance of institutions versus networks and agglomeration economies for the location of production.

1. *Globalization has come in waves*

“The division of labor is limited only by the extent of the market.”

--Adam Smith, “The Wealth of Nations”

During the past two hundred years the different local economies around the world have become more integrated and the growth rate of the global economy has accelerated dramatically. It is impossible to prove whether there is causality here (we only have one world economy so it is impossible to make comparisons across different world economies). But there are good reasons to think that the causality runs in both directions. Adam Smith argued that a larger market permits a finer division of labor, which in turn facilitates innovation and learning by doing. And some of the innovation involves transportation and communications technologies that lower costs, increasing integration. So, it is easy to see how integration and innovation can be mutually supportive.

Different locations have become more integrated because of increased flows of goods, capital, and knowledge (though permanent migration has declined in the past 100 years, an

important issue to which I will return). The first great wave of modern globalization was the 1870-1910 period. Stimulated by declines in transport costs and by an Anglo-French agreement, flows of trade, capital, and labor all increased. Trade relative to world income roughly doubled from 1870 (10%) to 1914 (18%) (table 1). Global integration was then reversed during the protectionist period of the Great Depression and World War II: trade relative to income was lower in 1950 than in 1914. Between 1960 and 1980 there was a second wave of globalization, with a dramatic expansion of trade among rich countries. Most developing countries remained largely isolated from this trade because of their own inward-focused policies. There were notable exceptions of course, and the success of exceptions such as Taiwan (China) and South Korea was one factor that ultimately encouraged more developing countries to open up to foreign trade and investment.

International capital flows were also very extensive during the 1870-1910 wave of globalization. The Great Depression and World War II had an even more damaging effect on capital flows, than they had on trade. In the 1950-1980 period the rich countries concentrated on restoring trade relations through a series of multilateral trade liberalizations under the auspices of the GATT. The return of capital flows to pre-World War I levels took longer to achieve. By 1980 foreign ownership of assets relative to world income had finally returned to the level that prevailed in 1914 (table 1). Since 1980 there have been further dramatic increases in international capital flows. Foreign assets relative to world income increased from 18% in 1980 to 57% in 1995. In addition to this large volume of capital flows, there has also been a change in the nature of capital flows. One hundred years ago they typically financed public infrastructure projects (canals, railroads) or direct investment related to natural resources. Today, the bulk of capital flows to developing countries are direct investment, and a large proportion of this is in manufacturing.

That change in the nature of capital flows is clearly related to other areas in which integration has progressed: lower transportation costs and faster transportation times for both people and goods. And revolutionary changes in telecommunications with the successive development of surface telephones, faxes, cellular phones, and the internet. Seagoing freight charges have declined by about two-thirds since 1920; air travel costs by 84%; and the cost of a 3-minute call from New York to London by 99% (Venables 2001). Thus, it is possible for production in widely differing locations to be integrated today in ways that simply were not possible before.

A final important issue of integration is movement of people. There is much more international travel today than in the past, but much less permanent migration. Between 1870 and 1910 about 10% of the world's population relocated permanently from one country to another; the comparable figure for the past 25 years is about 2% of world population (Lindert and Williamson 2001a).

While this integration has progressed, the growth rate of the world economy accelerated from 1% per annum in the mid-19th century to 3.5% per annum in the final four decades of the twentieth century (figure 1). This higher growth rate sustained over several decades makes a huge difference in real living standards. Today, it takes two or at most three years for the world economy to produce all of the value that it produced in the whole of the 19th century. While that comparison, made with national accounts figures, is impressive, it is arguably a serious under-

statement. Most of what we consume today did not exist 200 years ago: airline travel, automobiles, televisions, synthetic fibers, all kinds of life-extending drugs. For any of these goods or services, the growth rate of output since 1820 is infinite. The point simply is that the productivity of humans on earth has increased almost unimaginably.

Clearly the world has become more integrated by measures of trade, capital flows, transport costs, travel, or telecommunications costs. It is less integrated in terms of freedom to move permanently to an economically more desirable location.

Whether or not the growing economic integration has spurred the acceleration in the world growth rate is not an essential part of my investigation and is hard to prove one way or the other. But I would like to point out some suggestive pieces of evidence. Sokoloff (1988) shows that as the Erie Canal progressed westward in the first half of the 19th century, patent registrations rose county-by-county as the canal reached them. This pattern suggests that ideas that were already in people's heads became economically viable through access to a larger market. What is nice about this finding is that it emphasizes the importance of both property rights and integration with markets for spurring innovation and growth.

A related finding comes from Ales and Glaeser (1999), who showed that backward locations within the United States tended to develop quickly provided that they were well connected to markets (as indicated by access to seaports or railway density). They conclude that "This evidence provides support to the notions that the size of the market matters for growth because of access to global ideas, because a larger market allows for investment in large fixed cost investments and because the division of labor is limited by the extent of the market."

How has this tremendous increase in human wealth been distributed among countries? Up to about 1975, very unequally. Has globalization then been a force toward rising inequality? No. The fact that both these answers are true reveals that among countries there has been a complex pattern of both divergence and convergence over the past 200 years. In general the countries that integrate with the global economy do well, and one of the things that has changed over time is who is integrating.

Between countries, there has been what Lant Pritchett (1997) calls "Divergence, Big Time." In 1913, the difference in per capita income between rich countries and the poorest ones was roughly 16-fold. In general, since 1913 the countries that were richer then have grown faster, so that the gap today is 64-fold. At the same time, however, there has been convergence among and within some nations. Maddison has put together careful estimates of per capita GDP for many of the OECD countries going back to 1820. Here, there is a clear pattern of convergence: among this group, the countries that were relatively poor in 1820 have tended to grow fastest, so that inequality has declined within the OECD world (figure 2). Similarly, there has been a convergence of per capita income among U.S. States.

This historical evidence suggests that when backward economic regions integrate with more advanced ones, their growth rates accelerate and their income levels gradually converge on the leader. Lindert and Williamson's (2001a) historical review of globalization and inequality concludes that "Globalization probably mitigated rising inequality between nations: the nations that gained most from globalization are those poor ones that changed their policies to exploit it."

A final historical point that I would emphasize is that during the first wave of globalization, migration played a key role in convergence, whereas in the second wave convergence was spurred more by trade and investment. During the 1870-1910 wave of globalization, 60 million people migrated from Europe, primarily less developed regions of Europe, to the U.S. and other parts of the new world. These flows were a powerful force for wage convergence. "Emigration is estimated to have raised Irish wages by 32 percent, Italian by 28 percent and Norwegian by 10 percent. Immigration is estimated to have lowered Argentine wages by 22 percent, Australian by 15 percent, Canadian by 16 percent and American by 8 percent.... These results have been used to conclude that all of the real wage convergence before World War I was attributable to mass migration." (Lindert and Williamson, 2001b, pp. 16-17). South-South labor flows were also extensive in the early periods of globalization, though less well documented. Lindert and Williamson (2001b) speculate that the flows from densely populated China and India to less densely populated Sri Lanka, Burma, Thailand, the Philippines, and Vietnam were of the same order of magnitude as the movements from Europe to the Americas. That would make the total labor flows nearly 10% of the world's population in 1870 (1.3 billion people).

For the post-World-War-II wave of globalization among rich countries and a few open developing countries, Sachs and Warner (1995) provide evidence about how trade integration spurred convergence. They develop a measure of openness based on tariff rates for capital equipment, the extent of non-tariff barriers, and the degree of distortion in the foreign exchange market (proxied by the black market premium). One of their important findings is that there has been a clear pattern of convergence among open economies (figure 3). Ades and Glazer (1999) find a similar result for the 1960-90 period using as their measure of openness the ratio of trade to GDP. Closed economies, defined either by the Sachs-Warner measure or by trade to GDP, tended to grow more slowly and to exhibit divergence rather than convergence.

2. Globalizing developing countries have grown rapidly

To keep track of the wide range of explanations that are offered for persistent poverty in developing nations, it helps to keep two extreme views in mind. The first is based on an object gap: Nations are poor because they lack valuable objects like factories, roads, and raw materials. The second view invokes an idea gap: Nations are poor because their citizens do not have access to the ideas that are used in industrial nations to generate economic value... Each gap imparts a distinctive thrust to the analysis of development policy. The notion of an object gap highlights saving and accumulation. The notion of an idea gap directs attention to the patterns of interaction and communication between a developing country and the rest of the world.

--Paul Romer, "Idea Gaps and Object Gaps in Economic Development"

Following World War II most developing countries remained largely isolated from the growing trade and capital flows because of their own inward-oriented policies. Some opponents of global integration view the 1950-1980 period as a "golden age" in which many developing countries grew fairly well based on inward-focused, import-substituting policies. But this rosy view ignores several important facts. First, some of the good growth in the early part of this period involved a global, post-war rebound. Europe and Japan grew extremely rapidly in the

1950s and this had spillover effects on the whole world economy. Second, while some developing countries grew fairly well, many did not, and overall the developing world was falling further and further behind the rich countries. The rich countries grew at 4.7% per capita in the 1960s. Quite a few developing countries grew at about 3% per capita, which is not bad by historical standards, but still well below rich country growth rates. The two largest countries, China and India, did not grow well in the 1960s and 1970s. Third, some of the growth performance (in Latin America, for example) resulted from a combination of import-substitution policies plus external borrowing that was not sustainable. Finally, the growth rates of the few developing economies that followed more open strategies -- such as Taiwan (China) and South Korea -- were much higher than in the rest of the developing world, especially in the shock-ridden 1980s. The success of these economies was a key factor spurring more and more developing countries to open up to the global economy.

The choice of large developing countries to turn outward is the key distinguishing feature of the wave of globalization that began around 1980. This recent wave of globalization provides some important country cases to look at. Before examining what has happened to the growth rates of globalizing developing countries, it is useful to begin this review by asking, what would we expect from growth theory? In the neoclassical growth model, differences in growth rates across countries are explained by the initial level of income and by rates of accumulation of physical and human capital. Easterly and Levine (2000), however, show that factor accumulation in fact explains very little of the difference in growth rates across countries. Rather, these differences reflect to a large extent differences in the rates of growth of total factor productivity or technology.

Economists since Adam Smith have argued that a large market, specialization, and a finer division of labor are likely to have dynamic benefits through encouraging innovation and learning by doing. Paul Romer's (1986) pioneering work on endogenous growth theory led to the development of a class of models in which openness accelerates the growth rate of a backward economy because of opportunities to specialize and to adapt more advanced technologies from developed countries. It is also possible to create endogenous growth models in which protection of the domestic market accelerates growth, so that whether or not openness is good for growth is in the end an empirical question. With this in mind, let us look at a number of individual cases, starting with the two largest developing countries, China and India.

China

China's initial reforms in the late 1970s focused on the agricultural sector and emphasized strengthening property rights, liberalizing prices, and creating internal markets—most of which had little to do with foreign trade and investment. As reform shifted to the urban and industrial sectors in the 1980s, however, international linkages played an important role, as described in this excerpt from a case study by Richard Eckaus (1997):

After the success of the Communist revolution and the founding of the People's Republic of China, the nation's international economic policies were dominated for at least thirty years by the goal of self-reliance. While this was never

interpreted as complete autarky, the aspiration for self-reliance profoundly shaped trade policy, especially with the market economies.

