5

Taking Stock of the Facts

A consistent picture emerges about poverty, inequality, and growth during the era of globalization. There was strong growth in the developing world during the period 1980-2000. During this period, the developing world started the process of catch-up and did so by clocking an extra 1.5 percent a year growth than was achieved by the industrialized world.

This good news about growth was counterbalanced by somewhat bad news on the inequality front. Intercountry inequality—the Kuznets curve stipulating worsening inequality in the developing world—was verified by several tests. The elasticity of the incomes of poor people (the bottom 20 percent) with respect to overall growth was observed to be only 0.8, a full 25 percent lower than the unity level required for the conclusion that ''growth was good for the poor.''

Moreover, instead of convergence in intercountry incomes, there appeared to be wide divergence—the rich countries almost doubled the relative gap with respect to the poorest countries. Fulfilling the fears of many, it was also observed that *individual* income inequality had worsened in the world, and most likely by a frighteningly high amount in the late 1980s and early 1990s. Thus the wishes of many, especially neoclassical economists, that the natural process of convergence would occur, and that intercountry inequality would decline, were belied.

Despite this inequality change, high growth might still have meant an improvement in the living standards of poor people. Mathematically, if mean growth is larger than mean worsening of inequality, vast proportions of poor people can still be better off. Unfortunately, this was not to be. It appears that the really significant reduction in poverty occurred in

the 1960-75 period—13 percentage points, from 51 to 38 percent for the world excluding China (see Ahluwalia, Carter, and Chenery 1979). The much publicized globalization period saw only a minuscule decline—5 percentage points, from 28 to 23 percent,[1] from 1987 to 1999.

The second half of this chapter discusses the basis for these results and asks whether they are plausible. It is contended that rocket science is not needed to differentiate between the various research products, and conclusions, available in the marketplace. ''Smell'' tests, or ''duck'' tests, can suffice. Simple consistency and plausibility checks when applied to conventional wisdom suggest that not all is right with the received *perception* of what happened during the era of globalization. But first, let us look at the overall picture.

The Global Pie, 1960-2000

Although it is little realized, in recent decades the developing world (again, the world excluding industrialized countries and Eastern Europe) has sharply increased its share of world population and world output (table 5.1 and figure 5.1). The population of poor countries constituted 71.4 percent of global population in 1960; today, this share is 81.3 percent. The developing world's share of global income was 29.3 percent in 1960; in 2000, this share had increased to 42.4 percent. So while its population share increased by 13 percent (log change), its income share increased by (log) 37 percent. In other words, welfare gains in poor countries exceeded those in rich countries by approximately 24 percent, and did so especially during the period of globalization.

But these facts are precisely the ones causing the apparent angst: so much growth in poor countries, and all of it in the wrong hands. The bottom half of the population received precious few benefits of growth, as ''revealed'' by the minuscule decline in the official world head count ratio (HCR). Rich people in poor countries had become considerably richer, perhaps at the expense of poor people in poor countries. These are the conclusions of the received wisdom—which may not be entirely right.

Inequality Trends

In a widely quoted essay, Wade reaches the correct conclusion:

> Anybody interested in the wealth and poverty of nations must be interested in what is happening to the global distribution of income. A lot turns on the question.

1. This decline is now for the entire developing world, including China; figures are from the World Bank.

Table 5.1 Global regions' shares of income and population (percent)

	Share of world population				Share of world income			
Region[a]	**1950**	**1960**	**1980**	**2000**	**1950**	**1960**	**1980**	**2000**
Asia	53.0	49.7	52.5	53.5	12.6	12.1	12.2	25.9
China and India	41.1	36.5	37.7	37.6	8.4	7.9	6.5	16.8
Sub-Saharan Africa	6.6	7.4	8.6	10.9	3.2	3.2	3.0	2.5
Middle East and North Africa	3.8	4.4	5.1	6.2	3.0	3.5	5.1	4.7
Latin America	6.2	7.2	8.2	8.5	7.7	7.9	9.9	8.4
Developing world[b]	72.0	71.4	76.9	81.3	28.8	29.3	32.5	42.4
Developing world, excluding China and India	31.0	35.0	39.2	43.7	20.4	21.4	26.0	25.6
Eastern Europe	10.2	10.4	8.7	6.8	11.2	11.3	12.6	6.1
Nonindustrialized world[c]	79.7	79.2	83.0	86.0	37.5	38.1	42.8	47.6
Industrialized world	20.2	20.8	17.0	14.0	62.5	61.9	57.2	52.4
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
World, actual*	2,696.0	3,022.0	4,432.0	6,071.0	6.2	9.7	23.1	39.2

* = World population is in millions; per capita income is in PPP dollars per day (1993 prices).

a. For the classification of regions, see appendix C.

