

110 ■ Glenn Firebaugh

The New Geography of Global Income Inequality

The new geography of inequality—not to be confused with the “new economic geography” that arose in economics in the 1990s (Fujita, Krugman, and Venables 1999)—refers to the new pattern of global income inequality caused by the recent phenomenon of declining inequality across nations accompanied by (in many places) rising inequality within nations. This phenomenon, which began in the last third of the twentieth century and continues today, results in a “new geography” because it represents the reversal of trends that trace back to the early stages of Western industrialization. Put in the perspective of an individual, the new geography of global income inequality means that national location—while still paramount—is declining in significance in the determination of one’s income.

Despite a recent surge of interest in global inequality, researchers have largely overlooked its changing contour. Studies of global income inequality over the last decades of the twentieth century have been preoccupied with the problem of global divergence, that is, the presumed problem of worsening income inequality for the world as a whole (for example, Wade 2001; Milanovic 2002). This preoccupation with global divergence is misguided, first, because global income inequality almost certainly declined over this period and, second, because the focus on the level of global income inequality has diverted attention from the changing nature of global income inequality in recent decades. Global income inequality is no

worse today than it was in the 1960s and 1970s, but global income inequality is nevertheless changing—it is gradually shifting from inequality across nations to inequality within nations. The rising importance of within-nation inequality and declining importance of between-nation inequality represents a historic change, since it involves the reversal of a trend that began with the uneven industrialization of the world that started more than two centuries ago.

This chapter contrasts the New Geography Hypothesis with the popular view that globalization—by which I mean the increased interconnectedness of localities, particularly the deepening of economic links between countries—has led to growing global income inequality:

Globalization → global inequality.

For short, I call this popular view the Trade Protest Model, because the protests against the World Trade Organization in Seattle and elsewhere were driven at least in part by the assumption that global trade is exacerbating global inequality. To place the New Geography Hypothesis in context, it is useful first to examine five myths that underlie the globalization → global inequality model.

Myths of the Trade Protest Model

Under the heading “Siege in Seattle,” the December 13, 1999, issue of the U.S. mag-

azine *Newsweek* gave this account of the protests surrounding the meeting of the World Trade Organization in Seattle, Washington:

Until last week, not so many Americans had even heard of the WTO. Fewer still could have identified it as the small, Geneva-based bureaucracy that the United States and 134 other nations set up five years ago to referee global commerce. To Bill Clinton, it is a mechanism that can allow America to do well and good at the same time. But to many of the 40,000 activists and union members who streamed into Seattle—a clean, scenic city that has grown rich on foreign trade—the WTO is something else again: a secretive tool of ruthless multinational corporations. They charge it with helping sneaker companies to exploit Asian workers, timber companies to clear-cut rain forests, shrimpers to kill sea turtles and a world of other offenses.

Media accounts grappled with the sheer diversity of the protesters, from leaders of U.S. labor to members of environmental groups to a leading Chinese dissident. The common thread seemed to be, as the *New York Times* (1999) put it, the view that the WTO is a “handmaiden of corporate interests whose rulings undermine health, labor and environmental protections around the world.” According to *The Economist* (1999), “The WTO has become a magnet for resistance to globalisation by both old-fashioned protectionists and newer critics of free trade.”

Some of the protest groups emphasized rising inequality as among the most noxious consequences of increasing trade globalization. For example, Ralph Nader’s Public Citizen group portrays the WTO as a tool of big business “which is harming the environment and increasing inequality” (*The Economist* 1999), and representatives of 1,448 non-governmental organizations protesting the

WTO signed a statement claiming that “globalisation has three serious consequences: the concentration of wealth in the hands of the multinationals and the rich; poverty for the majority of the world’s population; and unsustainable patterns of production and consumption that destroy the environment” (*New Scientist* 1999). Note that two of the three consequences—concentration of wealth and impoverishment of the majority—tie globalization directly to growth in inequality.