China's foreign trade began to expand rapidly as the turmoil created by the Cultural Revolution dissipated and new leaders came to power. Though it was not done without controversy, the argument that opening of the economy to foreign trade was necessary to obtain new capital equipment and new technology was made official policy.

The creation of an "open door" policy did not mean the end of foreign trade planning. Although Chinese policy became committed to the expansion of its international trade, the decision-making processes and international trade mechanisms of the prereform period continued in full force for several years, to a modified degree for several more years, and still continue to be evident in the licensing controls. At the same time, international transactions outside of the state planning system have been growing. Most obviously, enterprises created by foreign investors have been exempt from the foreign trade planning and control mechanisms. In addition, substantial amounts of other types of trade, particularly the trade of the township and village enterprises and private firms, have been relatively free.

The expansion of China's participation in international trade since the beginning of the reform movement in 1978, has been one of the most remarkable features of its remarkable transformation.

While GNP was growing at 9 percent from 1978 to 1994, exports grew at about 14 percent and imports at an average of 13 percent per year.

The successes contradict several customary generalizations about transition economies and large developing countries—for example, that the transition from central planning to market orientation cannot be made without passing through a difficult period of economic disorganization and, perhaps decline; and that the share of international trade in very large economies cannot grow quickly due to the difficulties of penetrating foreign markets on a larger scale.

India

It is well known that India pursued an inward-oriented strategy up through 1991 and got disappointing results in terms of growth and poverty reduction. Bhagwati (1992) crisply states the main problems and failures of the strategy:

"I would divide them into three major groups: extensive bureaucratic controls over production, investment and trade; inward-looking trade and foreign investment policies; and a substantial public sector, going well beyond the conventional confines of public utilities and infrastructure.

The former two adversely affected the private sector's efficiency. The last, with the inefficient functioning of public sector enterprises, impaired additionally the public sector enterprises' contribution to the economy. Together, the three sets of policy decisions broadly set strict limits to what India could get out of its investment." [p.48]

Under this policy regime India's growth in the 1960s (1.4% per annum) and 1970s (-0.3%) was disappointing. During the 1980s India's economic performance improved. However, this surge was fueled by deficit spending and borrowing from abroad that was unsustainable. In fact, the spending spree led to a fiscal and balance of payments crisis that brought a new, reform government to power in 1991. Srinivasan (1996) describes the key reform measures and their results as follows:

"In July 1991, the government announced a series of far reaching reforms. These included an initial devaluation of the rupee and subsequent market determination of its exchange rate, abolition of import licensing with the important exceptions that the restrictions on imports of manufactured consumer goods and on foreign trade in agriculture remained in place, convertibility (with some notable exceptions) of the rupee on the current account; reduction in the number of tariff lines as well as tariff rates; reduction in excise duties on a number of commodities; some limited reforms of direct taxes; abolition of industrial licensing except for investment in a few industries for locational reasons or for environmental considerations, relaxation of restrictions on large industrial houses under the Monopolies and Restrictive Trade Practices (MRTP) Act; easing of entry requirements (including equity participation) for direct foreign investment; and allowing private investment in some industries hitherto reserved for public sector investment.

In general, India has gotten good results from its reform program, with per capita income growth above 4% per annum in the 1990s. Growth and poverty reduction have been particularly strong in states that have made the most progress liberalizing the regulatory framework and providing a good environment for delivery of infrastructure services (Goswami et al. 2001).

Vietnam

The same collection that contains Eckaus's study of China also has a case study of Vietnam (Dollar and Ljunggren, 1997):

Vietnam has made a remarkable turnaround during the past decade. In the mid-1980s the country suffered from hyperinflation and economic stagnation; it was not able to feed its population; and hundreds of thousands of people were signaling their dissatisfaction by fleeing in unsafe boats. A decade later, the government had restored macroeconomic stability; growth had accelerated to the 8-9 percent range; the country had become the second largest rice exporter in the world; and overseas Vietnamese were returning with their capital to take advantage of expanding

investment opportunities. During this period there has also been a total transformation of Vietnam's foreign trade and investment, with the economy now far more open than ten years ago.

That Vietnam was able to grow throughout its adjustment period can be attributed to the fact that the economy was being increasingly opened to the international market. As part of its overall effort to stabilize the economy, the government unified its various controlled exchange rates in 1989 and devalued the unified rate to the level prevailing in the parallel market. This was tantamount to a 73 percent *real* devaluation; combined with relaxed administrative procedures for imports and exports, this sharply increased the profitability of exporting.

This ... policy produced strong incentives for export throughout most of the 1989-94 period. During these years real export growth averaged more than 25 percent per annum, and exports were a leading sector spurring the expansion of the economy. Rice exports were a major part of this success in 1989; and in 1993-94 there was a wide range of exports on the rise, including processed primary products (e.g., rubber, cashews, and coffee), labor-intensive manufactures, and tourist services.

The current account deficit declined from more than 10 percent of GDP in 1988 to zero in 1992. Normally, the collapse of financing in this way would require a sharp cutback in imports. However, Vietnam's export growth was sufficient to ensure that imports could grow throughout this adjustment period. It is also remarkable that investment increased sharply between 1988 and 1992, while foreign aid [from the Soviet Union] was drying up. In response to stabilization, strengthened property rights, and greater openness to foreign trade, domestic savings increased by twenty percentage points of GDP, from negative levels in the mid-1980s to 16 percent of GDP in 1992.

Uganda

Uganda has been one of the most successful reformers in Africa during this recent wave of globalization, and its experience has interesting parallels with Vietnam's. It too was a country that was quite isolated economically and politically in the early 1980s. The role of trade reform in its larger reform is described in Collier and Reinikka (2001, pp. 30-39):

Trade liberalization has been central to Uganda's structural reform program. During the 1970s, export taxation and quantitative restrictions on imports characterized trade policy in Uganda. Exports were taxed, directly and implicitly at very high rates. All exports except for coffee collapsed under this taxation. For example, tea production fell from a peak of 20,000 tons in the early 1970s to around 2,000 tons by the early 1980s, and cotton production fell from a peak of 87,000 tons, to 2,000 tons. By contrast, coffee exports declined by around one-third.

Part of the export taxation was achieved through overvaluation of the exchange rate, which was propelled by intense foreign exchange rationing, but mitigated by an active illegal market. Manufacturing based on import substitution collapsed along with the export sector as a result of shortages, volatility, and rationing of import licenses and foreign exchange. President Amin's policy toward foreign investment was dominated by confiscation without compensation, and he expelled more than 70,000 people from the Asian community.

In 1986 the NRM government inherited a trade regime that included extensive nontariff barriers, biased government purchasing, and high export taxes, coupled with considerable smuggling. The nontariff barriers have gradually been removed since the introduction in 1991 of automatic licensing under an import certification scheme. Similarly, central government purchasing was reformed and is now subject to open tendering without a preference for domestic firms over imports.

By the mid-1990s, the import tariff schedule had five *ad valorem* rates between 0 and 60 percent. For more than 95 percent of imported items the tariff was between 10 and 30 percent. During the latter half of the 1990s, the government implemented a major tariff reduction program. As a result, by 1999 the tariff system had been substantially rationalized and liberalized, which gave Uganda one of the lowest tariff structures in Africa. The maximum tariff is now 15 percent on consumer goods, and there are only two other tariff bands: zero for capital goods and 7 percent for intermediate imports.

The average real GDP growth rate was 6.3 percent per year during the entire recovery period (1986-99) and 6.9 percent in the 1990s. The liberalization of trade has had a marked effect on export performance. In the 1990s export volumes grew (at constant prices) at an annualized rate of 15 percent, and import volumes grew at 13 percent. The value of noncoffee exports increased fivefold between 1992 and 1999.

Cross-country Evidence

These cases provide persuasive evidence that openness to foreign trade and investment—coupled with complementary reforms—can lead to faster growth in developing countries. However, individual cases always beg the question, how general are these results? Does the typical developing country that liberalizes foreign trade and investment get good results? Cross-country statistical analysis is useful for looking at the general patterns in the data.

But these brief reviews of individual cases also reveal a number of the main problems with cross-country regressions. First, the specific trade liberalization actions that are important often include non-tariff measures such as eliminating licensing schemes or allowing access to foreign exchange for current account transactions, and it is difficult to find a cross-country quantification of these policies. Second, countries tend to pursue a broad package of reforms at the same time so that identifying the separate effect of one reform may not be possible. Recognizing these limitations, what does the cross-country literature find?

Frankel and Romer (1999) find that trade to GDP is robustly related to long-term growth. They are able to rule out the possibility of reverse causation from growth to trade by

instrumenting for trade with geography variables. While this is supportive of models in which access to markets accelerates growth, there is no easy way to rule out the possibility that geography matters for growth through other channels.

Dollar (1992) and Sachs and Warner (1995) take different approaches to calculating cross-country measures of trade openness. The former creates an index of the price level adjusted for factor endowments, arguing that high prices for tradables reflect high levels of import protection. The Sachs-Warner study creates a zero-one openness variable based on tariffs for machinery, quota coverage, and distortions in the exchange rate. Both of these studies find that their measures of trade openness are correlated with more rapid growth. A different approach to measuring openness is taken by Ades and Glaeser (1999) in their study of 19th century America. They focus on openness in the sense of access to seaports and rail services, and find that backward, open regions tend to grow fast and converge on more advanced regions. Specifically, they interact their openness measure with the initial level of development and find that the combination of openness and backwardness is associated with especially rapid development.

In a classic paper Levine and Renelt (1992) showed that the institutions and policies correlated with growth are highly correlated among themselves, so that, with only about 100 countries for these cross-country studies, it is hard to robustly isolate the effects of individual policies. Rodriguez and Rodrik (2000) apply this Levine-Renelt critique to the papers on openness and growth. They show that the robustness of the correlation between openness measures and growth declines as other variables are added into the analysis. For example, I showed a key finding of the Sachs-Warner paper in figure 3: convergence among open economies. A number of recent papers, however, have shown the importance for economic growth of property rights and the rule of law (Hall and Jones 1999; Acemoglu, Johnson, and Robinson 2000). If one takes the top one-quarter of countries in terms of property rights and the rule of law (based on a measure from Kaufmann, Kraay, and Zoido-Lobaton 1999), one also finds this convergence pattern of the backward economies growing more rapidly (figure 4). The point is that, historically, open economies tended also to be the ones with good institutions, and it is difficult to separately identify the effects of property rights versus openness.

Finally, I would note that there are some recent studies that focus on changes in growth rates and changes in trade and FDI. This approach has the advantage that all of the variables that do not change over time drop out of the analysis (geography, ethnolinguistic fractionalization, institutional measures that show no time variation), reducing the multicollinearity problems.

Dollar and Kraay (2001b) show that both increased trade and increased FDI are related to accelerated growth. They control for changes in other policies and address reverse causation with internal instruments. What is interesting is that they do not find a similar relationship between changes in the investment rate and growth. This brings us back to the Easterly and Levine result mentioned at the beginning of this section: increased factor accumulation has surprisingly little relationship to growth. But increased participation in foreign trade and investment has a strong relationship with accelerated growth. The evidence taken together is supportive of models in which innovation plays a key role in growth, and integration with the global economy accelerates innovation in a backward region.