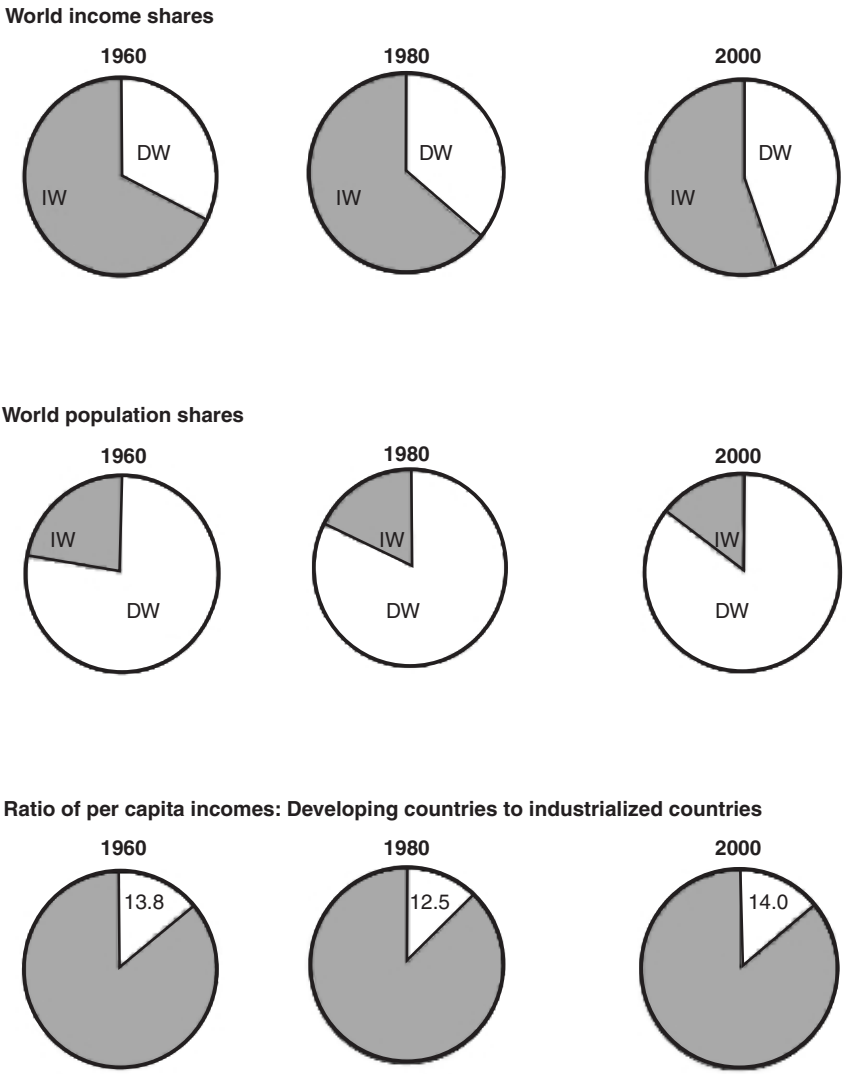
b. The developing world is the world excluding the industrialized world and Eastern Europe.

c. The nonindustrialized world is the world excluding the industrialized world.

Note: Nominal purchasing power parity (PPP) data, 1993 base, have been converted into constant PPP data, 1993 base, using the US GDP deflator, a practice followed in World Bank, *World Development Indicators*, 1998. World population figures are in millions; world income is in trillions of 1993 PPP dollars.

Sources: World Bank, *World Development Indicators*, CD-ROMs, 1998, 2001; Maddison (2001); Penn World Tables, various years.

Figure 5.1 Changing patterns of world income and population shares



DW = developing world
IW = industrialized world

Note: The developing world is the world excluding the industrialized world and Eastern Europe. The data reflect those reported in table 5.1.

Sources: World Bank, *World Development Indicators*, CD-ROMs, 1988, 2001; Maddison (2001); Penn World Tables, various years.

> If the world's income distribution has become more equal in the past few decades, this would be powerful evidence that globalization works to the benefit of all. . . . It would answer some of the fears of the anti-globalization protesters. And it would help to settle a crucial and long-standing disagreement in economic theory, between the orthodox view that economic growth naturally delivers ''convergence'' of rich and poor countries, and alternative theories which, for one reason or another, say the opposite.[2]

Inequality trends *appear* to be in line with the ''fears of the antiglobalization protesters.'' The previous chapter documented the results on change in the distribution of country inequality according to various studies, and various indices of inequality. Several, sometimes conflicting, results emerged. The first was of no discernible change in country inequality during the past 20 years or so. This result was offered by the research of Deininger and Squire (1996); Li, Squire, and Zou (1998); three studies from the Harvard Institute for International Development (Roemer and Gugerty 1997; Timmer 1997; Gallup, Radelet, and Warner 1998); and Dollar and Kraay (2000). Ranged against this impressive set of evidence was Cornia and Kiiski's study (2001), which offered the opposite conclusion, that is, country inequality had definitely worsened.

Traditional tests of inequality change were conducted on the national household data collected—more than 1,000 surveys, larger than any collection to date. Several tests conducted on these data supported Cornia and Kiiski's findings. Further, it was found that the elasticity of income growth of the bottom 20 percent was significantly lower than unity (equal to 0.8) in the globalization period—and equal to unity in the preceding two decades: strong evidence that not only was inequality worsening, but that it had not always been the case. Thus, there was a large contemporaneous correlation between globalization and worsening country and intercountry inequality. Note, however, that according to the Kuznets curve, this increase in inequality was entirely to be expected; that is, things get worse on the inequality front, with growth, before things get better.

On individual income inequality—i.e., inequality measured with the individual, rather than the country, as the unit of analysis—the evidence was again mixed. Bourguignon and Morrisson (2001) suggested that individual inequality had stayed flat for the second half of the twentieth century; Milanovic (1999) found a large increase in world inequality during a short 5-year period, 1988 to 1993. An earlier version of the present study (Bhalla 2000d) found evidence that individual inequality had actually *improved* in the past 20 years; this study also documented that given the per capita growth rates of China (and, less important, India), world inequality *had* to have declined.

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2. Robert Wade, ''Winners and Losers,'' *The Economist*, April 28, 2001, 73-75; the quotation is on p. 73.

So two conclusions can be made about what happened to world inequality during the past 20 years. First, there is strong evidence to suggest that country inequality worsened. Second, there is mixed evidence regarding the pattern of individual inequality. This second, ambiguous result is converted into a ''definite'' finding in chapter 11. Although inequality between countries no doubt worsened, the globalization period was associated with a significant improvement in world inequality—a finding contrary to all the studies published to date, and especially contrary to the ''celebrity'' (or celebrated) finding of Milanovic (1999).

