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Some Speculation on Growth and Poverty over the Twenty-First Century

If there is a unifying theme to the papers in this volume, it is that when it comes to globalization and poverty, it is very difficult to make broad generalizations. So it is a bit awkward in this concluding panel to be charged not only with making broad generalizations, but in extrapolating these generalizations to the future.

From the research presented here, it is apparent that the effects of greater trade in goods and capital on the poor are extremely complex and almost always depend on domestic institutions. Overall, it is very difficult to document rigorously the effects of trade liberalization on poverty. The effect of globalization on health among the poor (and others) is similarly complex, trading off the faster spread of disease with faster spread of knowledge about treatment and other benefits. No matter how globalization is modeled, one still needs to rely heavily on innate productivity differences to explain why some countries and regions are rich while others are poor. There is great disagreement over what poverty is, with several plausible measures, depending on whether one regards poverty primarily as an absolute condition or a social condition. And it has also been shown that economic growth and happiness are not necessarily equivalent.

In this short note, I want to balance the discussion with a reminder that if the frame of reference is some absolute notion of poverty, then over the very long term, the trajectory of global growth is going to dominate all other factors. Thus one can expect that as global income inexorably expands over the next century, issues of inequality, rather than subsistence, will increasingly take center stage in the poverty debate. And at the end of this discussion, I will ponder the risks to growth, including the question of whether financial crises will continue to hold back countries as they attempt to cross the bridge from lower to upper middle income.

Suppose for a moment, one were to ignore all the many nuances stressed in this volume and hazard a guess about the evolution of global and regional incomes over the next century. What would it be? According to conventional estimates, current trend for per capita global growth appears to be about 3 percent a year (using purchasing power parity [PPP] weighted averages of individual country growth), with part of that driven by technological change in the leading edge countries (especially the United States) and part of it driven by catch-up from the rest of the world.[1] Estimates of the pace of technological change at the frontier vary, with 2 to 2.5 percent being the current consensus.[2] (With global population growth of just over 1 percent, this implies that medium-term trend global growth is about 4 percent.) When past growth is broken down across regions, Asian economies exhibit a period of sustained convergence to U.S. per capita income levels, while Latin America has generally failed to converge, with real income per adult remaining at about 25 percent of U.S. levels for the past fifty years.[3] Europe, after a sustained period of convergence up to the early 1980s (when gross domestic product [GDP] per adult reached about 70 percent of U.S. levels), has roughly kept pace. And many African countries, of course, have been falling farther and farther behind in relative income levels since gaining independence in the 1960s and 1970s.

How quantitatively important is long-term global growth relative to these regional differentials? If global per capita growth were to remain at 3 percent for the rest of the century, world per capita income would rise seventeenfold by the year 2100. Even with productivity growth at 2 percent, global per capita income would still rise almost sevenfold. Thus, even if Latin America failed to converge at all in the coming century, its income levels in 2100 would still be four times those in the United States today under the continued 3 percent trend scenario, and a 50 percent increase compared to United States income levels under the low-growth scenario. Suppose that Europe performs catastrophically, and every prediction of its demise proves true, and relative income levels fall by two-thirds relative to that of the United States.[4] Europeans in the year 2100, condemned to living like nonconverging Latin Americans, would still enjoy a measured income between two and four times that of ultrarich Americans today. Or take China. Chinese income levels, measured at PPP, stand at about one-

1. International Monetary Fund (2003).
2. See International Monetary Fund (2001).
3. Cole and others (2004).
4. In fact, given normal catch-up and volatility in world real income levels, the opposite result is far more likely, that European income levels will equal or exceed those of the United States by the 2050.

eighth that of the United States today.[5] If per capita income growth in China were to rise at a measly 3 percent over this century, Chinese citizens would start out the next century at twice the income levels of today's Americans.[6] The other population giant, India, starts out from a lower base than China—one-fourteenth of U.S. levels—but the basic point is the same. A modicum of continued convergence will assure these countries of a very high overall standard of living in ninety-six years. Even in the absence of *any* convergence, income levels will approximate or exceed those of Americans today.