I emphasize that the cross-country regression results should be treated with caution. But I want to close this section with a nice point from Lindert and Williamson (2001a): "The doubts that one can retain about each individual study threaten to block our view of the overall forest of evidence. Even though no one study can establish that openness to trade has unambiguously helped the representative Third World economy, the preponderance of evidence supports this conclusion." They go on to note the "empty set" of "countries that chose to be less open to trade and factor flows in the 1990s than in the 1960s and rose in the global living-standard ranks at the same time. As far as we can tell, there are no anti-global victories to report for the postwar Third World. We infer that this is because freer trade stimulates growth in Third World economies today, regardless of its effects before 1940." (pp. 29-30)

Experience of the Post-1980s Globalizers

So, from individual cases and cross-country studies there is reason to believe that opening up to foreign trade and investment accelerates growth. What does this mean for the developing world since 1980? One of the striking changes in the world is that quite a few developing countries – including some very large ones – have liberalized since 1980. During this most recent wave of globalization, some countries have seen increases in trade to GDP of 50% or more, while other developing countries actually trade less today than 20 years ago (figure 5). The countries that have seen large increases in trade by and large are the same ones that receive the bulk of the increased flows of foreign investment to the developing world. What has happened to the growth rates of these globalizing developing countries?

Dollar and Kraay, 2001b, identify the top one-third of developing countries in terms of increases in trade to GDP over the past 20 years and label them the "post-1980 globalizers." So, by construction this group has had a particularly large increase in trade: 104%, compared to 71% for the rich countries. What is striking is that the remaining two-thirds of developing countries have actually had a decline in trade to GDP over this period (figure 6). The globalizing group has also cut import tariffs significantly, 34 points on average, compared to 11 points for the non-globalizers (figure 7). The list of post-1980 globalizers includes some well-known reformers (Argentina, Brazil, China, Hungary, India, Malaysia, Mexico, the Philippines, and Thailand). These countries have moved ahead on a wide range of reforms involving trade and investment liberalization, stabilization where necessary, and property rights reforms in the transition economies such as China and Hungary. The recent globalizers have experienced an acceleration of their growth rates, from 1.4% per year in the 1960s to 2.9% in the 1970s, 3.5% in the 1980s, and 5.0% in the 1990s (figure 8), while rich country growth rates slowed down over this period (figure 9). What about developing countries not in the "globalizing" group? They had a decline in the average growth rate from 3.3% per year in the 1970s to 0.8% in the 1980s and 1.4% in the 1990s (figure 10). Thus, in the 1990s the globalizing developing countries were catching up with rich countries, while the non-globalizers continued to lag further and further behind.

The Dollar-Kraay study covers about five-sixths of the world's population. Because some very large countries are in their globalizing group (China, India, Brazil), the group as a whole has about 3 billion people. Their non-globalizing group has about a billion people, and there are about a billion people living in the industrialized countries. Another 1 billion people live in countries for which there are not comparable trade data from the late 1970s, which is the

benchmark period from which Dollar and Kraay measured increases in trade integration. Two of the countries covered in the capsule reform summaries at the beginning of this section, Uganda and Vietnam, are among the countries excluded from the Dollar-Kraay categorizations because of a lack of trade data from the late 1970s. If, alternatively, one created a list of globalizing developing countries based on data from the past decade, both countries would appear on the list. For this more recent period there are trade data for about 100 developing countries. In terms of increases in the ratio of trade to GDP in the 1990s, Vietnam would be second on the list and Uganda, sixteenth. So, for the 1990s, these countries are rapid trade integrators, though the lack of data makes it difficult to categorize them for the 1980s.

It is interesting to look a little more deeply at the characteristics of the 24 post-1980 globalizers identified by Dollar and Kraay. In 1980, the globalizers were poorer as a group (\$1488 per capita GDP, at purchasing power parity) than the 49 non-globalizing developing countries (\$1947) (table 2). These are populated-weighted averages so that relatively poor China and India have a large weight. However, even a simple average of GDP per capita was significantly lower for the globalizers in 1980 (\$2629 versus \$3584). This fact is important because it shows that relatively poor countries can participate in globalization and get good results. The average inflation rate for the globalizers was 16% in 1980 and very high in some individual cases (such as Argentina with 100% inflation in 1980). It has been reduced to single digits over the past two decades. The disinflation in the non-globalizers was nearly identical. The two groups are also similar in terms on educational attainment in 1980. Since 1980, however, the globalizers have had a much larger increase in average primary school years of the adult population. On an index of property rights and the rule of law (with an average of 0 for all countries), the globalizing group fares moderately better than the non-globalizing group as of 1997 (-.04 compared to -.48, about the difference between Zambia and Uganda). The same index is not available for 1980, but clearly countries such as China and Hungary have strengthened property rights as a part of their overall reform.

Thus, the poor countries that have opened up to foreign trade and investment since 1980 have done well in terms of growth and educational attainment. They have better property rights today than other developing countries. Clearly the globalizing developing countries have moved on a broad range of reforms, and their experience illustrates how openness coupled with other good economic and social policies can contribute to development.

Table 2

Characteristics of Globalizing and Non-Globalizing Developing Economies
(population-weighted averages)

	<u>24 Globalizers</u>	<u>49 Non-Globalizers</u>
Population, 1997	2.9 billion	1.1 billion
Per capita GDP, 1980	\$1488	\$1947
Per capita GDP, 1997	\$2485	\$2133
Inflation, 1980	16%	17%
Inflation, 1997	6%	9%
Rule of Law Index, 1997 (world average=0)	-.04	-.48
Average Years Primary Schooling, 1980	2.4	2.5
Average Years Primary Schooling, 1997	3.8	3.1
Average Years Secondary Schooling, 1980	0.8	0.7
Average Years Secondary Schooling, 1997	1.3	1.9
Average Years Tertiary Schooling, 1980	0.08	0.09
Average Years Tertiary Schooling, 1997	0.18	0.22

Source: Dollar and Kraay (2001b) for the list of globalizing and non-globalizing countries; Barro and Lee for school achievement data; World Development Indicators for other data.

3. Globalizing developing countries have reduced poverty

One of the most common views of growing international economic integration is that it leads to growing inequality between nations -- that is, that globalization causes divergence between rich and poor countries -- and within nations -- that is, that it benefits richer households proportionally more than it benefits poorer ones. (For example, Jay Mazur, writing in *Foreign Affairs*, argues that "Globalization has dramatically increased inequality between and within nations.") The previous section showed how greater openness to international trade has in fact contributed to narrowing the gap between rich and poor countries, as the globalizers have grown faster than the rich countries as a group. In this section I turn to the effects of globalization on inequality within countries.

Again, it is useful to begin with what one would expect from theory. The factor proportions or Heckscher-Ohlin model, which is supported by the data (Davis and Weinstein, forthcoming), suggests that greater trade openness will affect the distribution of income among factors of production, but the direction of the effect will be different in different countries. To take the simplest example, with only capital and labor as factors, open trade should lead to higher wages in labor-abundant countries and lower wages in labor-scarce ones. The effect of openness on the household distribution of income will thus depend on what factors are abundant in a country and how they are owned across households. It would be quite remarkable if it happened that in general poor households owned scarce factors and were thus hurt by trade. Our reading of theory is that one should expect no systematic relationship across countries between changes in trade policy and changes in household inequality. In other words, looking across countries we should find that on average poorer households should benefit proportionally as much from trade openness as other households.

In order to test this proposition, Dollar and Kraay (2001a) put together a large data set on income inequality, compiled from a variety of existing sources (primarily the dataset constructed by Deininger and Squire (1996)) with several updates using more recently available data). The data consist of Gini coefficients for a large number of countries and years, and five points on the Lorenz curve for most of these country-year observations. As noted by these and other authors there are substantial difficulties in comparing income distribution data across countries. Countries differ in the concept measured (income versus consumption), the measure of income (gross versus net), the unit of observation (individuals versus households), and the coverage of the survey (national versus subnational). Dollar and Kraay restrict attention to distribution data based on nationally representative sources identified as high-quality by Deininger and Squire (1996), and perform some simple adjustments to control for differences in the types of surveys. These data cover a total of 137 countries.

Dollar and Kraay use these data to try to understand what is happening to the income of the bottom 20% of the income distribution, as globalization proceeds. There is a one-to-one relationship between the growth rate of income of the poor and the growth rate of per capita income, but also quite a lot of variation around that average relationship (figure 11). In other words, percentage changes in incomes of the poor on average are equal to percentage changes in average incomes. These results are equivalent to the finding that changes in the distribution of income are not systematically associated with the growth rate.

Can we explain deviations around the one-to-one relationship, which reflect changes in inequality? The hypothesis that greater trade openness leads to growing household inequality is the hypothesis that growing openness leads to points “below the line” in figure 11: growth of income of the poor less than proportionate to per capita GDP growth. Dollar and Kraay considered a variety of possible variables that might explain cross-country differences in the extent to which growth accrues to those in the bottom quintile, with little success. One of the variables considered was trade volumes; however, there is no evidence of a systematic relationship between changes in trade and changes in inequality. There is simply no association between changes in trade to GDP and changes in the Gini measure of inequality (figure 12). Dollar and Kraay similarly found no relationship between changes in inequality and other measures of globalization (the Sachs-Warner measure of openness, average tariff rates, presence

of capital controls). No doubt trade and investment liberalization has distributional consequences – that is, there are “winners” and “losers” in the short run. However, the finding here is that the losers do not come disproportionately from the poor. While it is heartening to know that the losers do not come disproportionately from the poor, nevertheless it has to be a concern that some poor households are hurt in the short run by trade liberalization. It is thus important to complement open trade policies with effective social protection measures such as unemployment insurance and food-for-work schemes. (Closed economies obviously need safety nets as well since households are subject to shocks from business cycles, technological change, weather, and disease.) To the extent that trade openness raises national income, it strengthens the fiscal ability of a society to provide these safety nets.

To relate the cross-country findings on trade and inequality back to specific countries that have liberalized: some have had increases in household income inequality over the past 20 years, most notably China. But it is not true in general that the liberalizing economies have had increases in inequality. Costa Rica’s and Vietnam’s income distributions have been quite stable. Inequality has declined in Malaysia and the Philippines. Mexico had an increase in inequality in the 1980s followed by a decline in inequality in the 1990s. Since most countries have had only small changes in household inequality, the growth rate of income of the poor is closely related to the growth rate of per capita GDP.

The fact that increased trade generally goes hand-in-hand with more rapid growth and no large change in household income distribution, means that increased trade generally goes hand-in-hand with improvements in well-being of the poor. Vietnam in the 1990s nicely illustrates this finding about trade and poverty. As Vietnam has opened up, it has had a large increase in per capita GDP and no significant change in inequality. Thus, income of the poor has risen dramatically, and the level of absolute poverty has dropped sharply, from 75% of the population in 1988 to 37% in 1998. Poverty was cut in half in ten years! Since Vietnam’s opening has resulted in exports of rice (produced by most of the poor farmers) and labor-intensive products such as footwear, it should be no surprise that the vast majority of poor households benefited immediately from a more open trading system. Vietnam’s experience is not unique. China, India, and Uganda also had rapid poverty reduction in the 1990s as they integrated with the global economy (figure 13). The only countries in which we have seen large-scale poverty reduction in the 1990s are ones that have become more open to foreign trade and investment.