Poverty Trends

Given continuous and strong growth for 40 years (2.1 percent a year, 1960-80, and 3.1 percent a year, 1980-2000) and worsening inequality, what happened to absolute poverty? Theoretically, it could have gone up or down, depending on whether inequality change was larger, or smaller, than economic growth. Unlike inequality studies, all studies of global poverty have (to date) originated from one source: the World Bank. From 1987 to 1999 it appears that poverty fell by only 5 percentage points, from 28 to 23 percent. Given that these are the only estimates available, and that they emanate from a large institution whose function is to provide such numbers to the international research and policy community, it is not surprising that these results are used by everyone. So they are not only the conventional wisdom, they constitute the *only* wisdom.

Not Propoor Growth

These results have not gone unnoticed. The world community has taken note, seminars have been organized, policy huddles have convened, and research has been financed to generate theories and models of *alternative* development patterns—or efforts in keeping with the traditional model of growth but tweaking it to ensure that it yields propoor growth. This new growth industry has yielded several outputs (all of chapter 10 is dedicated to analyzing them), prominent among which is Thomas's appropriately titled study, *The Quality of Growth* (2000).

It is important to recognize the origins of such research, and the possible consequences for policy. Economists have been studying growth patterns and poverty reduction for decades. They were now suddenly made to question everything they had learned. They were told to go out and enhance productivity and growth in poor nations. They went and did that—after stumbling with *statist* policies during the 1960-80 period, fortu-

nately the thinking changed, and they stumbled on the importance of economic freedom for generating growth.[3]

The pressures of globalization might have forced the thinking to change, but that is not so important. Helped by Margaret Thatcher, all governments could not all do right all the time; indeed, the road to the perpetuation of poverty hell had been lavishly paved with good intentions. But now the very organization that *was* the Washington Consensus was informing the world that the whole class, under its leadership, had failed—yet again. This result was credible given the source—the World Bank had more resources to study poverty than any other institution or any government in the world.

So the result economists had to accept was that while considerable growth had been achieved, while India and China, home to 75 percent of the world's poor people in 1980, had enjoyed per capita increases of the miracle variety—an average annual growth rate of 4.9 percent for 20 years—despite all this, poverty was stubbornly persisting at 25 to 29 percent. And in the South Asia region dominated by India, poverty levels had hardly budged from 40 to 45 percent.

Thus, a new look was needed, and this new look did come up with the answer. It documented the nature of nonpoor growth, blamed the lack of poverty reduction on high levels of inequality and worsening levels of such inequality, and suggested the means to engineer a Third Way—the ''quality'' of growth is what counts. And what also counts is the voice of poor people, and the need to empower them with something besides what they need most: money.

Is the Conventional Wisdom Correct?

But how do we know that the reality may *not* be what the World Bank is stating? How can these estimates of poverty be reproduced and checked for validity? How can we know that the lack of good-quality growth was responsible for the lack of any meaningful poverty decline? To date, there are no alternative estimates of world poverty.[4] But there are likely to be several in the coming years, with this book being the first such attempt.[5]

The emphasis throughout this book is on establishing the ''facts.'' The assumption is that the ''truth'' is out there, waiting to be found. It is elusive, sometimes metaphysical, and often hard to define. But it is there.

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3. See Bhalla (1997a) for an analysis of the joint roles of political and economic freedom in generating productivity growth.

4. Preliminary results on world inequality, and world poverty, were presented in Bhalla (2000d); the improved, updated estimates are presented in this book.

5. The second one is Asian Development Bank (2002).

As researchers, we can only try to *approximate* the underlying reality. The difference between various studies is in the rigor, and accuracy, with which they reach the unknown. Each individual has to be her own judge and executioner. One can be freely prejudiced and no (other) one will be the wiser, though some will end up intellectually poorer.

Ultimately, it boils down to what the numbers are, and what trends they reveal. Whether inequality has gone up or down is first an empirical question, and then a policy determinant. Unfortunately, gathering data on income distribution is an expensive, time-consuming exercise, and one subject to the possibility of large measurement errors. This means that interpretations of ''trends'' in inequality are difficult, and definitionally subject to large variation. And this means that claims of all kinds of results could go unquestioned. Inequality decreased—of course. Inequality increased—of course, and let me show you how.

The foundation of this book is the economic statistics that are routinely put out by most governments, as well as data emanating from official government surveys of household behavior, as well as data constructed by quasi-government authorities (e.g., purchasing power parity, or PPP, estimates), as well as data constructed by such analysts as Maddison (2001). If these data are *manifestly* wrong, then there is little anyone can say, on inequality, on poverty, or on globalization and its consequences. Note the emphasis on manifestly; obviously, all data come with excess baggage of error, for which analysts need to make ''adjustments.'' But one should not get into the nihilist trap on ''data errors.''

Facts and Figures

The facts pertain to three important variables: poverty, inequality, and growth. There are numbers associated with each of these important policy concerns, and the numbers vary by author and study. So we are back to basics—basics of definition, measurement, and reexamination from the roots. Growth—measured how? By the growth in incomes. Measured in what currency (local currency, US dollars, or PPP exchange rates)? Poverty—measured how? If done so in the most common, and useful, manner (i.e., by computing HCR), then what poverty line is being used? Inequality—measured how? In terms of quintile shares, or the Gini index? The Gini on the basis of *country* inequality, or *individual* inequality? Though there is some obfuscation (actually quite a bit), the facts are not that difficult to establish.

But if the world is the unit of analysis, as in this book, then the assertion that facts are easy to ascertain is hugely incorrect. The difficulty is not so much conceptual (after all, a world with several countries is no different from a country with several states) but in the accessibility, and comparability, of data. The comparability of income is there, through the availability

of exchange rates (in PPP or US dollars) for most of the postwar period and for most countries.

