Era of Globalization: Intended Consequences, Desired Results

By

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Abstract

This paper examines the evidence pertaining to three inter-related subjects – poverty, inequality, and growth – for the time-period 1960-2002. Data for the entire period is broken up into two periods: the planning period, 1960-80, and the globalization period, 1980 to present. There is not a single indicator for which the aggregate performance in the globalization era is not significantly better than the performance in the planning decades. The safe conclusion is that the last twenty years or so have truly been the golden age of development. The poor world has grown faster than the rich world; aggregate inequality has declined, and done so for the first time in 200 years; and poverty reduced in record proportions.

In September 2000, the international aid community set the millennium development goals (MDG). The main poverty reduction goal was outlined as the reduction of absolute poverty to half the level prevailing in 1990 i.e. 15 percent for the head-count ratio in 2015. This study documents that for a variety of methods, this MDG goal was met at the time of the millennium declaration in 2000, and no later than 2002. Several bits of evidence have been gathered to show why the conventional wisdom – that the world is "on track" to reduce poverty to 15 percent by 2015 – is manifestly wrong. It is noteworthy that the MDG target has been met by even the "conservative" upper-bound poverty estimate method of the World Bank.

Introduction & Overview

Development experts from Milton Friedman to Amartya Sen have argued for the enhancement of human capital as a necessary condition for successful development. While poor economies were the guinea pigs of various fashionable development theories in the immediate post-colonial period, there was one policy that everybody agreed upon and that remained on the top of the development agenda – literacy rates had to increase. Why? Because a necessary condition for an increase in labor productivity was increase in schooling. Education was a basic need, and access to schools a primary right. To be sure, various ancillary experiments did waylay the agenda – there was the desire to build temples of industry, as well as the belief that governments not only knew better but would always do better. This bureaucrat -politician -monopolist agenda was unwittingly abetted by the intellectual left[1]. In their belief in central planning through benevolent dictators and omniscient government, they allowed their primary goal – increasing the productivity levels of the poorest – to get hijacked by the predator state. Policy got delayed, and while the first twenty years of development, 1960-80, loosely described as the "*planning*" period, did yield an increase in per capita incomes, the development experience was questionable from the vantage point of the poorest.

During this initial phase, and primarily because of the short-run consequence of building physical capital, there was a spurt in growth, but not in development. Unsurprisingly, and unfortunately, since such freedom decreasing paths of development were modeled on the Soviet Union, the consequences were just as devastatingly bad. The production system was not in consonance with the relative prices prevailing in the world, and economic systems, and economies, collapsed. The second serious decade of development (1970 to 1980) was the beginning of the end of the closed economy model.

The eighties saw technology develop rapidly in communications and transportation. Transportation miles collapsed into kilometers and communication miles collapsed into meters. Distance was no longer a constraint. Interaction with the outside world became a necessity, and soon became a priority. Countries in Asia, having witnessed the successful "opening" up models of Japan, Hong Kong, Singapore, Taiwan and South Korea, took their own giant leap forward. While China was the poster-country for the

[1] Forming therefore a short-lived BLIP (**b**ureaucrat, **l**eft intellectual, monopoly **i**ndustrialist, **p**olitician) model of government, and governance.

new “revisionist” view of development, other countries e.g. Bangladesh, India and Viet-Nam, were not far behind. When these countries opened up, not fully and perhaps too slowly for many, they had a major advantage – they had unlimited supplies of labor at practically every skill level. While development in the previous two decades was mis-oriented, the increased emphasis on education had fortunately been a constant factor. Large parts of the population had been able to go to school, and that this had been so was indicated by the new welcome debate about education policy – just going to school was not enough, it was also important to increase the quality of education.

The numbers on educational achievement are compelling. Average educational attainment increased in the developing world from only 3.3 years in 1980 to 5 years in 2000. While there had been a large proportionate increase in education in even the planning period, the new increase was accompanied by economic openness, and as documented in World Bank (1991) and Bhalla(1997), there is a strong interaction effect between education and openness i.e. education goes that much further in enhancing growth when accompanied with economic freedom and openness. Thus the process of catch-up to skill levels of the western world, and to the income levels of the industrialized countries, began to take place. As is well known, catch-up takes an immensely long time, especially given the fact that *relative* income levels between the North and the South, *even for the same education and skill level*, are, and were, wide apart e.g. wages of college educated residents in the developed world in the early eighties were 10 to 20 times higher than comparable residents of the Third World. The reduction in these productivity/income levels is “catch-up”, or convergence.