This most recent wave of globalization, starting around 1980, represents the first time in history that there has been a large decline in the number of extreme poor in the world (people living on less than \$1/day at PPP). Figure 14 combines estimates from Bourguignon and Morrisson (2001) and Chen and Ravallion (2001). The number of extreme poor increased fairly continuously since 1820 (with a particularly sharp increase during the isolationist period of 1910-1950, and some decline in poverty in the immediate post-war period). Note that, while the 1960-80 period may have been good for some developing countries, it was not good for the extreme poor, whose numbers continued to increase. Since 1980 the number of poor has declined by an estimated 200 million people. The household data needed for these estimates continues to improve, so that we have a better understanding of this process in the 1990s than in earlier periods. Chen and Ravallion (2001) estimate that the number of extreme poor declined by

120 million in the post-1980 globalizers during the relatively short period between 1993 and 1998; in the rest of the developing world the number of poor increased by 20 million.

A related finding about the wide diffusion of the benefits of globalization comes from Freeman, Oostendorp, and Rama (2001), who look at the effect of globalization on wages. The Dollar-Kraay work focuses on the bottom 20% of the income distribution and the work discussed in the previous paragraph concerns the extreme poor: these are mostly rural households in developing countries and would not be wage earners. Wage earners are more likely to be in the middle of the income distribution. The data used in Freeman et al. study, originally collected by the International Labor Office through its October Survey, have rarely been used for research purposes because of comparability problems. Freeman and Oostendorp (2000) standardized the data in a comparable format, so that the data refer to monthly wages of men in U.S. dollars. The occupations considered by the October Survey are quite narrowly defined (e.g. teacher, bricklayer, etc.), so that this is a unique source for examining the effect of openness on wages properly measured. Freeman, Oostendorp, and Rama (2001) find that the growth rate of wages has been twice as rapid in the globalizing developing countries identified above, than in the non-globalizers, and faster than in the rich countries as well (figure 15). More generally, they find that both foreign trade and foreign investment increase wages. Workers in general gain from openness, though of course there will be specific losers, particularly workers in heavily protected sectors who shared in the rents of protection.

A final point that I want to make about labor concerns the controversial issue of abusive child labor and whether it should be regulated through trade sanctions. Household surveys show that, within developing countries, child labor declines sharply with family income. In Vietnam, for example, the extent of work by children aged 6-15 had a clear relationship to household income in a 1993 survey (figure 16). (Most of this work is on the family farm.) The figure also shows the 1998 extent of child labor for the same households. During the period that Vietnam was opening up to the global economy there was a sharp drop in child labor. Why? The change can be explained almost completely by the increase in household income (Edmonds 2001). Over this relatively short period of time the income of the poorest ten percent of the population increased more than 50% in real terms, which led to a sharp decline in child labor (and a corresponding increase in school enrollment rates).

This finding sheds important light on the current debate about trade and core labor standards. Developing countries fear that trying to enforce labor or other standards through WTO sanctions will become a new form of protectionism that will limit their trade. With fewer trading opportunities the income of poor families will fall, increasing child labor. Thus, an apparently well-intentioned policy, such as trade sanctions against poor countries that have child labor, could easily backfire and result in more child labor.

4. *Globalization can reduce global inequality*

The next issue that I want to take up is what has happened to global household income inequality. The previous sections note developments that cut in different directions in terms of income inequality: rapid growth of poor countries that integrate with the world economy; lagging growth in others; no general trend toward higher within-country inequality, but higher inequality

in the largest country, China. There are different measures of household inequality that can be used to examine the aggregate impact of these trends. The mean log deviation has the advantage that it can be decomposed into inequality between locations and inequality within locations. It also has an intuitive interpretation. Income distributions everywhere are skewed in favor of the rich, so that the “typical” person (one chosen randomly from the population) has less income than the average for the whole group. Roughly speaking, the mean log deviation (times 100) is the percent gap between the typical person and the average income. The more skewed the distribution in favor of the rich, the larger is this gap. So, for example, if per capita income in the world is around \$5,000 and the median person is living on \$1,000 (80% less), the mean log deviation will be around .8.

To put the discussion of global inequality in historical perspective, Bourguignon and Morrisson (2001) have calculated world household income inequality going back to 1820. Admittedly, some heroic assumptions are needed to put together their measure of the world household distribution of income. Still, it no doubt captures a broad trend that is indisputable. The distribution of income worldwide became more unequal between 1820 and 1980: the gap between the median person in the world and world per capita income increased from about 40% to about 80% during this period (figure 17). This increase in inequality was mostly driven by differences in growth rates across countries; changes in income inequality within countries have been small in the sense that they contributed little to changes in world income distribution. Because of data availability, the Bourguignon-Morrisson study covers only part of the world.

My colleagues Ximena Clark, Aart Kraay and I have made a similar calculation with a larger number of countries for the 1960-1995 period (figure 18). To construct this figure, we used cross-country differences in real per capita GDP adjusted for differences in purchasing power for over 100 countries as a measure of income differences *between* countries. To measure inequality within countries, we used the nearest available Gini coefficient for each five-year period for each country, and we assumed that income within each country was lognormally distributed.

We find worldwide inequality rising from 1960 to 1975, but then declining from 1975 to 1995, largely because of the acceleration of growth in China and India, two relatively poor countries. A different approach to looking at global inequality is to examine what is happening to the extreme poor (people living on less than \$1/day). Between 1987 and 1998 the share of the developing world’s population living in extreme poverty fell from 28% to 23%. Chen and Ravallion (2001) calculate what should have happened to this share, had growth in the developing world been distributionally neutral (i.e., if everyone’s income had grown at the same rate). They find that the actual poverty reduction was greater, indicating that income distribution had shifted modestly in favor of the extreme poor. Again, this is primarily explained by the rapid growth of incomes in China and India. In 1975, these two countries – with about one-third of the world’s population -- had more than 60% of the world’s extreme poor. We should not make too much of these measured declines in global inequality, because the uncertainty around the estimates is large. Still, it is noteworthy that the long-term trend toward higher inequality in the world has come to an end during this most recent wave of globalization.

More insight into trends in global inequality can be gained by looking at different combinations of countries. Household inequality within the OECD world taken as an integrated

economy has clearly declined (figure 19). It declined from 1960 to 1990, and then increased modestly between 1990 and 1995. This evidence conforms with the historical pattern identified by Lindert and Williamson: globalization tends to benefit poor regions in particular and promotes convergence within an integrating region.

What does the picture look like if we add the Dollar-Kraay group of post-1980 globalizers? For the rich countries plus the globalizers together, inequality increased up to 1975, after which it declined quite markedly (figure 20). This trend reflects the convergence within the OECD plus the fact that since 1975 China, India, and other developing countries that have opened up have grown faster on average than the rich countries. The increased inequality within China offset this trend partially, but not completely. So, the pattern of post-1980 globalization is consistent with earlier historical experience.

Finally, if we take the developing world as a whole (globalizers and non-globalizers) we find a complex story: inequality rose between 1960 and 1975, declined to 1985, and then rose since (figure 21). There are quite a few different factors at work here, but an important one is that China and India were relatively poor within the developing world when they began reform. Hence, the first effect of their accelerated growth was to reduce inequality in the developing world. But, China in particular has now moved into middle-income status. What we see since 1985 is that the emerging markets that are integrating with the global economy are growing rapidly and this is leading to heightened inequality within the developing world. Much of the discussion of rising global inequality assumes that there is growing divergence between the developing world and the rich world. Not true. The most important development in global inequality in recent decades is the growing divergence within the developing world. Some developing locations are the fastest growing regions in the world, while others are the slowest.

A final important point is that the same pattern can be seen within China (and perhaps within India as well). These countries are so big that many of the states and provinces have more than 50 million people and hence are larger than the typical developing country. Alwyn Young (2000) shows that there is growing divergence among Chinese provinces and presents evidence that this is at least partly the result of poor integration among provinces: actual trade barriers imposed by provincial and local authorities, restrictions on migration among provinces, and poor transport links from interior provinces to the coast. Thus, within China we see the same pattern that we observe globally: locations that are integrating with the global economy growing rapidly while disconnected locations are left behind, relatively speaking.

5. Economic geography

The notion that poor countries can benefit from integration with the world economy is a very encouraging one. If developing countries would only open up to foreign trade and investment, they should prosper. But how can we reconcile this optimism with the fact that global production is remarkably concentrated geographically? The vast majority of world GDP is produced in temperate regions within 100 kilometers of the sea or of a major navigable river (map 1). Understanding the role of geography has become a major focus of recent work in economic history and development.

The geographic concentration can be explained by three factors. First, countries have very different quality of institutions and investment climates. Quality of institutions is a strong factor influencing the location of production (Hall and Jones 1999; Acemoglu, Johnson, and Robinson 2000). Note, for example, the much higher GDP density in Thailand, compared to neighboring Burma or Cambodia. Also, recall that the non-globalizing developing countries identified in section 2 had worse property rights and the rule of law than the globalizing developing countries. Some of the large countries that are not participating much in global trade and investment are Burma, Nigeria, Pakistan, and Iran, all countries that rank poorly on measures of institutional quality.

Quality of institutions, however, can only explain some of the variation in production density across the world. Look in the map at the United States, for example. The quality of institutions is presumably fairly constant across locations, and yet there is striking concentration of production within the U.S. In general, there is more production in coastal areas – of the U.S., and of most other regions of the world. Thus, physical geography matters. Partly it matters because of transportation costs. Sea-freight is relatively cheap and efficient. Land-freight tends to be more expensive, and that is especially true if there is mountainous or difficult terrain. Other aspects of geography are important as well. Recent work has shown that the prevalence of malaria has a large effect on productivity (Gallup and Sachs 1999). The combination of remoteness plus malaria makes it especially difficult to generate high productivity and a large density of production.

Some of the geographic problems show up as high transportation costs. For many developing countries, transport costs to OECD markets are higher than the tariffs on their goods, so that transport costs are more of a barrier to integration than trade policy. Transport costs are influenced by geographic factors such as distance from existing markets and topography. But transport costs are also heavily influenced by the quality of infrastructure (ports, rail, roads, telecommunications), which I trace back to the quality of institutions. For example, the cost of shipping a container of textiles from Mombasa in Kenya to the East Coast of the U.S. is three times higher than shipping it from East Asian ports such as Shanghai or Bangkok, even though the distance is shorter (figure 22). Clark, Dollar, and Micco (2001) show that much of this variation can be explained by differences in port efficiency.

Limao and Venables (2000, p. 25) also find that “African economies tend to trade less with the rest of the world and with themselves than would be predicted by a simple gravity model, and the reason for that is their poor infrastructure.” The poor infrastructure includes inefficient seaports, as well as the internal infrastructure of roads, rail, and telecommunications. These studies emphasize that isolation from markets depends to some extent on government policies and infrastructure. Switzerland is a good example of a landlocked country that would seem to be isolated because of its mountainous terrain. Yet, it is highly integrated into the world economy because it has good infrastructure and it is surrounded by countries with good infrastructure. At the same time it is clear that natural geography provides some locations with advantages and others with disadvantages.