Global income inequality is the result of the interplay of multiple causes, of course, so serious analyses are unlikely to give an unqualified endorsement to the notion that globalization has automatically resulted in an explosion in global income inequality. Global inequality existed before the recent growth in world trade, and it would persist if nations suddenly stopped trading. Nonetheless, popular literature on globalization has tended to fuel the belief in a globalization-led explosion in global income inequality by making claims that purport to be grounded in the findings of serious scholarly analyses. Upon closer inspection, however, many of the claims fly in the face of available empirical evidence. This section examines the key myths that underlie the globalization → global inequality model.

Myth 1. The Myth of Exploding Global Income Inequality. A steady drumbeat of reports and articles claims that the world’s income is becoming more and more unequally distributed. Here is a sample:

- “Globalization has dramatically increased inequality between and within nations” (Jay Mazur, 2000, in *Foreign Affairs*).
- “The very nature of globalization has an inherent bias toward inequality. . . . One would have to be blind not to see that globalization also exacerbates the

disparity between a small class of winners and the rest of us” (Paul Martin, Canada’s prime minister, June 1998, quoted in Eggertson 1998).

- “Along with ecological risk, to which it is related, expanding inequality is the most serious problem facing world society” (Anthony Giddens, 1999).
- “Thus, overall, the ascent of informational, global capitalism is indeed characterized by simultaneous economic development and underdevelopment, social inclusion and social exclusion. . . . There is polarization in the distribution of wealth at the global level, differential evolution of intra-country income inequality, and substantial growth of poverty and misery in the world at large” (Manuel Castells, 1998, p. 82, emphasis omitted).

What I have found (Firebaugh 2003) is that global income inequality has not exploded but in fact leveled off and then declined in the last part of the twentieth century. Although income inequality rose somewhat in the average nation, income inequality declined across nations. Since between-nation inequality is the larger component of global income inequality, the decline in between-nation income inequality more than offset the rise in within-nation income inequality. As a result, global income inequality declined in the last years of the twentieth century. Sherlock Holmes was right: it is a capital mistake to theorize in advance of the facts (Doyle 1955, p. 507). With respect to global income inequality, much mischief has been done by theorizing about global income inequality on the basis of the views expressed above. Theorizing based on the widespread view of exploding global income inequality is theorizing based on facts that aren’t.

Myth 2. The Myth of Growing Income Inequality Across Nations, as Rich Nations Surge

Ahead and Poor Nations Fall Further Behind. The first myth—exploding global inequality—is based on a second myth, the myth that inequality is growing across nations. The second myth is as widespread as the first, and it has been fueled by widely circulated reports of international agencies:

- “Figures indicate that income inequality between countries has increased sharply over the past 40 years” (World Bank 2000b, *World Development Report 2000/2001*, p. 51).
- “The average income in the richest 20 countries is 37 times the average in the poorest 20—a gap that has doubled in the past 40 years” (International Monetary Fund 2000, p. 50).
- “Gaps in income between the poorest and richest people and countries have continued to widen. In 1960 the 20% of the world’s people in the richest countries had 30 times the income of the poorest 20%—in 1997, 74 times as much. . . . Gaps are widening both between and within countries” (United Nations Development Program 1999, *Human Development Report 1999*, p. 36).
- “It is an empirical fact that the income gap between poor and rich countries has increased in recent decades” (Ben-David, Nordström, and Winters 1999, World Trade Organization special study, p. 3).
- “In 1960, the Northern countries were 20 times richer than the Southern, in 1980 46 times. . . . [I]n this kind of race, the rich countries will always move faster than the rest” (Sachs 1992, *The Development Dictionary*, p. 3).