Income distribution data have also been available since the first such assembling in the mid-1970s. But a similar convergence on comparability has not been achieved with respect to these data. And the consistency checks reported in appendix B suggest that some of these data have huge errors.[6] Difficulty of access to the raw survey data[7] has often prevented consistency checks from being conducted by unofficial researchers. Technology and data dissemination reforms have now opened the world, and its data, to research.

The Importance of Data

Policymakers do not operate in a vacuum—statistics form an important feedback loop, because numbers determine government action (or inaction), which determines individual welfare, which feeds back into the loop and allows policymakers to attempt to micromanage and set corrective action. The process is Bayesian, and not unlike the corrective action followed to set the spacecraft right when it goes offtrack. To be sure, in the latter case much greater precision is achieved. This is why aeronautics is a science but policymaking and economics are arts. This is also why one sees fewer unemployed economists than unemployed scientists. And, of course, there is no unemployment among policy analysts as they cater to whatever spin their political masters desire.

This iterative process (with iterations often being dictated by fashions among Western economists) has been most prominent in developing countries, as they have attempted to steer a course for rapid growth and the alleviation of poverty. Many policies, often contradictory, have been pursued, but all have been well within the *tâtonnement* Bayesian process.

This book makes no apologies about being numbers oriented. When the polemics are over—or as Shakespeare put it (''Macbeth,'' Act I, Scene I):

> When the hurly-burly's done,
> When the battle's lost and won

—it is back to deciding what is the appropriate policy response.

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6. These errors relate to a ''basic'' statistic like the Gini—the reported Gini for several distributions is significantly different from that computed by the simple accounting procedure (see figure 8.1).

7. Until very recently, governments have been hesitant to release household survey data to institutions and researchers, except to the World Bank. This policy has now changed, at least in India. Indeed, if there still were a lack of access to Indian survey data, large sections of this report, and especially the methodological innovations, would not have been possible.

Duck and Smell Tests to Differentiate

How should the different sets of estimates for poverty, inequality, growth, globalization, and so on be compared and evaluated? Throughout this book, consistency tests, ''smell'' tests, ''duck'' tests (if it does not walk like a duck, and does not talk like a duck, it cannot be a duck) are advocated, especially for such emotive, and sometimes intractable, subjects as income inequality and absolute poverty. The normal tendency is to take the raw ''facts'' at face value, and then to construct theories to fit the constructed facts. At a minimum, the construction needs to be vetted, its foundations tested, and its veracity established *before* theories are modeled.

What are duck and smell tests? They are tests that immediately tell you that something is wrong with the observed ''reality.'' For example, if someone drives a BMW, and it is claimed that she is poor, then she fails the duck test; that is, she may walk like a duck, but she certainly does not run like a duck! Or, if it is claimed that world inequality changed by 5 percent in 5 years, or almost 4 standard deviations away from the norm, well, that fails the smell test. Or if poor Indians are spending a considerably larger fraction of their expenditures on fruits and vegetables, and on education and health, and yet have not crossed the poverty line, well, that fails the smell test as well.

Experts Debate

In late 1999, Milanovic published a study contending that on the basis of an exhaustive analysis of data on income distribution for more than 90 countries, the seemingly incontrovertible conclusion was that world individual inequality had significantly worsened in the late 1980s and early 1990s. It was an incontrovertible conclusion because the change observed—5.1 percent, or 3.4 Gini percentage points—was not small and hence explainable by data errors or noise.

Milanovic's study (1999), along with a companion study by Dikhanov and Ward (2000), formed the basis for a review essay by Wade published in the *Economist* in April 2001. Wade used these results to state that ''world inequality increased from a Gini coefficient of 62.5 in 1988 to 66 in 1993. This is a faster rate of increase of inequality than that experienced within the United States and Britain during the 80s'' (p. 74). He could have added, but did not, that such a large speed in an elephant-type variable (a *world* Gini), in such a short period of time, was most likely unprecedented in the history of the world.

This possibly was the first hint of a ''duck.'' A large inequality change estimated by Milanovic in a world Gini is suggestive of social upheaval of a magnitude we have not witnessed, or imagined. But is a 5 percent increase in the Gini that large? It is very large, as based on the following

facts. First, the world is a large place; at last count, it has more than 6 billion people. As the size of the economy increases (from Lithuania to the United States to China to South Asia, and so on) large changes in the Gini are that much more difficult to realize—indeed, an imperceptible change is a miracle. If ever the law of large numbers was supposed to operate, it is within the context of a Gini based on 6 billion people. Excess growth of someone at the 80th percentile level is balanced by deficient growth somewhere else.

The changes cancel out—hence, a very slow-moving world Gini is the expected reality, as thoroughly documented by Bourguignon and Morrisson (2001) for the world economy, for 1820 to 1992. Between 1820 and 1890, world Gini increased from 50 to 59; from 1890 to 1910, by 3.7 percent. From 1910 to 1950, after two world wars, the Great Depression, and 40 years, the Gini moved by half a percent *less* than that observed by Milanovic (1999) for 5 years. Between 1950 and 1992, 43 years, the Gini increased by 2.7 percent to 65.7 in 1992. Major upheavals like the Depression or world wars can cause changes in the Gini. But that is the point—one needs huge upheavals, and 5 years of globalization is possibly not in the same league, let alone the same ballpark.