A third issue of geography arises from agglomeration economies (Fujita, Krugman, and Venables, 1999). We often observe related firms clustering together. Sometimes these are firms producing the same thing. More commonly these are firms with vertical linkages. Japanese auto

companies, for example, are well known for wanting certain of their parts suppliers to locate within a short distance of the main assembly plant. As John Sutton (2000) describes it: "Two-thirds of manufacturing output consists of intermediate goods, sold by one firm to another. The presence of a rich network of manufacturing firms provides a positive externality to each firm in the system, allowing it to acquire inputs locally, thus reducing the costs of transport, of coordination, of monitoring and of contracting. Once this effect is allowed for, the location decisions of firms become interdependent; a 'divided world' may emerge, in which a network of manufacturing firms is clustered in some 'high wage' region, while wages in the remaining regions stay low."

Evidence suggests that agglomeration economies are important. Redding and Venables (2000) calculate a measure of "foreign market access" which basically measures how close a country is to markets, where each country's market is weighted by its economic size. They show that across countries, real per capital income is highly correlated with their foreign market access variable (figure 23). I find two things interesting about this picture. First, there is a clear correlation between being close to markets and being rich (or, another way of saying this is that rich countries tend to cluster together). But the second interesting thing is that there are notable exceptions. Countries to the left in the picture are far from markets, and yet quite a few of these are high income or upper-middle income. In general, all of these "outliers" have relatively good institutions – Australia, New Zealand, Argentina, Chile, Mauritius, and Singapore, to name a few.

It is clear that agglomeration economies make it more difficult for a backward region to attract production. Imagine a backward region that has improved its property rights and infrastructure and become a cost-effective production location for, say, labor-intensive electronics. There remains the coordination problem of getting a bunch of firms to relocate simultaneously. I suspect that the problem is not too severe, because we see these international shifts in production occurring every day. But there is one important implication of agglomeration economies: the movement of production from advanced to backward economies often occurs in "cascades" and results in greater urbanization (clustering within developing countries).

The U.S. textile industry is a good example of the "cascade" phenomenon. Traditionally centered in the Northeast, the cost pressure for it to relocate built up gradually as northern wages rose and as institutions and infrastructure improved in southern states. Within a short period in the 1950s, then, the whole industry pretty much relocated to the Carolinas. Several decades later similar cost pressures led to a new "cascade" of the industry out of the U.S. to East Asia and to Mexico.

While institutions are important and agglomeration economies are important, I think that it is difficult to separately identify their effects, especially based on macro data. A promising area for research is to go to the more micro level of the firm to investigate the importance of networks and agglomerations.

6. Conclusions

Globalization has generally supported poverty reduction. Backward economies that integrate with the world tend to grow rapidly; the poor within these societies are among the key beneficiaries of globalization. But, this review of the different waves of globalization also raises important issues that will influence the extent to which poor countries will be able to deepen their integration with rich ones and to which poor people will share in the benefits.

First, globalization is not inevitable. In fact, growing integration is quite controversial (witness the anti-globalization demonstrators determined to prevent trade agreements and other forms of international cooperation). We have seen the retreat from global integration before, and the results were not pretty. As Mundell (2000) put it succinctly: "The twentieth century began with a highly efficient international monetary system that was destroyed in World War I, and its bungled recreation in the inter-war period brought on the great depression, Hitler and World War II." International financial mismanagement led to beggar-thy-neighbor trade policies. "Monetary deflation was transformed into depression by fiscal shocks. The Smoot-Hawley tariff, which led to retaliation abroad, was the first: between 1929 and 1933 imports fell by 30 percent and, significantly, exports fell even more, by almost 40 percent," bringing on the Great Depression. Anytime there is global slowdown, as is occurring in 2001, there is a danger of a return of protectionism. Hence the importance of moving ahead with a new round of trade liberalization and with efforts to improve the architecture for international financial integration.

Second, successes of the 1990s show that integration requires not just open trade policies, but also sound institutions and policies in a range of areas. You can have very open policies on the books, but if the rule of law is poor and corruption rampant, then of course what is on the books does not really matter. Weaknesses in institutions should not be an excuse to remain closed, however. Countries can use the international market for services to improve economic governance and to provide necessary infrastructure (ports, power, telecom).

Third, many locations in the world are not participating in globalization. In some cases this results from closed policies or from other poor institutions and policies. In other cases it results from geographic challenges (prevalence of malaria, isolation leading to high transportation costs). Flows of trade and investment are not likely to solve the problems of these poor areas, though migration – currently the missing flow in globalization – could make a big difference. There are also various types of official and non-governmental assistance that can help locations improve policies and connect with the world market.

Finally, the focus of my discussion has been on income and poverty. I recognize that a lot of the controversy about global economic integration has to do with its effects on politics, culture, society, and the environment. Poverty is just one issue, but evidently an important one. If it were the case that international trade and investment primarily benefited the rich, then many people might feel that restricting trade to protect jobs, culture, or the environment has a low cost. However, the evidence is quite clear that globalization has benefited many of the world's poor. Anyone who cares about poverty should think twice about restricting trade – this will impose further hardship on poor people in the developing world. There are important environmental and social issues that need to be addressed, but these are most efficiently addressed through policies targeted to the specific problems, not indirectly through restricting trade.

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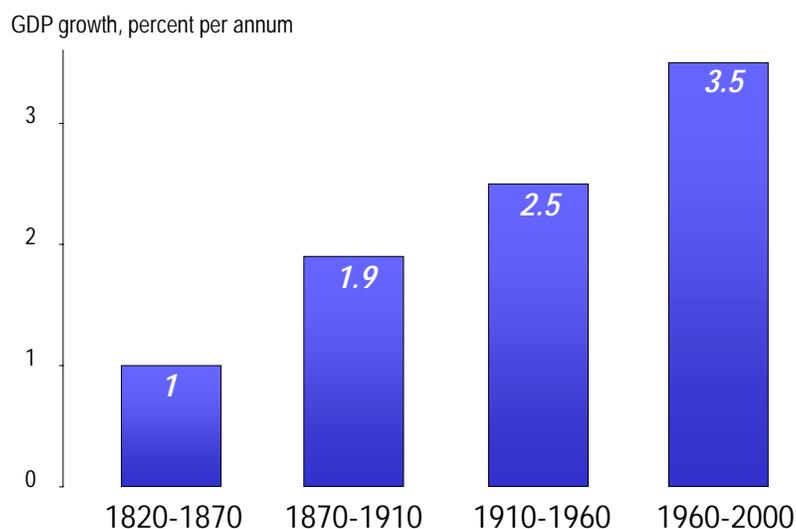
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Table 1. Measures of global integration

	Capital flows	Trade flows	Transport and communications costs (constant US \$)			
	Foreign assets/world GDP (in percent)	Trade/GDP (in percent)	Sea freight (average ocean freight and port charges per ton)	Air transport (average revenue per passenger mile)	Telephone call (3min NY/London)	Computer (Index 1990=100)
1820	-	2a	-	-	-	-
1870	6.9	10a	-	-	-	-
1890	-	12b	-	-	-	-
1900	18.6	-	-	-	-	-
1914	17.5	18ab	-	-	-	-
1920	-	-	95	-	-	-
1930	8.4	18a	60	0.68	245	-
1940	-	-	63	0.46	189	-
1945	4.9	-	-	-	-	-
1950	-	14a	34	0.3	53	-
1960	6.4	16b	27	0.24	46	12500
1970	-	22.4a-20b	27	0.16	32	1947
1980	17.7	-	24	0.1	5	362
1990	-	26ab	29	0.11	3	100
1995	56.8	-	-	-	-	-

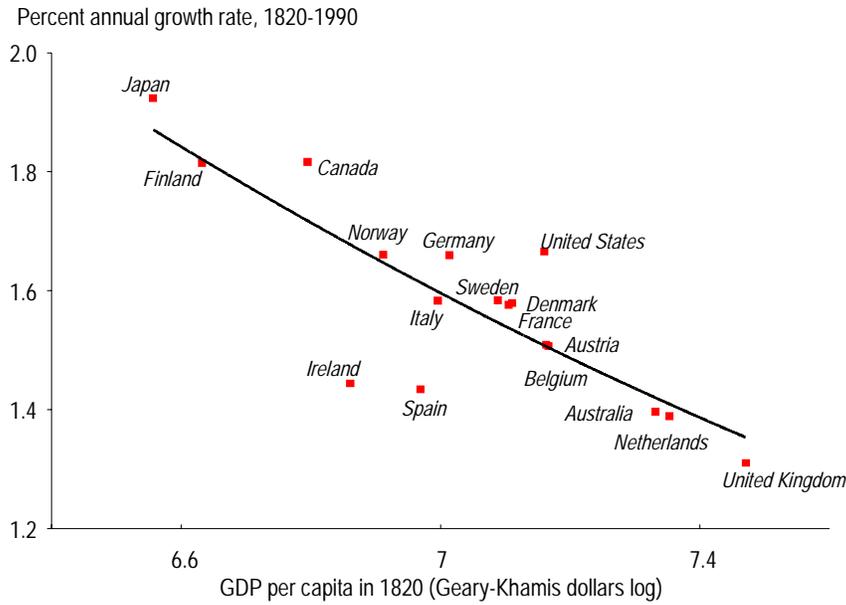
Source: Crafts (2000) a.Maddison (1995) UNDP (1999) UNDP (1999) UNDP (1999) UNDP (1999)
b.Crafts (2000)

Figure 1. World growth rate has accelerated



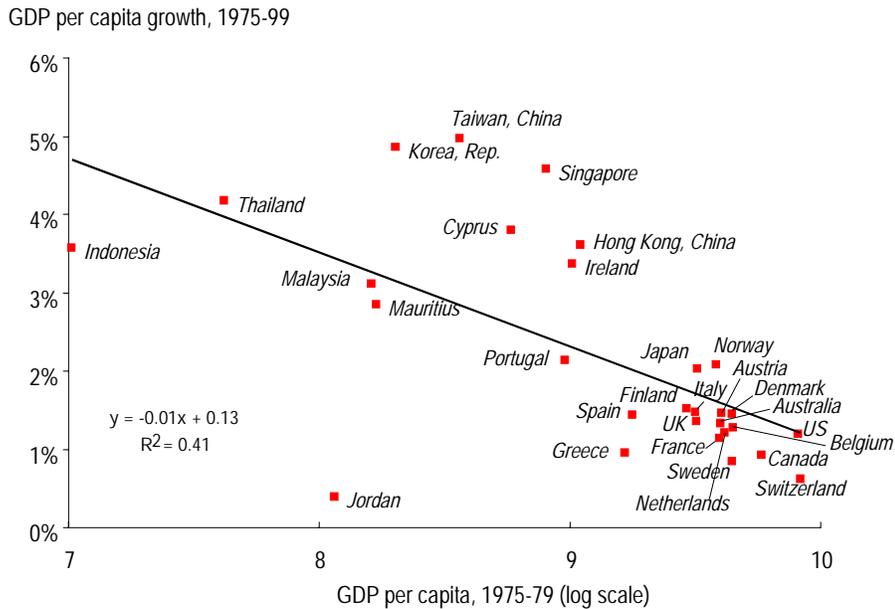
Source: Maddison (1995); Summers and Heston (1992)