The myth of growing income inequality across nations is based in large part on a misinterpretation of the widely cited finding (for example, World Bank 2000b, p. 50) that income growth has tended to be slower in poor

nations than in rich nations. As we shall see, this positive cross-country association between income level and income growth rate conceals the critical fact that the poor nations that are falling badly behind contain no more than 10 percent of the world's population, whereas the poor nations that are catching up (largely in Asia) contain over 40 percent of the world's population. When nations are weighted by population size—as they must be if we want to use between-nation inequality to draw conclusions about global income inequality—we find that income inequality across nations peaked sometime around 1970 and has been declining since. This peaking of between-nation income inequality circa 1970 is particularly interesting in light of Manuel Castells's (1998, p. 336) well-known claim that a "new world" originated in the late 1960s to mid-1970s. Ironically, though, Castells characterizes the world born in this period as a world of sharply increasing global inequality, and many other globalization writers make the same error.

I have debunked myth number 2 first by replicating the United Nations/World Bank results and then by demonstrating how they have been misinterpreted (Firebaugh 2003). In addition to the weighting problem just mentioned, the claims of growing inequality often ignore nations in the middle of the income distribution, focusing instead on selected nations at the tails. When the entire income distribution is used, and when individuals are given equal weight, we find that—far from growing—income inequality across nations declined in the late twentieth century.

Myth 3. The Myth That Globalization Historically Has Caused Rising Inequality Across Nations. Contrary to this myth, the trend in between-nation inequality historically has not followed changes in the trend in world economic integration. First, although it is true that between-nation income inequality increased dramatically over the nineteenth and

early twentieth centuries, Peter Lindert and Jeffrey Williamson (2000) argue that the period of rising inequality across nations began *before* the period of true globalization started, so globalization apparently did not cause the upturn. Second, the sharp decline in globalization between World War I and World War II did not result in declining inequality across nations (to the contrary, between-nation income inequality shot up rapidly over the period). Finally, income inequality across nations has declined in recent decades, during a period when globalization has presumably reached new heights. (I say "presumably" because globalization is itself a contentious issue: see Guillén 2001. Nonetheless virtually all agree that the world has become more economically integrated over recent decades, even if the degree of globalization is often overstated, as Chase-Dunn, Kawano, and Brewer 2000, among others, have noted.) In short, the rise in global inequality predates the rise in globalization, global inequality has risen while globalization was declining, and currently global inequality is declining while globalization is rising. It is hard then to make the case historically that globalization is the cause of rising income inequality across nations (O'Rourke 2001).

Myth 4. The Myth of a Postindustrial World Economy. In reading the globalization literature it is easy to lose sight of the fact that, until recently, most of the world's people were engaged in agriculture. So the world's workforce is barely postagricultural, much less postindustrial. This book makes the point that the primary engine still driving the growth in world production is more manufacturing. A new information age might be on the way, but it is not here yet—at least it is not here for most of the world's people. It is important to look ahead, of course, and it is hard to argue against the view that the world will eventually be

postindustrial. The death of industrialization is nonetheless much exaggerated, as is the view that we are rapidly approaching an information-based global economy (Quah 1997). Estimates of the composition of global output, albeit rough approximations, rule out the claims of some globalization writers that we live in a new economic era quite unlike the era of the last generation. Industrialization was important in the nineteenth century, it was important in the twentieth century, and it remains important in most regions of the world in the twenty-first century. A preoccupation with postindustrialization in the face of the continuing diffusion of industrialization results in an incomplete and distorted story of global income inequality that deemphasizes the critical role of the continuing spread of industrialization to all regions of the world. Computers are important, but they are not all-important. In accounting for recent trends in global income inequality, the bigger story is industrial growth in Asia, not technological growth in the West.

Myth 5. The Myth of International Exchange as Inherently Exploitative. Globalization involves increased exchange over national boundaries. One might posit that increased exchange worsens global inequality under some historical conditions and reduces it under other conditions. Until those historical conditions are identified and understood, the effect of globalization on global income inequality at any point in time is an open question to be settled empirically.