Convergence is the process in which the growth rates of poor countries become (definitionally) larger than the growth rates in the rich countries. If the globalization period led to catch-up, then one should observe that in the 1980-2000 period, countries in the developing world grew, on average, at a faster rate than countries in the developed (OECD) world i.e. we should see convergence at play. Given the wide availability of data on economic growth, it would seem that it is a simple matter to establish what the “excess” per capita GDP growth was in the planning and globalization periods (with the latter expected to show higher excess). That even the veracity of this simple statistic cannot be easily established has been attributed by many to the tenacity and strength of two-handed economists. But as extensively discussed in Bhalla(2000)

and Bhalla(2002b), issues of inequality and poverty are laced with ideology i.e. *all* practitioners bring to the subject a passionate involvement perhaps unlike any other policy issue. So conventional wisdom easily becomes entrenched, especially if the ideological underpinnings are politically correct. A detailed examination of these conventional wisdoms is a major objective of this paper.

Four pieces of conventional wisdom

CW1: Divergence

The conventional wisdom on convergence, until very recently, was that, like the invisible hand, it was nowhere to be found. Indeed, that the world had been characterized by divergence, rather "*Divergence, Big Time*", the title of an important treatise on the subject by Pritchett(1997). He contended that the ratio of GDP per capita of the richest country relative to the GDP per capita of the poorest country had increased from a level of 38.1 in 1960 to 51.6 in 1985 (Pritchett(2001, p.12)). This was offered as convincing, and devastating, proof of divergence at play.

CW2: Increase in world inequality

Associated with the divergence view (and consistent with it) is the contention that the globalization period led to an increase in world inequality. Milanovic(2002) constructed inequality estimates for various regions of the world for 1988 and 1993 and did so on the basis not of national accounts data on GDP per capita (as done by all other scholars to date) but on the basis of economy wide means of consumption and income provided by household *survey* data. Milanovic's method was therefore both new and radically different than all previous studies. His analysis showed not only that inequality had increased, but that it had increased at an unprecedented pace – from a Gini of 62.5 to a Gini of 65.9 in just five years, 1988 to 1993. In striking contrast, all the other evidence (Schultz(1998), Bourguignon-Morrisson(2002), Bhalla(2000)) showed either that inequality had flattened, or decreased significantly (Bhalla).

International organizations like the World Bank, UN and the IMF along with NGOs like Oxfam (jointly referred to as "quasi-governmental organizations" or ***QGOs***) joined in the chorus of articulating that the globalization period had indeed been witness to a worsening of global inequality. The Milanovic lonely view became a wave. It was picked up by the anti-globalization protesters and soon it became politically correct to assert

that something had been drastically wrong with all the recent accelerated growth in the world – it had been of the rich getting richer variety, often at the expense of the poor. This then is the second piece of conventional wisdom (the first being divergence) that was common in official and academic thinking, circa 2000.

CW3:High global growth not associated with low poverty decline

Fuel was added to the concern about the bad consequences of globalization by the official "scorer" of poverty statistics, the World Bank, asserting in 2000 that in eleven years 1987 to 1998, world poverty (the head count ratio) had declined by only 4.8 percentage points, and declined to a level of only 23.5 percent. (Chen-Ravallion(2000)). Further, that because of population growth the number of people poor in the world had held constant at the very high figure of 1.2 billion. Thus, while growth had undoubtedly occurred, it had not been of the poverty reducing variety. This became the third piece of official conventional wisdom.

CW4: *New growth policies required*

Given all the growth and little poverty reduction (growth, growth everywhere and nary a drop in poverty) attention was focused on "new" policies. Growth was clearly not sufficient or enough, and if with China and India both booming and poverty not being reduced, growth would never be enough. Indeed, according to a projection backward of the World Bank method of measuring poverty, the head-count ratio had declined at a faster pace during the bad planning period 1960-80 than in the ostensibly "good" globalization period, 1987-98. (see Table 10). So the new mantra became pro-poor or "directed" growth, eerily like the directed planning approach of an earlier era. Analysis of pro-poor growth, or more accurately the lack of it, became the fashion for academic and QGO research. This was the fourth and final piece of the new conventional wisdom.