Figure 2.
Long-term convergence among rich countries



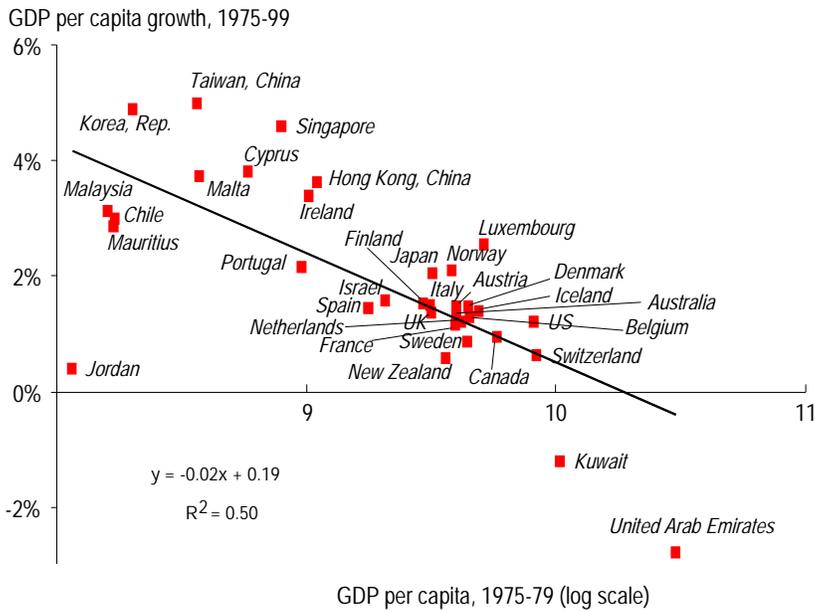
Source: Maddison (1995)

Figure 3.
Convergence among open economies, 1975-1999



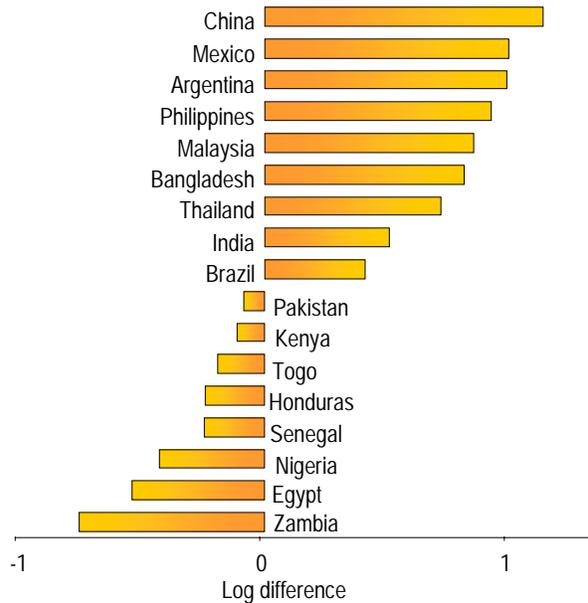
Source: Sachs and Warner (1995)

Figure 4. Convergence among countries with good rule of law, 1975-1999



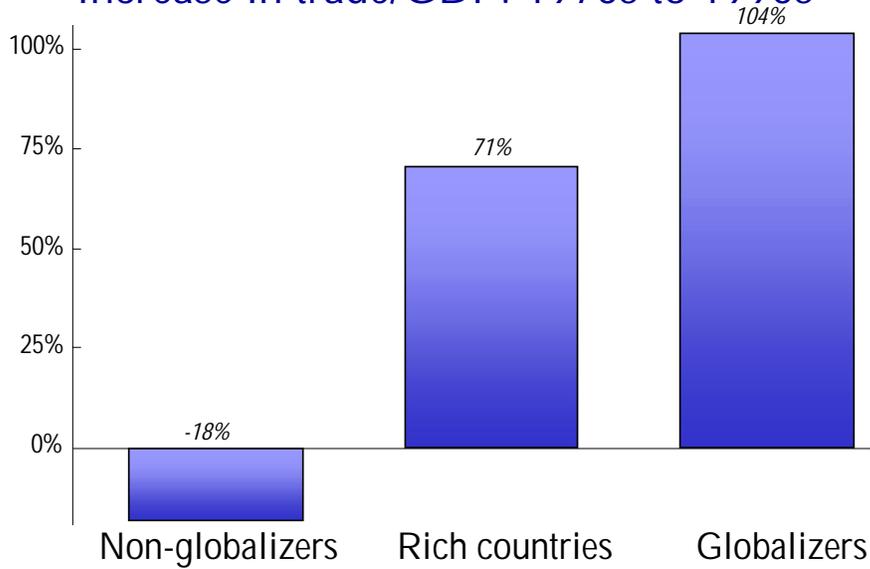
Source: Kaufmann, Kraay, and Zoido-Lobaton (1999)

Figure 5. Change in trade/GDP, 1977-97 (selected countries)



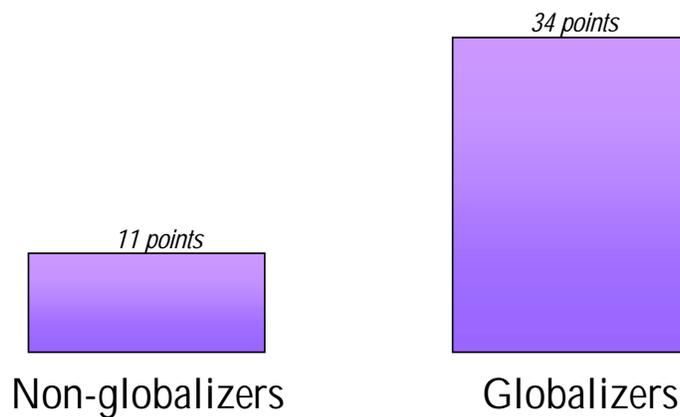
Source: World Bank

Figure 6.
Increase in trade/GDP: 1970s to 1990s



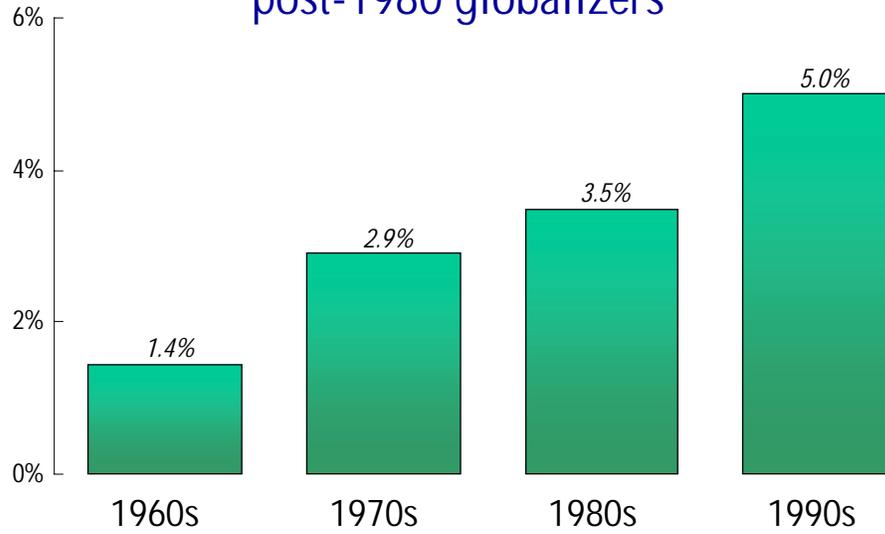
Source: Dollar and Kraay (2001b)

Figure 7.
Decline in average import tariffs:
mid-1980s to late-1990s



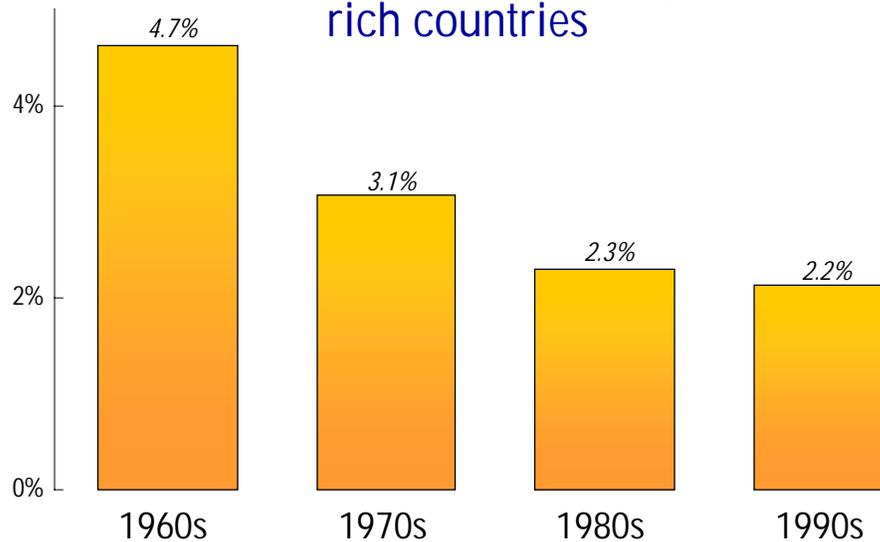
Source: Dollar and Kraay (2001b)

Figure 8.
Per capita GDP growth rates:
post-1980 globalizers



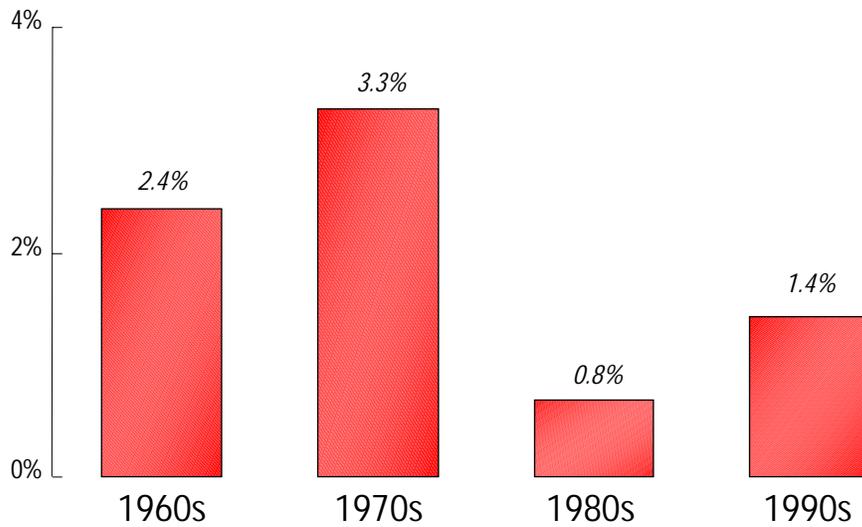
Source: Dollar and Kraay (2001b)