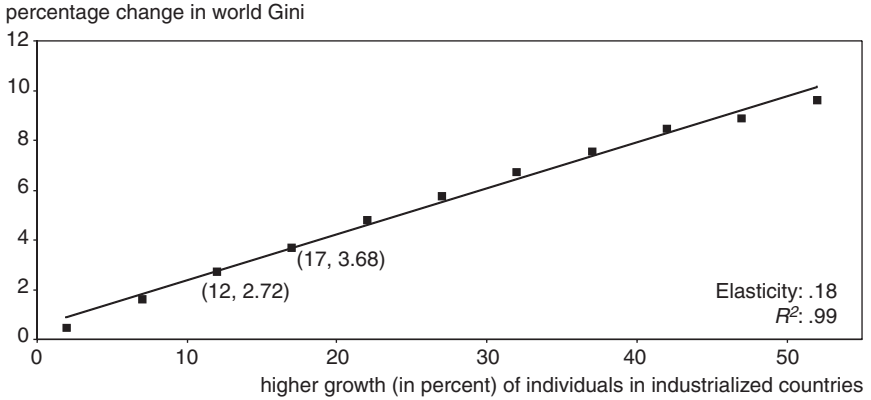
Second, on the basis of annual estimates of the Gini for the past 51 years (see chapter 11), the standard deviation is observed to be 1.5 percent, or 1.04 percentage points; the largest move is between 69.3 (1973) and 65.1 (2000). Thus, the entire range of changes for the past 50 years is about equal to the world Gini change observed by Milanovic (1999), Dhiranov and Ward (2000), and Wade for the 5 globalization years, 1988 to 1993! During 50 years (1950-2000), the average 5-year change of the world Gini has been -0.35; the 5-year standard deviation is (log) 1.34 percent. So the change of 5 percent observed by Milanovic is almost 4 standard deviations away from the ''norm''—a statistical impossibility.

Elasticity of the Gini with Growth

The third ''smell'' test is presented in figure 5.2. For purposes of this test, the relative incomes of those residing in the Western world, the rich countries, was progressively increased (i.e., the incomes in the nonindustrialized world were kept constant, and an across-the-board increase in the incomes of individuals in the nonindustrialized world was simulated). The x-axis is the ''excess'' growth in the West; the y-axis is the percentage change in the world Gini. The simulation shows that the move of the Gini from 62.5 (Milanovic's estimate for 1988) to 65.7 (estimate for 1993) would require the relative incomes of the Western world to increase by 27 percent, and that too in just 5 years. The estimated elasticity is 0.18.

Let us try and grasp this estimate—27 percent in 5 years is 4.8 percent each year. Given that average per capita growth in the West during this

Figure 5.2 Elasticity of world Gini with respect to ''excess'' growth in industrialized countries



Note: The world distribution for 1988 is ''shocked'' by income gains (*x*-axis) for the industrialized world; income levels for the nonindustrialized world are kept constant; see the text for the details.

Sources: Deininger and Squire (1996); World Income Inequality Database, available at http://www.wider.unu.edu/wiid; Asian Development Bank (2002); Milanovic and Yitzhaki (2001).

period was about 1 percent, for the Milanovic estimate to be true, it would imply that the incomes in the developing world were *declining* at about 4 percent a year. And this would be at a time when the poor world was recovering from the debt crisis, Chinese per capita incomes were rising at double-digit rates, and per capita Indian and Bangladeshi incomes were rising at more than 3 percent a year. Further, this was also a period when oil prices were rising. A priori, therefore, one would have expected the opposite to happen; that is, world inequality should have become more equal, though obviously not at the pace ''estimated'' in the other direction![8]

The net result is that the world Gini has an elasticity of 5 with respect to relative incomes in the West (i.e., for each 5 percent gain in these relative incomes, the world Gini changes by only 1 percent). A movement of ''only'' 5 percent may not appear very large. But that is an illusion. The important thing to note is that the world Gini is worse than an elephant; it moves very, very slowly, and certainly considerably slower than 1 percent a year on a sustained basis for 5 years. Surely, the large

8. Yet another simulation exercise is to increase the relative incomes of everyone in the top 20 percent of the population. When done for the base Gini for 1993, this resulted in an elasticity of 0.22 rather than the 0.18 noted above. This would require the relative incomes of the top 20 percent to increase by 25 percent to achieve the Milanovic inequality increase. Some idea of the Milanovic error is gleaned from the fact that the relative incomes of the top 20 percent in China showed a similar 25 percent increase (relative to the bottom 80 percent of China) but did so over 15 years, 1980 to 1995, and on almost one-sixth the population base!

Gini increase emphasized by Wade was a giveaway. Something must surely have been wrong with the data. But given the careful research done by Milanovic (1999), that was unlikely. Then something must be wrong with the method. Given the vetting involved with such a conclusion, and that a companion study (Dikhanov and Ward 2000) had also reached the same conclusion, that also was unlikely.

Perhaps because of these ''background'' factors, an ''Economics Focus'' article accompanying the article in the *Economist* also failed to catch the ''smell.'' This article accepted the findings and opined (in typical two-handed fashion!): ''Without longer runs of data it is hard to know whether this change is part of a well-established trend . . . or a short-term fluctuation.'' And even more interesting, not one of the four inequality experts who commented on Wade's essay (Richard Jolly, Ian Castles, Nancy Birdsall, and Gary Fields) seriously questioned, let alone challenged, the empirical validity of Milanovic's and Wade's conclusions. Jolly accepted the results in toto; Birdsall emphasized the probable link between high inequality and low growth as being the real issue deserving attention; and Fields suggested that inequality might have risen, but poverty might have fallen. Castles came closest to questioning the method and suggested that accounting for public goods might diminish the inequality result somewhat.[9]

The ''duck'' reality is that a simple methodological assumption yields the implausibly large inequality change observed by Milanovic, Dikhanov and Ward, and Wade. This assumption is one of relying exclusively on household survey means of consumption and income for wisdom on trends in average income in the economy. This method yields these kinds of results: Ethiopia substantially richer than India in 1993; and South Korea richer than the United Kingdom, Sweden, and Australia in 1993. A detailed examination of this method of assigning incomes or consumption to the mean of the population (as is done by the World Bank in constructing ''official'' estimates of world poverty) is done in chapter 7.