Of course, this whole calculation underscores the extent to which poverty is fundamentally a relative measure. I would hazard to guess that by the end of the twenty-first century, the World Bank's (or its successor's) index of poverty will use benchmarks like $10 or $25 a day (or whatever the unit of account is converted to 2004 dollars). Even ignoring Africa, leading thinkers will still see poverty as a deep issue, albeit assuming a different nature than it has right now.

All far too glib, the reader will object. What about Africa, a continent still ravaged by political instability and disease and showing no signs of convergence?[7] The two largest economies in sub-Saharan Africa, South Africa and Nigeria, are still very much in transition, with as much possibility to sink as to swim. The picture in the Middle East is not much brighter. Indeed, per capita income growth in North Africa and the Middle East has been almost as weak as that in sub-Saharan Africa over the past twenty-five years.[8] And what of the fact that there are countries with enormous income inequality? The 450 million people in coastal China enjoy a distinctly twenty-first-century lifestyle, whereas hundreds of millions in agricultural provinces still subsist on $1 to $2 a day. Even in the United States, both income and wealth inequality have grown since 1980—although wealth inequality now appears largely due to the richest of the rich gaining share.[9]

Indeed, these are all valid concerns, and they underscore the point that poverty is a complex political, social, and economic phenomenon that is likely to remain with us for a very long time. In the long run, global social welfare depends fundamentally on fairness and happiness (as Carol Graham has empha-

5. World Bank (2004).

6. Admittedly, one has to have a fair bit of faith in the PPP conversions to make this strong statement, since at market exchange rates, per capita income in China is less than one-thirtieth that of the United States.

7. Ignoring the controversies over what is the right benchmark for poverty, I find Sala-i-Martin's (2002) projection that the locus of global poverty is inexorably shifting to Africa, and away from Asia, on point.

8. International Monetary Fund (2003).

9. See Kopczuk and Saez (2004).

sized in this volume). But one nevertheless has to recognize that if global growth continues apace during the next century, Malthusian notions of poverty are likely to become a distant memory in most parts of the world.

This happy state of affairs—that technology cum globalization will lead to a sharp remission in poverty this century—depends critically on the continued technological progress in the leading edge countries (presently the United States, European nations, and Japan). Is this plausible? Well, one can certainly think of reasons for deceleration. Conflict is the leading scourge of growth. If, for example, the United States is forced to take much stronger measures to control terrorism, this could lead to a sharp retreat from globalization and trade and have huge indirect costs on growth. (Apologies to those who see the evidence as ambiguous). For example, suppose the United States decides it has to routinely x-ray incoming ship cargoes much the way it now does airline passengers and their baggage. It is easy to imagine how this would have a chilling effect on growth. Hummels calculates that, for manufacturers, adding a day's delay to shipping is equivalent to adding a 0.8 percent ad valorem tariff.[10] Or, more immediately, suppose the United States continues to make it much more difficult for foreign scientific and lab workers to obtain visas? One could easily imagine a fall in the trend of U.S. growth of half a percent or more.

Conversely, however, one can imagine reasons why the rate of technological change will increase rather than decrease from the accelerated pace witnessed over the past decade. One can easily imagine that outsourcing, Internet universities, and, in general, greater globalization will lead to a faster rather than slower rate of technological progress, as Michael Kremer has famously emphasized.[11] If so, then the 2 percent-plus pace suggested in the 2001 projection from the IMF (International Monetary Fund) may be much too modest. If the rate of growth of technological progress rose to 3 percent from 2 percent, and if global per capita GDP growth averaged 4 percent over this century, then global per capita output would rise fortyfold by 2100.

Outside of wars, terrorism, disease, and global warming, there is one important glitch that needs to be emphasized, one that could hamper global growth even if technological progress were either sustained or accelerated. That is the prospect of financial crises, both global and domestic. As was first emphasized by Gurley and Shaw and by McKinnon, increasing financial sophistication is required as a country rises from poor to middle income to rich.[12] As the sophistication of the economy increases, it becomes more complex and decentralized;

10. Hummels (2001).
11. Kremer (1993).
12. Gurley and Shaw (1955); McKinnon (1973).

thus more and more sophisticated financial markets and institutions are required to channel funds from savers to high-return projects. The problem is quite stark today in China, where saving exceeds 40 percent of income, yet most of the funds are channeled through politically controlled, actuarially bankrupt state banks that in turn channel the money to loss-making state firms. China has been able to maintain a torrid growth pace regardless, but bear in mind that at market prices, its per capita income is only $1,100 per person (in contrast to the over $4,500 per person based on the World Bank's PPP measure). The kind of financial system one needs to sustain a $1,000 per person (or even a $4,000 per person) economy is very different from the kind of financial system one needs to sustain a $40,000 per person economy such as the United States. At some point, China will need to deepen and broaden its financial markets. And as this process takes place, it will increasingly become vulnerable to financial crisis.