Figure 9.
Per capita GDP growth rates by decade:
rich countries



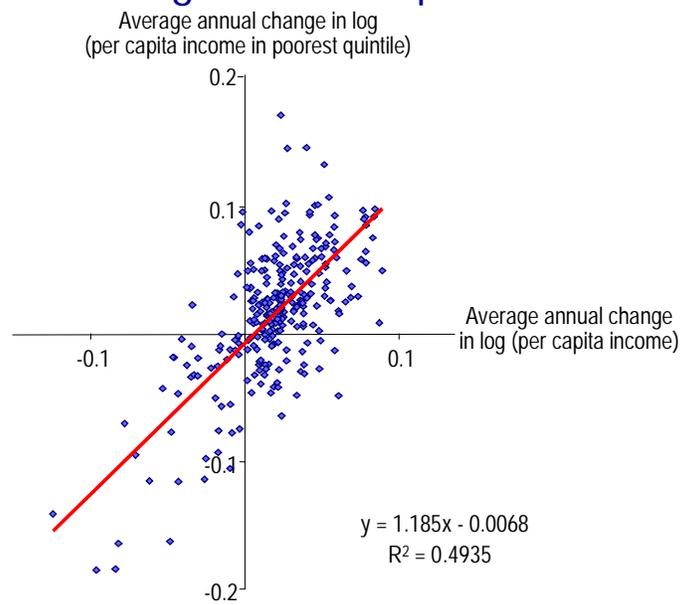
Source: Dollar and Kraay (2001b)

Figure 10. Per capita GDP growth rates:
non-globalizers



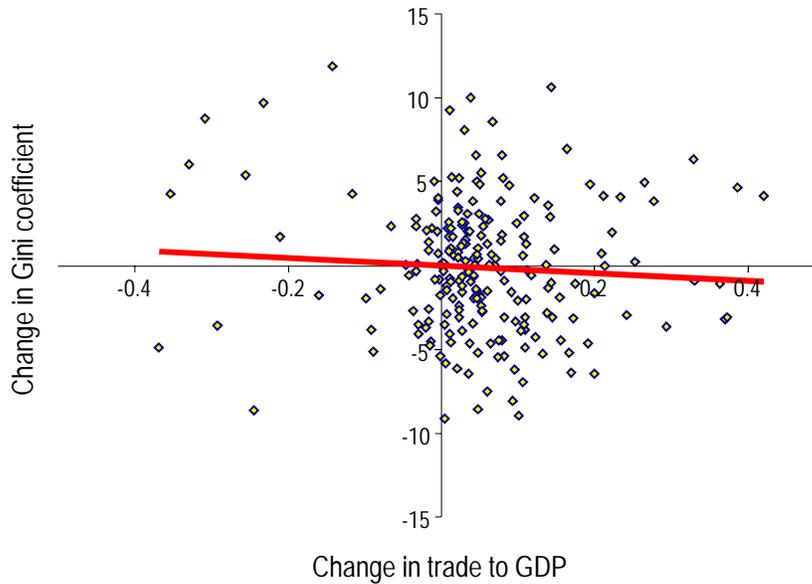
Source: Dollar and Kraay (2001b)

Figure 11.
Growth is good for the poor



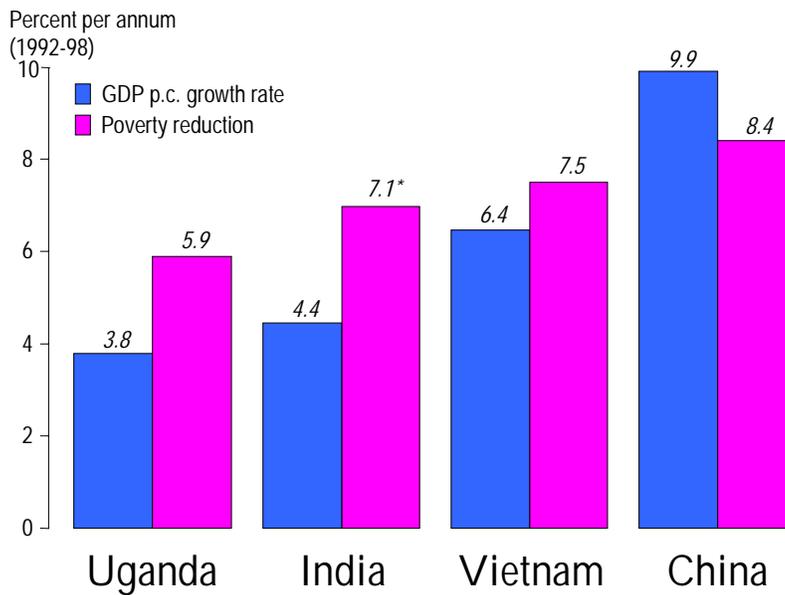
Dollar and Kraay (2001a)

Figure 12.
Increased trade has no correlation with
changes in inequality



Source: Dollar and Kraay (2001a)

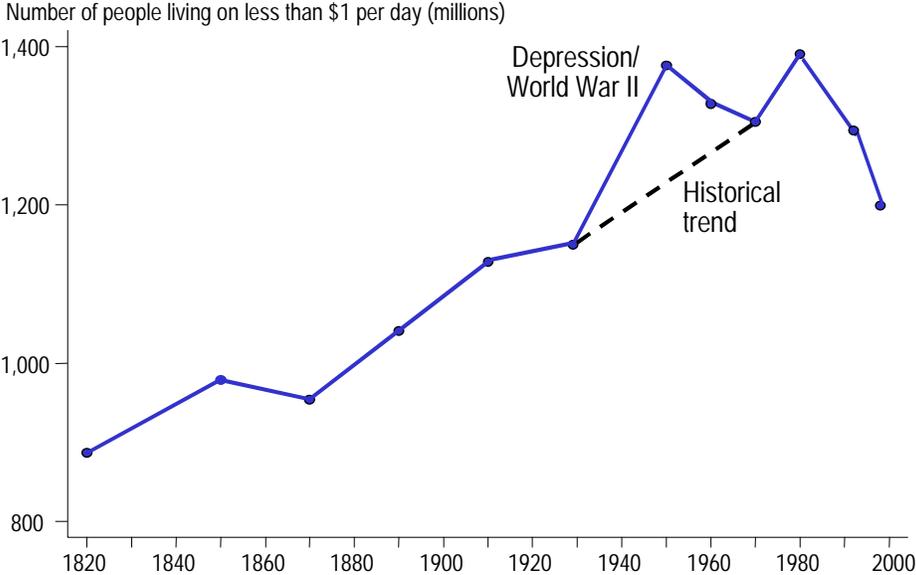
Figure 13. Poverty reduction in Uganda, India, Vietnam, and China is closely related to growth



* India poverty reduction figure is for 1993-99

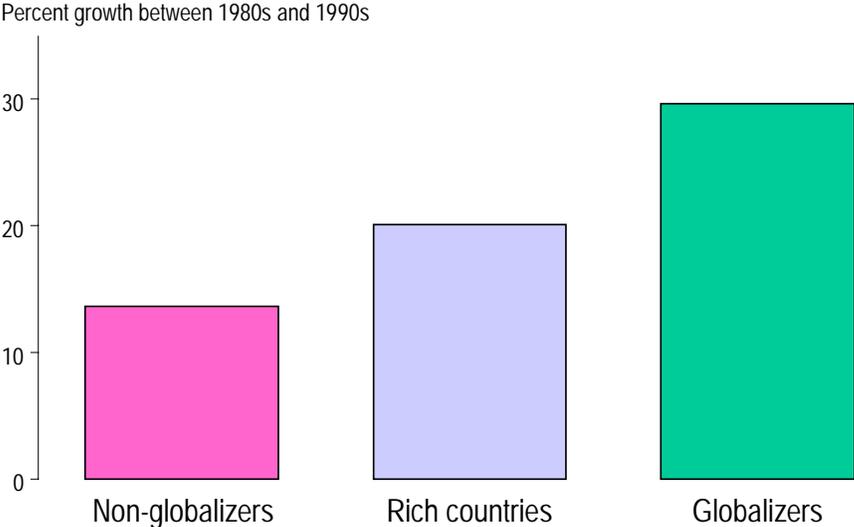
Source: Growth data from World Bank; poverty reduction data, respectively, from Reinikka and Collier (2001); Datt, Kozel, and Ravallion (2001); World Bank (1999); and Chen and Ravallion (2001)

Figure 14. World poverty, 1820-1998



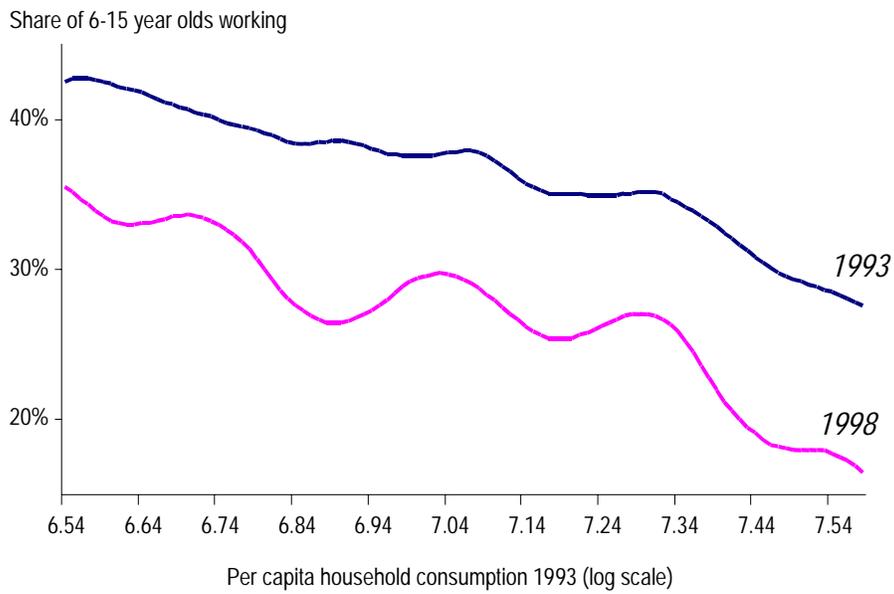
Source: Bourguignon and Morrisson (2001); Chen and Ravallion (2001)

Figure 15. Wage growth by country group



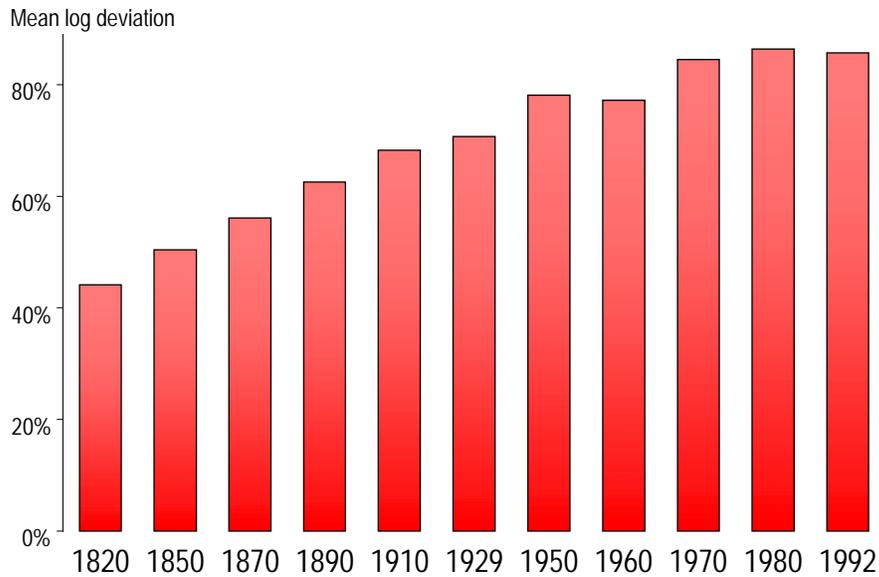
Source: Freeman, Oostendorp, and Rama (2001)