It is surprising that the result of large inequality changes was so readily accepted. Especially when one considers that before Milanovic's sensational findings, the first draft of Bourguignon and Morrisson's (2001) paper was available (June 1999); this showed that the world Gini had increased by 1.6 percent from 1950 to 1970, and then seen an additional 1 percent increase from 1970 to 1992, and no change from 1980 to 1992. What does the neglect of one plausible set of numbers, and the acceptance

9. In his other writings, Castles has been a serious critic of these and related findings [e.g., UN *Human Development Report 1999*]. Note also that Atkinson and Brandolini (1999) had warned as early as 1999 about some of the pitfalls in using secondary data sources for inequality computations. All of us are ''forced'' to use secondary data; the best one can do, which this study attempts, is to recognize, and accordingly adjust for, the pitfalls.

of a duck set, prove? The power of numbers, especially those contained in conclusions showing that not all is well with the capitalist world.

Poverty ''Smell'' Tests

The small decline in poverty during a period of high growth was another giveaway clue. The World Bank's poverty estimates are based on the same foundation as Milanovic's (1999) inequality study (i.e., they use the survey means to estimate average income, and do not use any information contained in national accounts estimates of the same). With this method, one observes that there was a 5.6-percentage-point decline in HCR over 12 years, 1987 to 1999.

This startling finding, from the most (and only) authoritative source on the subject, the World Bank, raises several questions. First, some incredulity—can it be that a 21 percent increase in average consumption in developing countries led to a minuscule decline of only 5.6 percentage points in HCR? Then, some additional questions—what related, or consequent, set of outcomes would have to occur if this conclusion were true? Would not social upheavals, besides those provided by the Seattle anti-globalization types, have been the order of the day in the developing world? And what about all the stories of stupendous growth coming out of China, home to a quarter of the world's poor people in 1987? Did none of this hugely advertised growth (supported by hard evidence of accumulating trade surpluses, the kind that would put Japan to shame) percolate to poor Chinese people? Even India, home also to a quarter of the world's poor people in 1987, had grown at an average annual per capita rate of 3.5 percent since 1980.

Together, China and India accounted for more than half the world's poor people. Their economies (collectively) annually grew at more than 5 percent per capita for 12 years—which means an *82 percent increase* through the power of compounding—and yet no dent was made in world poverty?[10] The World Bank itself acknowledged the puzzle and concluded that the question of ''why countries with similar rates of economic growth can have very different rates of poverty reduction'' needed to be studied.

World Bank researchers, and several outside analysts, failed to note that estimates of income (or expenditure) growth and poverty decline

10. It should be emphasized that no economist, and certainly not the World Bank, is making, or has made, the argument that growth does not lead to a decline in poverty. The debate, discussion, and disagreement are about the extent to which growth leads to poverty reduction—with the World Bank arguing, on the basis of its findings, that growth has led to a much smaller poverty decline than should have been ''expected'': ''Even though past growth has often helped reduce poverty, some growth processes may do so more effectively than others. One potential role of government is then to foster a *pattern of growth* conducive to poverty alleviation'' (Ravallion and Lipton 1993, 49; emphasis in original).

come in pairs. They are two sides of the same coin—a given amount of survey income growth yields a given amount of poverty decline. When national accounts data are used (as was done by the previous set of World Bank studies, led by Ahluwalia, Carter, and Chenery in 1979) then both income growth and poverty decline were based on survey data adjusted to national accounts. Thus, analysts have a choice: either use the survey data to generate results on *both* growth and poverty, or adjust the survey mean to national accounts and derive new estimates for both poverty decline and income growth. These are the only two logically consistent sets of estimates. The big mistake is to take consumption growth from national accounts, and poverty change from survey data.[11] It is just as wrong as taking Peter's income to estimate Paul's poverty.

This simple methodological correction means that one does not need pyrotechnics to explain the result that there was high growth and low poverty decline. The survey data used by Chen and Ravallion for the period 1987 to 1999 show an increase in consumption of approximately 11 percent for the developing world and a 5.6-percentage-point decline in poverty.[12] This joint occurrence of low growth and small decline in poverty does not make one jump to find explanations about the causes of this small decline in poverty; nor does it push one to explore the frontiers of ''quality of growth'' as an explanation for this small decline.

But the figures for growth that all researchers are accustomed to, and the ones talked about in seminars, conferences, books, academic articles, and so on, are not the figures on survey consumption growth (11 percent), and not even the figures on national accounts consumption (21 percent), but actually the figures on per capita GDP growth. And per capita GDP growth was 17 percentage points higher than survey consumption and was equal to 24 percent.

So what is happening is that researchers state (correctly) that per capita incomes increased by 24 percent; and they state (correctly) that poverty only declined by 5.6 percentage points. But researchers conclude (incorrectly) that growth led to very little poverty reduction. What is wrong is

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11. The list of economists making this mistake is too long to document. The most recent to make this mistake is Nobel Prize winner and former Chief Economist of the World Bank Joseph Stiglitz. ''A growing divide between the haves and have-nots has left increasing numbers in the Third World in dire poverty, living on less than a dollar a day. Despite repeated promises of poverty reduction made over the last decade of the 20th century, *the actual number living in poverty has actually increased by almost 100 million. This occurred at the same time that total world income actually increased by an average of 2.5 percent annually* (Stiglitz 2002, p. 5; emphasis added).

12. The Chen-Ravallion analysis is for the period 1987-98; World Bank (2002b) reports that the head count ratio for 1999 was 22.7 percent and the number of poor, 1,151 million. Data on survey-based consumption growth for 1998-99 are not reported by the World Bank authors. But Chen-Ravallion suggest that such growth was 0.90 percent a year or 10 percent between 1987 and 1998.

attributing Peter's increase in income of 24 percent (based on GDP per capita) to the reduction in Paul's poverty (5.6 percent), because Paul's ''income'' (survey-based consumption) only increased by 11 percent. What is correct is to compare the survey-based decline in poverty to the survey-based increase in mean consumption—i.e., 5.6 percent decline in HCR with an 11 percent increase in survey consumption (World Bank data).