Turn of the Century – Millennium Development Goals

Faced with these facts, or "wisdoms", the UN and associated multilateral aid agencies met at the Millennium summit in September 2000, and made a declaration: "*We will spare no effort to free our fellow men, women, and children from the abject and dehumanizing conditions of extreme poverty, to which more than a billion of them are currently subjected*" United Nations Millennium Declaration. The Summit also set targets

for the world community to achieve in fifteen years – these targets are the popular *Millennium Development Goals (**MDG**).*

The most recognizable of the targets is the one for reduction in the proportion of people living in extreme poverty - from 29 percent in 1990 to 15 percent in 2015. Given the bad poverty reduction experience noted above, the MDG goal setters naturally felt that there had been too little poverty reduction, and that the development process was not, or more accurately had not been, "pro-poor"; and the process was definitely not suggestive of any more ambitious target than the "high" poverty level of 15 percent in 2015.

Non-QGO evidence on poverty, inequality and growth

At the time of the MDG declaration, in-house reports of the World Bank and UN were not the only voice on world trends in poverty and inequality. Other estimates were available. Schultz had indicated that world inequality had flattened out at a high level i.e. there was no evidence to suggest that inequality was worsening. Bourguignon-Morrisson's draft (June 1999) also reported a flat trend in inequality, but their analysis ended in 1992.

In June 2000, I presented estimates of both world inequality and world poverty for the period, 1975 – 1997. This paper "*Trends in World Poverty – Ideology and Research*", (Bhalla(2000b)) presented at the IMF, questioned the official conventional wisdom findings on convergence, on world inequality, on poverty. The study concluded that world inequality had not only not stayed constant, but instead had improved considerably; world poverty, rather than declining by only 4-5 percentage points, had declined by over 14 percentage points.

In this paper, I had shown how given the performance of China alone, let alone China and India, world inequality *had* to have declined. In addition, my measurements of poverty suggested levels considerably below those reported by the World Bank. Thus, at the time of the millennium declaration, there was sufficient outside evidence for the QGO policy makers to at least pause to evaluate the relative merits of the decreasing vs. increasing inequality, and stagnant vs. declining poverty conclusions. The worsening inequality conclusion *should* at best have been tentative, but it was not.

The preliminary results, and methodology, contained in this 2000 draft later resulted in the book "*Imagine there is no country: Poverty, Inequality and Growth in the era of globalization*", published by the Institute for International Economics in September 2002 (hereafter ***Imagine***). *Imagine* presented results for the 1950-2000 period for both regional, and world, inequality and poverty. The earlier results were reinforced by a better method, and newer data. Instead of divergence, several different measures showed convergence, and especially so for the globalization period 1980-00. World inequality in 2000 was found to be at its lowest level since 1910; that after worsening till 1980, such inequality had improved considerably and showed all signs of continuing the new trend (the results for 2002 vindicate this forecast). Most importantly, that the MDG goal for poverty reduction for 2015 was already reached in 2000! From a poverty level of 25.4 percent in 1990, world poverty was close to half that level, 13.1 percent, in 2000[2]. Between 1980 and 2000, world poverty had been reduced by considerably more than half, over 30 percentage points (*Imagine*, p.141).

Since the seemingly outlier result of improving world inequality, several new pieces of research have appeared, including those by Sala-I-Martin(2002a,2002b) who, using different methods, reaches the same qualitative results on convergence, on inequality and poverty. Milanovic has updated his methods for 1998 and finds a large *decline* in inequality between 1993 and 1998. Firebaugh(2003) summarizes the debate and the evidence on world inequality and also reaches an inequality decreasing conclusion.