But if international exchange is inherently exploitative, as some theories of world stratification insist, then rising exchange implies rising exploitation, and the Trade Protest Model is true virtually by definition. The Trade Protest Model then becomes:

Globalization → more exploitation of poor nations by rich nations → greater global inequality

Note that this elaboration of the Trade Protest Model reveals how high the theoretical stakes are with regard to empirical tests of the globalization → global income inequality model, since the failure of globalization to lead to rising global income inequality would undermine exploitation theories (for example, dependency theories) as well as undermining the Trade Protest Model.

I have presented evidence that increasing international exchange over recent decades has been accompanied by declining—not rising—income inequality across nations (Firebaugh 2003). Other studies also document declining between-nation income inequality over recent decades. The decline in between-nation inequality has significant theoretical implications. The assumption of inherent exploitation favoring rich nations in international exchange is the linchpin of some theoretical schools. But if international exchange were inherently exploitative, we would not expect to observe declining inequality across nations during a period of rising international trade. Yet the assumption persists, suggesting that in some theories the notion of inherent exploitation is so essential that it enjoys creedal status as a doctrine to be believed rather than as a hypothesis to be tested.

Causes of the Reversal: An Overview

I argue that the world's spreading industrialization and growing economic integration in the late twentieth century and the early twenty-first have reversed the historical pattern of uneven economic growth favoring richer nations. The conventional view, just elaborated, is that globalization has exacerbated global income inequality. The evidence challenges that view. In reality globalization has offsetting effects—by spurring industrialization in poor nations, globalization raises inequality within many nations and compresses inequality across nations. The net effect has been a reduction in global income

inequality in recent decades, since the reduction in between-nation income inequality has more than offset the growth in within-nation income inequality.

The new pattern of rising within-nation and falling between-nation income inequality has multiple causes. The most important cause is spreading industrialization—the diffusion of industrialization to the world's large poor nations. The diffusion of industrialization to poor regions compresses inequality across nations and boosts inequality within them. The effect of spreading industrialization on between-nation inequality is reinforced by the effect of the growing integration of national economies. Growing economic integration tends to dissolve institutional differences between nations. The convergence of institutional economic goals and policies compresses inequality across nations by (in some instances at least) removing impediments to growth in poor nations.

There are at least four other significant causes of the new geography of global inequality. The first is technological change that reduces the tyranny of space in general and more particularly reduces the effect of labor immobility across national boundaries. This technological change works to reduce inequality across nations. The second is a demographic windfall that has benefited some poor Asian nations in recent decades and promises to benefit other poor nations in the near future. This effect also operates to compress global income inequality, by reducing between-nation inequality. The third is the rise of the service sector, especially in richer nations. Growth in this sector has boosted income inequality within nations, and it is likely to do so in the future as well. The fourth is the collapse of communism, which also boosted within-nation inequality. This is a nonrecurring event, however, so its effect on within-nation inequality is limited to a specific point in history, the 1990s.

In short, the decline in between-nation income inequality that began in the late twen-

tieth century was caused by deepening industrialization of poor nations, by growing economic integration that dissolves institutional differences between nations, by technological change that reduces the effects of labor immobility across national boundaries, and by a demographic windfall that has benefited some poor nations and promises to benefit others in the future. The growth in within-nation income inequality was caused by the deepening industrialization of poor nations, by the growth of the service sector, and by the collapse of communism.

The Inequality Transition

The industrialization of richer nations in the nineteenth century and first half of the twentieth caused income inequality across nations to explode. As a result, global income inequality shifted from inequality within nations to inequality across nations. Now, however, poorer nations are industrializing faster than richer ones are, and between-nation inequality is declining while within-nation inequality appears to be rising. If this turnaround continues, future historians will refer to an inequality transition that accompanied world industrialization. That transition is from within-nation inequality to between-nation inequality back to within-nation inequality, with the late twentieth century as the period when the shift back to within-nation income inequality began.