Figure 16. Child labor and household consumption levels in Vietnam



Source: Edmonds (2001)

Figure 17.
Worldwide household inequality, 1820-1992



Source: Bourguignon and Morrison (2000)

Figure 18.
Worldwide household inequality, 1960-1999

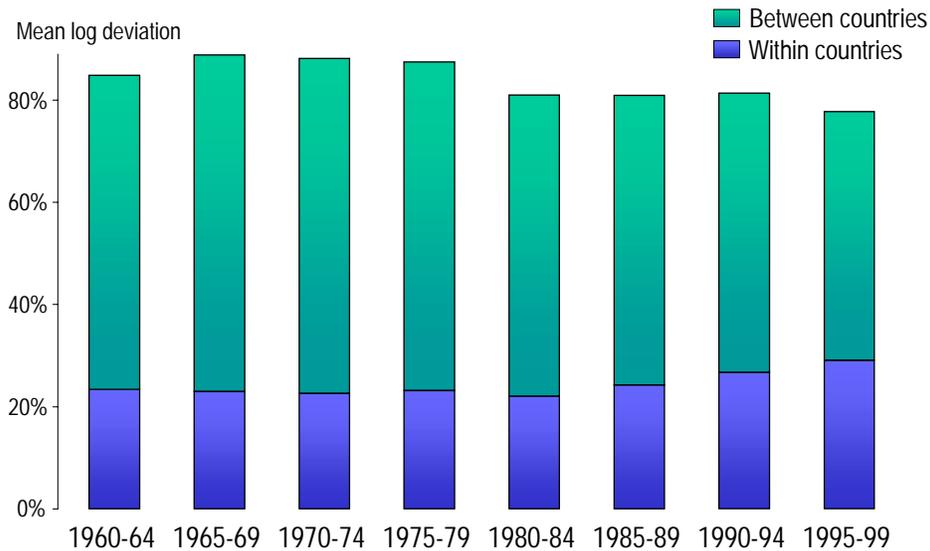


Figure 19.
Household inequality within rich countries

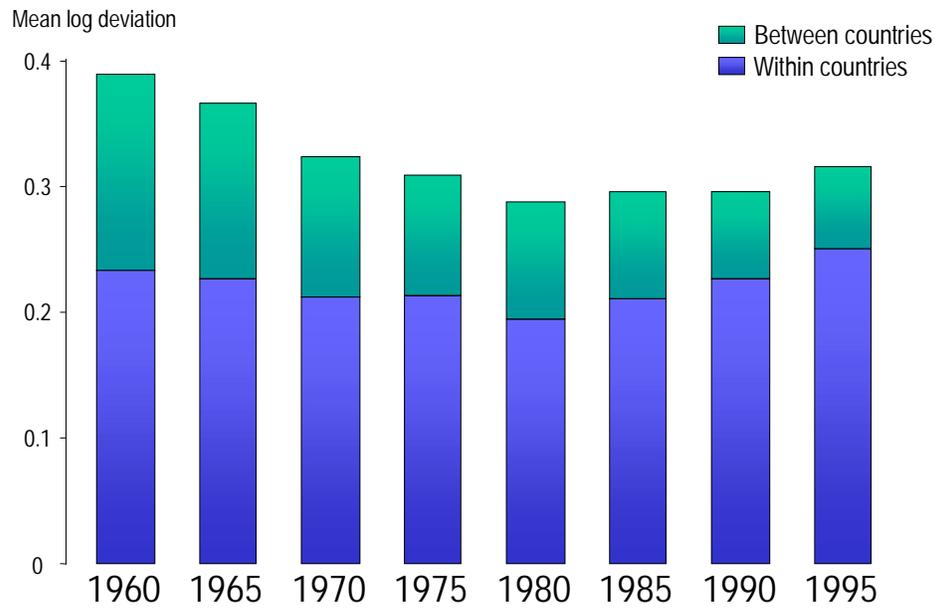


Figure 20.
Household inequality in the globalizing world

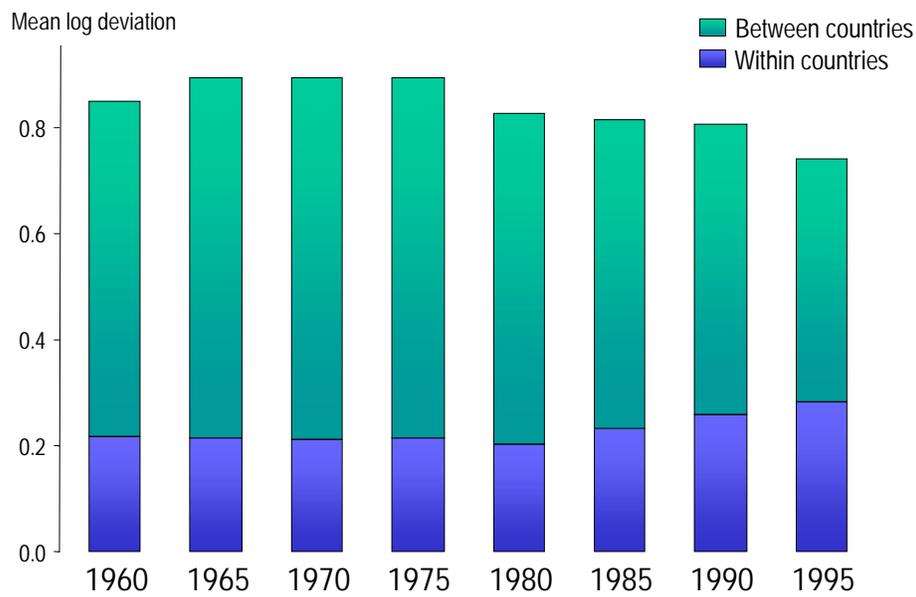
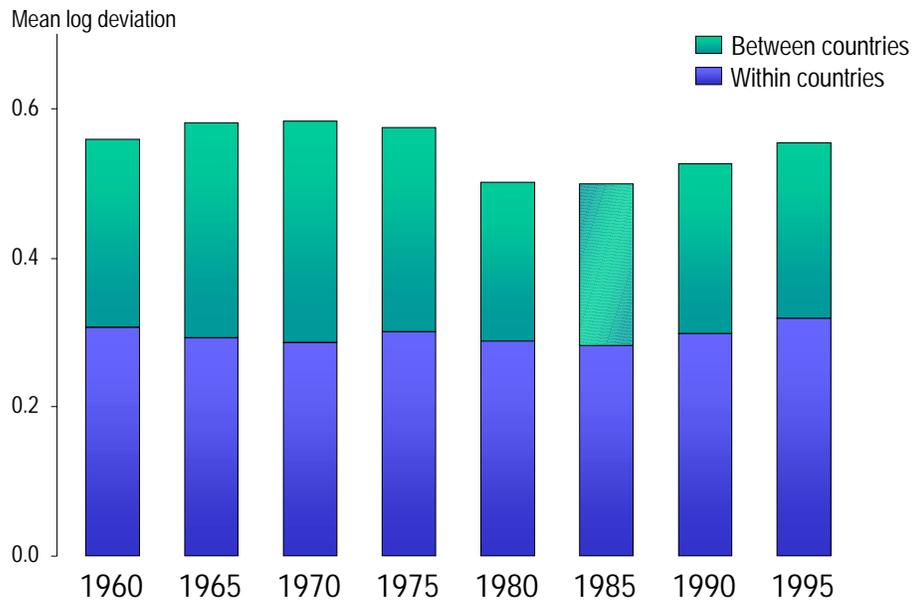


Figure 21.
Household inequality in the developing world

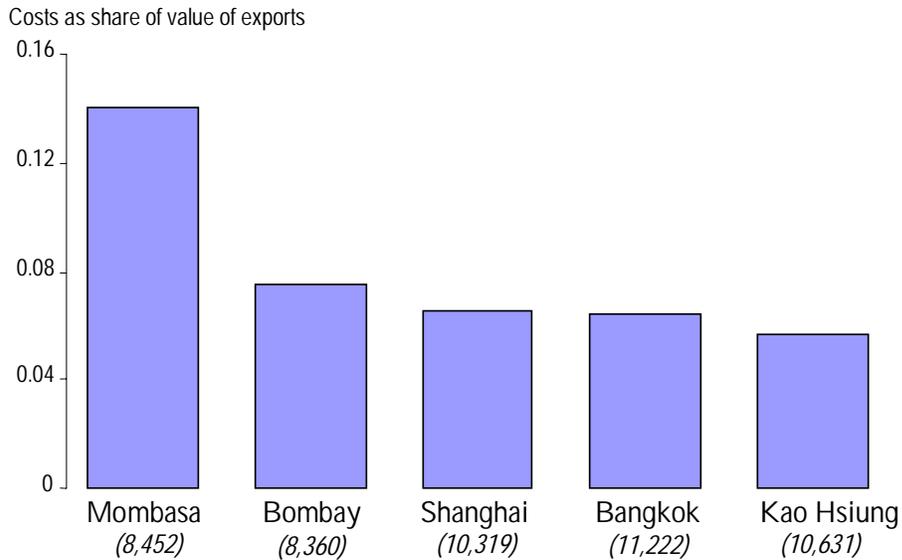


Map 1. GDP density



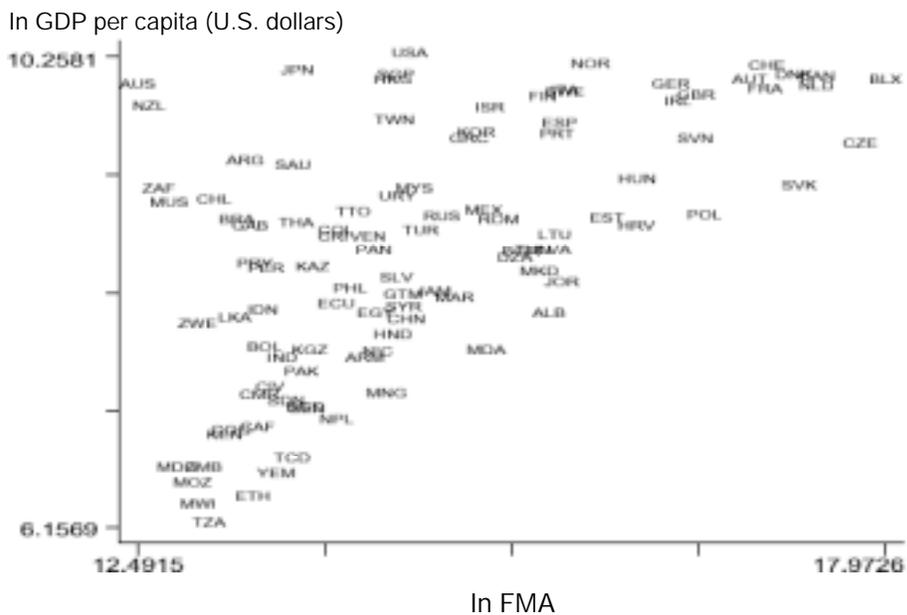
Source: Gallup and Sachs (1999)

Figure 22. Maritime transport to the U.S. (East Coast): textiles



Source: Clark, Dollar, and Micco (2001)

Figure 23. GDP per capita and Foreign Market Access



Source: Redding and Venables (2000)