These new non-QGO results have yet to be fully accepted. Perusal of the output emanating from the academic and policy world, or the popular media, is not indicative (yet) of a celebration of the successful uplifting of more than a billion people out of poverty. Indeed, the anti-globalization protests indicate the opposite – the wisdom remains that globalization has led to the rich getting richer and the poor getting poorer. While admittedly the view that globalization has led to *absolute* impoverishment is held by the fringe few, the result that globalization has led to an increase in relative disparities is still the conventional wisdom

[2] This was for a considerably higher poverty line equal to $ 1.5 PPP 1993 dollars per day (compared to the $ 1.08 line used by the World Bank) , and using national account means for consumption per capita.

Which of the alternate estimates of poverty is correct?

Imagine strongly questioned and criticized the World Bank method and results on both inequality and poverty. This criticism was questioned in World Bank(2002) and Ravallion(2002), a response to which is contained in Bhalla(2003b). The debate is summarized here; further, the analysis of world inequality and poverty is extended till 2002. In addition, all computations have been replicated using the recently released 1996 base Penn World Tables of purchasing power parities. *All* the results presented in *Imagine* are reinforced by use of the new PPP data. The extension of data till 2002 indicates that even according to a ditto copy of the World Bank method of poverty measurement, the MDG of poverty reduction for 2015 (below 15 percent poverty) was nearly reached in 2002.

These results are at significant variance with the "official" data on inequality and poverty. Given that the difference in estimates is too large to be explained by measurement error, the obvious question arises – which estimate is correct or which estimate is closer to the "truth". In this paper, several aggregate easy to follow statistics are presented to document the fact that the World Bank results *cannot* be right – that all data available, and all methods, indicate that the millennium development goal for poverty reduction was most likely realized *before* the time of its formulation in September 2000.

Given divergent results, and poverty estimates that have a strong bearing on policy, it is imperative that the academic and policy community reach agreement on what actually happened over the last twenty years. How we interpret the past has a strong bearing on what is recommended for the future, and for the present for poor countries in sub-Saharan Africa. That is the purpose of this paper – to assess what happened, to evaluate different estimates, and to derive implications for policy. One important pedagogical tool used in the evaluation is to see whether the *set* of estimates provided– on poverty, inequality and growth – are *internally* consistent.

How does one verify or assess the global status on inequality and poverty? Data for more than a 100 countries are involved, there are conversions from local currency in nominal terms to real PPP, there are different poverty lines, different means of per capita income and consumption (provided by national accounts data and household surveys)

etc. In other words one can easily, and one often is, lost in the trees. But there *is* a forest, there is an underlying reality, a reality that can easily be seen and identified from a distance, a perspective, a height. This is attempted here by presenting “macro” data for not just the poor and rich countries and the entire world but also for regions within the developing world. Separate results for each region have been computed in order that the reader be able to identify, to localize, the contributor to either lack of growth, an increase in inequality, or a decline in poverty. Lot of the debate on inequality and poverty has occurred because it is easy to hide behind the trees. The detailed regional data makes it virtually impossible to obfuscate. In addition to regions, data are presented for the collective rich world (consisting of OECD countries) and the poor world, consisting of non-OECD countries.

Smell and Duck Tests

Internal consistency tests were termed “smell” tests or “duck” tests in *Imagine*. Such tests allow one to assess whether any estimate of hard to intuitively track statistics like world inequality or world poverty are plausible. For example, is it reasonable to believe that per capita consumption in China increased by 22 percent 1996-2000, (household survey data) and poverty declined by a miniscule amount from 17.3 to 16.1 percent (World Bank website)? Is it reasonable to believe that average per capita consumption in India *declined* by 4 percent between 1993-94 and 1998, a time-period during which India recorded the highest growth rate in its fifty year history, at close to 4 percent per capita per year? The consumption decline is yielded by household survey data (the World Bank preferred method of estimating growth) while the consumption increase figure is revealed by national accounts data (the *Imagine* preferred method of estimating growth rates). There are several ways in which one answer can be accepted, and the other rejected; in addition to concrete data, a smell test helps one determine whether a statistic seems right, and whether it is consistent with other easily observable data.