Phase 1 of the Transition: From Within- to Between-Nation Inequality

Phase 1 of the inequality transition coincides with the period of Western industrialization that began in the late eighteenth century and ended in the second half of the twentieth century. The first phase of the inequality transition was characterized by unprecedented growth in income inequality across nations. As Lant Pritchett (1996, p. 40) puts it, “the overwhelming feature of modern economic

history is a massive divergence in per capita incomes between rich and poor countries.” The evidence is incontrovertible. First, it is clear that current levels of between-nation income inequality would not have been possible earlier in human history. Again quoting Pritchett (1997, pp. 9–10): “If there had been no divergence, then we could extrapolate backward from present income of the poorer countries to past income assuming they grew at least as fast as the United States. However, this would imply that many poor countries must have had incomes below \$100 in 1870 [in 1985 U.S. dollars]. Since this cannot be true, there must have been divergence.”

Second, Pritchett’s conclusion that “there must have been divergence” is supported by estimates of between-nation income inequality in the nineteenth century. Consider the recent estimates of Bourguignon and Morrisson (1999). Bourguignon and Morrisson use the Maddison (1995) data to estimate changes in the level of between-nation income inequality from 1820 to 1992. Because their objective is to estimate total world income inequality—not just between-nation income inequality—Bourguignon and Morrisson begin by disaggregating national income data into vintiles (5 percent groups, that is, twenty income groups per nation). National boundaries have changed over the past two centuries, of course, and nations have come and gone over the past two centuries. Even in nations where boundaries remained constant, we do not always have income data for the entire period. To overcome these problems, Bourguignon and Morrisson grouped the 199 nations with income data in 1992 into 33 homogeneous groups, each of which represented at least 1 percent of the world population or world GDP in 1950. The 33 groups include single nations (such as China and the United States) as well as large groups of small nations and small groups of medium-sized nations. From these 660 data points (33 nation groups \times 20) it is a straightforward matter to apply the population-weighted formulas for the Theil index and the

mean logarithmic deviation (MLD)—two measures of inequality—to calculate summary measures of the world’s total inequality for different years. By collapsing the 199 nations into 33 groups, Bourguignon and Morrisson are able to extend their inequality series back to 1820. Note that, to the extent that their grouping strategy introduces bias, the bias is in the direction of underestimating between-nation inequality and inflating within-nation inequality, since some of the inequality within the nation groups is actually between-nation inequality. But that bias should not affect our basic conclusions about the relative growth in between-nation and within-nation income inequality over the past two centuries.

The results are striking (Figure 1). Two facts stand out. First, the B/W ratio—the ratio of between-nation to within-nation income inequality—is much higher now than it was in the early stages of Western industrialization. The increase in the B/W ratio reflects both a rise in between-nation income inequality and a decline in within-nation income inequality since 1820 (Table 1). By far the greater change is in between-nation income inequality, however. The Theil index for between-nation income inequality (actually, inequality between nation *groups*) shot up from 0.061 in 1820 to 0.513 in 1992, and the MLD shot up from 0.053 in 1820 to 0.495 in 1992. As anticipated, then, the Industrial Revolution of the past two centuries has increased income inequality across nations, but the magnitude of the increase is stunning. There has been a metamorphosis from a world where poverty was the norm in all nations to a richer world with much lower poverty rates (Bourguignon and Morrisson 1999, Table 1) but also with much greater income inequality across nations. Because the steep rise in between-nation income inequality was not accompanied by an increase in inequality within nations, where you live—your nation—is much more important in determining your income in today’s world than it was in the preindustrial world.