If anything needs to be questioned, it is the estimate of low growth, low at least relative to what researchers have been led to believe by the national accounts data for poor countries. The World Bank's method fails the simplest of ''smell'' tests—the basic numbers on growth (from national accounts) and poverty decline (from surveys) are not consistent.

The above set of statistics points to a major ''journalistic'' error made by commentators, and unfortunately by economists as well. In any given developing economy, two *headline* numbers are closely watched by the public, and journalists. The first is growth in per capita GDP, measured obviously in (real) local currency terms. The second is the head count ratio of poverty, again according to local definitions. It is natural to look for a link between the two, but highly inaccurate. And it is especially inaccurate if incomes are measured according to national accounts and poverty according to household survey consumption.

Table 5.2 illustrates the tortuous link between the headline numbers. Although data for several regions are presented, the discussion below pertains only to the developing world. For each region of the world, six numbers are presented. The second column reports the observed growth in GDP per capita over 12 years, 1987-99. This is headline growth. The third column reports the growth that is really relevant for poverty calculations, namely, growth in consumption. A major stylized fact of development is that if the savings rate increased with economic growth, that is, over reasonable lengths of time (e.g., 12 years, 1987-99), consumption growth would significantly lag behind income growth.

The final column of the table reports the decline in poverty as measured via surveys and according to the poverty line of PPP $1.50, national accounts means. These numbers do not necessarily match those provided by the World Bank; hence, the poverty decline observed over the 12 years, 13 percent, is substantially more than the 5.6 percentage points advertised by the World Bank.[13]

The first correction to the headline comparison is provided by a match-up between consumption growth and poverty decline, rather than income growth and poverty decline. This comparison still suggests that growth was bad for poor people—rather than the decline of 13 percentage points occurring with a 24 percent increase in incomes, it actually occurred

13. The World Bank figures are for the nonindustrialized world; the data presented by this study are for the developing world; the difference is minor, because there are very few poor people in Eastern Europe according to the $1-a-day poverty line.

Table 5.2 Income growth and poverty change of global regions, 1987-99

Region	Change in per capita levels (percent)			Average SDE	Change in HCR (percentage points)[a]	
	Income, NA (GDP)	Consumption, NA	Consumption, survey		Forecast	Actual
East Asia	63.3	56.8	55.8	0.48	−26.8	−29.1
South Asia	35.3	34.3	15.3	0.71	−10.8	−12.8
China and India	67.4	60.4	51.5	0.61	−31.4	−27.9
Sub-Saharan Africa	−13.0	−11.1	−21.2	0.48	10.2	5.3
Middle East and North Africa	2.2	4.4	−0.7	0.19	0.1	4.3
Latin America	−0.7	−0.5	−23.1	0.20	4.6	4.9
Developing world	24.1	21.0	7.1	0.48	−3.4	−13.0
Developing world, excluding China and India	8.1	9.3	−7.4	0.36	2.7	0.4
Eastern Europe	−44.0	−28.4	−49.3	0.18	8.9	1.8
Nonindustrialized world	12.7	13.9	2.7	0.45	−1.2	−12.0
World	**9.0**	**10.2**	**3.5**	**0.39**	**−1.4**	**−9.9**

HCR = head count ratio
NA = national accounts
SDE = shape of the distribution elasticity

a. Purchasing power parity $1.50 poverty line, national accounts means.

Sources: World Bank, *World Development Indicators*, CD-ROMs, 1998, 2001; Maddison (2001); Penn World Tables, various years; Deininger-Squire (1996); World Income Inequality Database, available at http://www.wider.unu.edu/wiid; Asian Development Bank (2002); Milanovic and Yitzhaki (2001).

with less growth of 21 percent in consumption.[14] This is an improvement, but still not good. An inaccurate comparison is still being made; essentially, Peter's income is wrongly being attributed to Paul. The poverty decline has *not* been calculated on the basis of national accounts consumption, but rather on the basis of measured *survey* consumption. Was the growth in survey consumption equal to the growth in national accounts consumption? It would be, if surveys maintained the same level of ''capture'' over time; as is discussed in chapter 7, this assumption was particularly untrue during the 1990s.

The fourth column of table 5.2 reports the growth in survey consumption. This is observed to be strikingly lower than income growth, and lower by 17 percentage points. Now the comparison appears reasonable—7 percent growth in average consumption and a 13-percentage-point decline in HCR. The residual feeling that the decline in poverty is not commensurate with measured consumption growth is because the headline numbers are 24 percent growth, corrected to 21 percent consumption growth, and a 13 (or 5)-percentage-point decline in poverty.

In a study of Malaysia (World Bank 1991),[15] and subsequently in several other papers (e.g., Bhalla 2000a, 2000b), the point was made that the position of the poverty line relative to the consumption distribution has a very important bearing on any calculations of growth neutrality or pro-poor growth. A legitimate question is that given the survey growth of 7 percent observed for developing countries for 1987 to 1999, what *should* be the expected decline in poverty? This expected decline is obviously subject to some ceteris paribus conditions; namely, that the distribution of consumption stays constant, and given a *particular* poverty line. In other words, growth-neutrality calculations are not independent of the level of the poverty line, a mistake made all too often by most research to date.

The net effect of the ''location of poverty line'' considerations is summarized via the estimate of the ''shape of the distribution elasticity'' (SDE),

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14. As was discussed in chapter 2, local currency growth rates are on average higher than the corresponding PPP growth figures; hence, the growth, and poverty decline, is understated by the PPP calculations. In other words, the calculated PPP-based poverty decline is a lower bound to what actually occurred.