This is not to say that dirt-poor countries cannot have financial crises of a sort. As Reinhart and Rogoff note, many financially repressed African countries have experienced chronic macroeconomic crises, marked not only by banking collapses but also by very high inflation and massive exchange market distortions.[13] Typically, the government forces private citizens to put their money in banks, then forces the banks to turn around and lend the money to the government (as opposed to the private sector). The government defaults, the banks collapse, and there is a banking catastrophe. (Alternatively, the government can achieve the same end via very high inflation.) But although financial crises can and do occur in poor countries, the possibilities grow exponentially in middle-income economies that are rich enough to have sophisticated financial markets but still too weak institutionally and politically to regulate them. Borrowing from abroad, especially borrowing by the government, exacerbates the problem.

As Reinhart, Rogoff, and Savastano illustrate, serial defaults and financial crises have played a significant role in repressing growth in many emerging markets over the past 200 years.[14] Argentina's current default may be the largest and most spectacular, but it is the country's fifth, and it is not nearly the record holder. Turkey has had six; Brazil, seven; Mexico, eight; and Venezuela has had nine defaults, if one goes back to the 1820s. These defaults, mixed with periodic bouts of high inflation (effectively defaulting on domestic nondollarized debt) have deeply damaged domestic financial markets and been a major contributing factor in these countries' poor growth performances. (This pattern of crises, incidentally, long predates the existence of the IMF.) And, as Reinhart, Rogoff and Savastano also point out, today's emerging markets did not invent serial

13. Reinhart and Rogoff (2002).
14. Reinhart, Rogoff, and Savastano (2003).

default. Germany, France, Austria, and (especially) Spain and Portugal also went through similar traumas as they developed. (Spain managed to default thirteen times in the period since 1500.) Although the United States has never defaulted in quite the same way, the country experienced repeated banking crises in the 1800s, went off the gold standard during the Civil War, devalued its currency in terms of gold in the 1930s during the Great Depression, and inflated away a significant part of its debt in the 1970s. The Asian countries, aside from Indonesia in the 1960s, had done a remarkable job of escaping the same fate during their post–World War II growth spurt up to the 1990s, but they, too, experienced problems then and likely will again before this century is out.

Has the world become notably better at dealing with financial crises? That is a topic for another day, but the short answer is "a little bit." The move toward more flexible exchange rates is a major positive step forward, since fixed exchange rates are the number one culprit in most international financial crises.[15] And yet some regions, such as Asia, have actually reverted back to more fixed rates. Regardless of whether one views the IMF as helpful or not, there is no question that its resources have dwindled sharply relative to global capital flows and to world income. If China, whose economy is more than twice the size of Brazil's, were to have a major financial meltdown, the IMF would be hard pressed to assist. Its total resources ($150 billion plus another $30–40 billion in loosely agreed credit lines) pale next to China's $1.5 trillion economy, not to mention its $400-plus billion in reserves. (Indeed, China is better positioned to bail out the IMF than vice versa.)

The problems of addressing global poverty are profound and involve social, economic, health, and political dimensions as emphasized in this volume. And there is a strong moral case for transferring large sums from rich to poor, as Bulow and I advocated fourteen years ago.[16] However, any back-of-the-envelope calculation still shows that the big gains to eradicating poverty over the coming century come from maintaining normal growth, spiked by continued convergence where possible. And one of the big risks to sustaining growth is financial crises, especially as developing countries become richer and more financially sophisticated. Whatever the antiglobalist rhetoric, the fact is that continued global growth is going to be by far the main driver in global poverty reduction over the coming century. And poverty will increasingly be recognized as primarily a relative phenomenon.

15. See Obstfeld and Rogoff (1995).

16. Bulow and Rogoff (1990) advocate converting the World Bank to a grants-only institution and raising total U.S. aid to 5 percent of GDP.

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