The Reversal of Historical Inequality Trends

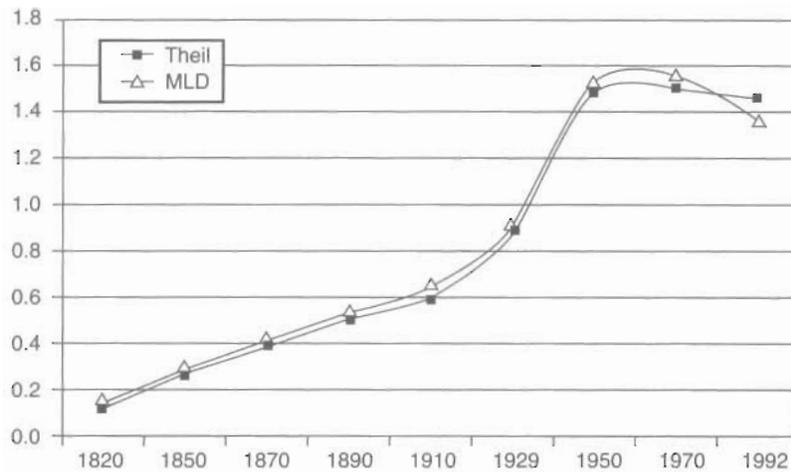


Figure 1. Ratio of Between-Nation to Within-Nation Income Inequality for Thirty-three Nation Groups, 1820–1992

Based on Table 1. Theil and MLD are measures of inequality

Table 1. Trends in Income Inequality Between and Within Thirty-three Homogeneous Nation Groups, 1920–1992

Year	Between-nation groups		Within-nation groups	
	Theil	MLD	Theil	MLD
1820	.061	.053	.472	.388
1850	.128	.111	.477	.393
1870	.188	.162	.485	.399
1890	.251	.217	.498	.408
1910	.299	.269	.500	.413
1929	.365	.335	.413	.372
1950	.482	.472	.323	.309
1970	.490	.515	.324	.330
1992	.513	.495	.351	.362

Source: Bourguignon and Morrisson (1999), table 3.

Estimates: Between-nation groups: From Bourguignon and Morrisson (1999), based on Maddison (1995) data set. *Within-nation groups:* From Bourguignon and Morrisson (1999), based on updating of Berry, Bourguignon, and Morrisson (1983a,b) for the post-World War II period and on various sources (for example, Lindert 1999; Morrisson 1999) for the pre-World War II period. Bourguignon and Morrisson (2002) published modestly revised estimates for inequality. By collapsing vintiles to deciles, they report slightly lower estimates of inequality within the nation groups, but the fundamental conclusions are the same.

Note: Income measures are adjusted for purchasing power parity, and inequality measures are based on income vintiles (see Bourguignon and Morrisson 1999 for elaboration).

The second fact that stands out is that the growth in the *B/W* ratio stalled in the second half of the twentieth century. The *B/W* ratio stopped growing in the second half of the

twentieth century because growth in inequality across the nation groups has slowed dramatically since 1950. In the four decades after 1950, income inequality across the nation

groups increased by 6 percent using the Theil index and by 5 percent using the MLD. Over the four decades prior to 1950, the Theil had grown about 60 percent and the MLD had grown about 75 percent. Apparently the most dramatic effects of Western industrialization on between-nation inequality are over. After more than a century of sharp divergence in national incomes, the trend has been much more stable in recent years. This finding is in line with the findings of others (for example, Schultz 1998; Firebaugh 1999; Melchior, Telle, and Wiig 2000; Goesling 2001) who, drawing on data for individual nations instead of nation groups, find that between-nation income inequality is no longer rising. As we shall see later, between-nation income inequality declined in the late twentieth century when income data for the 1990s are added to data for the 1970s and 1980s.

Finally, it should be emphasized that the results here are so strong that the historical story they tell of increasing inequality across nations and of a rising B/W ratio cannot be dismissed as due to error in the data. To be sure, income estimates for the nineteenth century are gross approximations for many nations. But even if we make the extreme assumption that incomes are so drastically overstated for poorer nations in 1820 (or so drastically understated for richer nations in 1820) that the Theil and the MLD estimates understate between-nation income inequality in 1820 by a factor of three, that would still mean that between-nation income inequality tripled from 1820 to 1992 (from 0.18 to 0.51 based on the Theil index and from 0.16 to 0.50 for the MLD), and the B/W ratio still would have more than tripled for both inequality measures.