15. This World Bank report on Malaysia was published in January 1991 but the work had been completed substantially earlier. It states: ''Choice of a poverty line dictates the initial level of absolute poverty, which has an important bearing on subsequent achievements. . . . Since poverty is defined in terms of a simple head-count measure (incomes above or below a fixed income) the decline is dependent on the defined poverty line. . . . If there are many people slightly below the poverty line initially, then a relatively small amount of growth can have a large effect on reducing poverty'' (p. 82). The bank's *World Development Report 1990: Poverty and Development* reached a very similar conclusion: ''For any given increase in the incomes of the poor, the reduction in poverty depends on where the poor are in relation to the poverty line. If they are concentrated just below the line, the increase in their incomes will have a bigger effect on poverty than if they are spread more evenly'' (p. 47).

a concept developed in detail in chapter 8. The fifth column of table 5.2 reports the average SDE observed for each region for the chosen sample period and the $1-a-day poverty line. In the developing world, for example, this averaged 0.48. Thus, the 7.1 percent (survey) growth observed in developing countries *should* have led to a decline in HCR of approximately 0.48*7.1, or 3.4 percentage points. The actual decline is 13 percentage points, or about 10 percentage points more than would be dictated by no change in the distribution assumption!

The only reason this extra-large decline could have occurred is if the distribution of consumption *improved* within the developing world. The first two quintiles for developing countries show an increase in the share, from 11.2 percent (1987) to 12.8 percent (in 1999). This is an increase of (log) 13.4 percent. Because equality increases are symmetric and equivalent to increases in consumption, this equality increase, on its own steam, would have led to approximately a 13.4*.48, or 6.4-percentage-point, decline. This almost explains the entire extra decline observed. The reason it does not explain all of the extra decline (of 10 percent) is because we have taken the average share of the first two quintiles; the share of the poor population might have increased even more than 13.4 percent.

The above ''smell test'' simply informs researchers to be consistent; it does not tell them which estimate, survey or mean, is closer to the *unknown* true mean. Some indirect methods can be used to assess *that* important question. The World Bank figures on absolute poverty suggest that in 1987, there was approximately the same percentage of poor people in South Asia and in sub-Saharan Africa—about 45 percent. As has been emphasized by John Williamson,[16] formerly chief economist for South Asia at the World Bank, the result that both South Asia and sub-Saharan Africa have the same HCR is unlikely, given the ''intuition'' that though somewhat poorer, South Asia boasts a much more equal distribution. World Bank statistics bear him out—in 1987, South Asia's mean consumption was 20 percent lower than Africa's; but the share in consumption of the bottom 40 percent (poor people) was 36 percent higher. Together, the two statistics show that poverty in South Asia should be significantly lower than in sub-Saharan Africa.

The Need for Alternative Studies

The World Bank's research results on the small decline in poverty, questionable as they are, had a major impact on research and policy, as they should. The World Bank is a major source of research funds, and the major (and only) supplier of development finance for several poor economies. It is a tribute to the way academia and policy analysts work that in virtually

16. Comments to the author in private communication, June 2000.

no time the media, and the world, were discussing the reasons for the failure of capitalism and markets. The World Bank itself, as part of its millennium poverty study, *World Development Report 2000/2001: Attacking Poverty*, claimed that all was not well and that poor people needed a voice, and empowerment, two factors that traditional ''market development'' had not given them:

> [This report] proposes a strategy for attacking poverty in three ways: promoting opportunity, facilitating empowerment, and enhancing security. . . . Overall economic growth is crucial for generating opportunity. So is the pattern or quality of growth. . . . *There is no hierarchy of importance*. The elements are deeply complementary. Each part of the strategy affects underlying causes of poverty addressed by the other two. For example, promoting opportunity through assets and market access increases the independence of poor people and thus empowers them by strengthening their bargaining position relative to state and society. (pp. 6-7; emphasis added)

Although *World Development Report 2000/2001* recognizes growth as important, it clearly states that growth has not done its expected job, especially during 1987 to 1999. Thus, growth is perceived as only one equal partner among three, and not even the first among equals. It is just as important to have growth as to achieve such intractables as empowerment—that is the message.

It is an open question as to what studies, and conclusions, would have been undertaken if the World Bank's estimates of growth without poverty decline had been scrutinized when they were first made public in late 1999.[17] The question of why, when the data were so starkly out of line, the World Bank itself had not seriously questioned these numbers, and nor had most of the academic community, is a subject examined in Bhalla (2002b).

For now, the reader has been warned that statistics are not just damned lies, they can be worse. At the same time, they affect lives, poor lives. For researchers and policy analysts, there are lessons: Beware of pitfalls, and also look for a modicum of plausibility and a minimum of consistency—the passing of the ''smell'' test. Think also about the one important contribution economics makes to the science of inquiry: the concept of the counterfactual. What are the implications if World Bank poverty trends are right—and what are the implications if these estimates are grossly in error? The same reasoning, and yardstick, should, of course, also be applied to any alternative estimates, including the simple accounting procedure estimates contained in this book.

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17. At a conference in mid-January 2000, I presented alternate estimates of Indian poverty; these estimates were for an HCR in the mid-twenties for 1987 and the mid-teens for 1998, rather than the 40-percent-plus figure reported by the World Bank for both the years (Bhalla 2000a).

A Web site called http://www.jumptheshark.com catalogues the major turning points for various individuals and institutions. The turning point is almost always downhill—the point at which the institution, individual, or television show started losing popularity, fame, credibility, and so on. The results offered here, and in the following chapters, suggest that the World Bank jumped the shark once it ''went to town'' with the finding that despite record growth, poverty levels declined little in the developing world for 12 long years, from 1987 to 1999.