Phase 2 of the Transition: From Between-Nation Back to Within-Nation Inequality

The second phase of the inequality transition began in the second half of the twentieth century, with the stabilization of between-

nation income inequality in the 1960–1990 period and the decline in between-nation inequality beginning in earnest in the 1990s. Social scientists hardly have a stellar track record for predictions, especially with regard to sweeping predictions such as the one made here. Nonetheless there is sufficient theory and evidence that we can plausibly forecast that the B/W ratio will continue to decline in the twenty-first century.

The prediction of a declining B/W ratio is based on two separate conjectures. The first conjecture is that between-nation income inequality will decline, and the second conjecture is that within-nation income inequality will rise, or at least will not decline. These conjectures are based on the causes of the current trends, which I expect to continue and in some cases to intensify. (I am assuming that there will be no cataclysmic upheaval in the twenty-first century, such as a global war or a worldwide plague.) Recall the causes listed earlier for the inequality turnaround in the late twentieth century. I expect the major causes to continue, so between-nation income inequality will decline because of the continued industrialization of poor nations, because of the continued convergence of national economic policies and institutions arising from growing economic integration of national economies, because of the declining significance of labor immobility across national borders, and because of a demographic windfall for many poor nations. Within-nation income inequality will rise—or at least not decline—because of the continued industrialization of poor nations and because of continued growth in the service sector. Because between-nation inequality is the larger component, global income inequality will decline.

The conjecture of declining global income inequality is out of step with much of the globalization literature. A recurring theme in that literature is that we have entered a new information-based economic era where productive activity is becoming less dependent

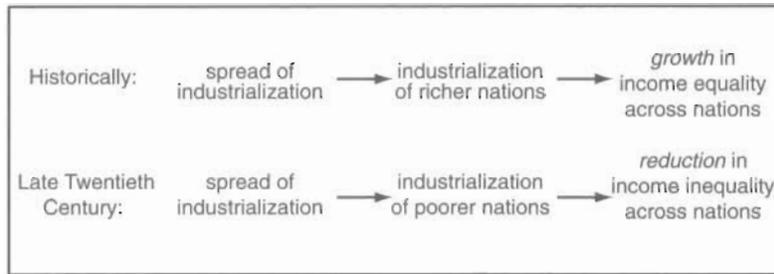


Figure 2. Industrialization and Between-Nation Income Inequality: Historically and in the Late Twentieth Century

on physical space, as a rising share of the world's economic output is produced in electronic space that knows no national borders (Sassen 2000). This phenomenon is possible because of the emergence of a global economy where income—and hence income inequality—is becoming increasingly rooted in knowledge rather than in capital goods (Reich 1991). What do these developments imply for global income inequality? For many globalization writers, the answer is clear: global inequality is bound to worsen because of the growing “global digital divide” that enlarges the gap between the “haves” and the “have-nots” (Campbell 2001; Ishaq 2001; Norris 2001).

The theoretical argument that a shift to a knowledge-based global economy would worsen global income inequality is shaky. It is not hard to think of reasons why the shift from an industrial-based to a knowledge-based global economy would reduce, not increase, inequality across nations. Knowledge is mobile, especially with today's telecommunication technologies that permit virtually instant worldwide codification and distribution of knowledge. In addition, because knowledge can be given away without being lost, the notion of property rights is more problematic in the case of knowledge, so it is harder to concentrate and monopolize knowledge across nations than it is to concentrate and monopolize capital goods across nations. Hence the switch to a knowledge-based global economy should mean that one's income is increasingly

determined by how much knowledge one obtains and uses as opposed to where one lives. The tighter link between knowledge and income in turn implies declining income inequality across nations and rising inequality within nations since—absent institutional barriers . . . —the variance in individuals' ability to obtain and benefit from knowledge is greater within nations than between them.

The issue of how the new information age will affect global inequality in the near term is not as decisive as often imagined, since as already noted, the coming of the information age is often much exaggerated. What is still most important in today's world is industrialization for the many, not digitization for the few. Historically the spread of industrialization has been the primary force driving the growth in between-nation income inequality. The initially richer nations of the West were the first to industrialize, and the poorer nations of Asia and Africa lagged behind. The new geography of inequality is also driven by the spread of industrialization, but the effects are different today: now the spread of industrialization means the diffusion of manufacturing technology to the world's largest poor regions. In recent decades inequality has declined across nations as industrialization has been an engine of growth in the most populous poor regions of the world, especially East Asia. That growth has worked both to compress inequality across nations (Figure 2) and to boost inequality within the industrializing nations.

The significance of this continuation of world industrialization has been lost in much of the literature on globalization, because of preoccupation with the idea that we are witnessing the emergence of a new knowledge-based technology regime. To be sure, in the categories used to classify world production, the output of the so-called service sector is estimated to exceed the output of the industrial sector for the world as a whole (World Bank 1997, table 12). Yet much of the service sector—an amorphous sector that includes wholesale and retail trade, the banking industry, government, the transportation industry, the commercial real estate industry, and personal services (including health care and education)—has arisen to grease the wheels of industry. Aside from the growth in personal services and government, much of the growth in the service sector has been for services for producers, not consumers—for example, the rise of an engineering industry to design better machines, and the growth of a banking industry and a commercial real estate industry for commercial transactions. In addition, many of the other so-called service industries—the transportation industry that distributes manufactured goods, for example, and the specialized retailing industry that sells the goods—benefit producers as well as consumers. In short, a significant portion of the growth in service industries over the past century can be seen as ancillary to the industrialization process.

With regard to income inequality within nations, we expect the continuing spread of world industrialization to boost inequality along the lines of the classic argument, from Simon Kuznets (1955), that industrialization boosts inequality (at least initially) as workers move from the lower-wage but larger agricultural sector to the higher-wage industrial sector. Importantly, this argument suggests that income inequality increases in poor nations as they industrialize because of income gains, not income losses. In other words, inequality

grows not because some people are becoming poorer but because some people are becoming richer, so the growth in income inequality in poor nations as they industrialize reflects rising rather than declining fortunes. If the industrialization of large poor nations does boost income inequality in those nations, at this juncture in history the continued spread of industrialization implies growth in income inequality in the average nation, because those nations are home to such a large fraction of the world's population. And there are no obvious counterforces on the horizon. Although the jump in income inequality following the collapse of communism in Eastern Europe and the former USSR is not likely to be repeated, there is no good reason to expect income inequality in those nations to fall in the near future. Nor is there any good reason to expect income inequality to decline notably in the West in the near future, either. We lack reliable inequality data for many African nations, but even if inequality were falling rapidly (which is unlikely), the effect of falling within-nation inequality in Africa would not offset the effect of rising within-nation inequality in Asia, given the relative sizes of the two regions. Few expect within-nation income inequality to decline sharply in Latin America in the near future, even though Latin America currently exhibits the highest level of within-nation income inequality of the world's major regions. Indeed, because of the advantage enjoyed by North American farmers with respect to some types of produce, economic integration in the Americas could exacerbate inequality by removing protections for farmers in Latin America. If that reasoning is correct, there is merit in the concern of WTO protesters that globalization may exacerbate income inequality within some poor nations by driving down incomes in the lower-income agricultural sector. But the bigger story is that industrialization (not the collapse of farm prices) will tend to drive up inequality within

nations, at least initially. Because many nations are still on the part of the Kuznets (1955) curve where migration from farm to factory boosts inequality, we can anticipate further growth in within-nation income inequality in the early decades of the twenty-first century.

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