Growth, Inequality and Poverty

In addition to smell tests, the statistics on poverty, inequality and growth are organized in a manner which facilitates the logical derivation of trends in world poverty. First, data on growth (income and consumption per capita) are presented, and then inequality. In addition to results on a summary measure of inequality i.e. the Gini, data on *shares* of income (and consumption) accruing to the bottom 40 percent of the population are also

presented. While it is recognized that the absolute poor constitute different percentages in different countries at different times, such shares, ordinarily not presented by most analysts of world inequality, allow one to easily *derive* the trends in absolute poverty. In other words, one does not need to know much about differences in poverty lines, Lorenz curve estimations, and grouping of various different countries to know what *must* have happened to poverty within each region. If knowledge about growth in per capita consumption is available, a reasoned guess can be made of the approximate magnitude of poverty decline.

Broad agreement on all regions except Asia

A detailed regional analysis of inequality and poverty suggests that there is less area for disagreement, but within that area, there is more intense variation. For example, within the developing world, all analysts and estimates agree that since 1980, there has been virtually no per capita income growth in Latin America, and, not surprisingly, no poverty decline. There was a lot of growth volatility, and several macro-economic crises in the last two decades, but the continent barely managed to keep its income level constant. Sub-saharan Africa did not even manage to do that, and witnessed about a 10 percent decline in per capita income between 1980 and 2000. This resulted in a 5 to 10 percentage point increase in the head-count ratio of poverty. Today, about half the population (44 percent) is absolutely poor, the same level in 1980 and 1960. This region has not seen much development, or growth, or poverty reduction for forty years. Eastern Europe, faced with structural change and the collapse of the planning system, saw both per capita incomes decline by a largish 25 percent and inequality increase by a largish 20 to 30 percent. The bottom half of the population in these countries witnessed a radical decline in incomes, which for most countries has meant a halving of incomes. From being residents of the second world, and therefore immune to the ravages of absolute poverty, some unfortunate residents have had to encounter living conditions prevalent in the third world. From near zero levels of the head count ratio of poverty in 1980 (according to the $ a day line), absolute poverty has increased to about 4 percent in 2000.

The aggregate population in these three regions was close to 1400 million in 2000. The poor population – close to 20 percent or approximately 300 million. On this figure, there is no variation between the estimates contained in *Imagine* and those published by the

World Bank. Indeed, our poverty estimates for sub-Saharan Africa are higher than that of the World Bank. So why the difference between the World Bank's global estimate of poverty (1100 million) and our estimate of global poverty for the same poverty line and using household survey data – about 500 million?

The real variation is in the estimates for Asia, particularly China and India. For these two countries, the World Bank reports poverty figures in 2000 as 210 million and 360 million respectively, or 570 million. According to our estimates, the aggregate poverty in these two countries is around 100-150 million. The *difference* between the two estimates is at least 400 million. If our numbers are more reliable (and considerable evidence is provided that they are), then with no change in method or data or assumption, the World Bank estimate of poverty in 2000 is close to 800 million. And in 2002, with per capita levels in India and China now six percent higher (than 2000), one obtains a convincing estimate of poverty in the non-industrialized world as being below 15 percent (the World Bank-UN goal for 2015) in 2002.

Asia (and within Asia, China and India), is critical for any calculation of world poverty. There are four major regions in the developing world[3] - Asia (excluding Japan), sub-Saharan Africa, Latin America and Eastern Europe. Asia contains the most people – approximately 3.2 billion in 2000. The two large Asian countries – China and India – accounted for approximately half of the developing world's population in 1980, and almost three-fourths of the poor population. If data are known for just these two countries with any accuracy, then major results on world poverty can easily be derived. Joint data for these two countries is one of the "smell" tests offered – the official QGO data on world inequality and poverty is completely inconsistent with the QGO data for China and India. The former shows little progress, especially during the nineties; the latter shows progress which helped the achievement of the MDG goals. Both the results obviously cannot co-exist.

Section 2 analyzes economic growth according to various measures and methods. All definitions suggest that in the aggregate, the poor countries grew faster in the globalization period. Section 3 examines the data on inequality – again, no matter what the definition, or source of data, or the inequality index, the poor of the world increase

[3] Variously, the poor world is described as the developing countries, the South or the Third World.

their share of income i.e. their incomes increase at a faster rate than the incomes of the residents in rich countries. Section 4 examines the trend in absolute poverty, according to the $ a day poverty line, and other poverty definitions. The result is consistent with the other two sections – world poverty declined at a record pace these last twenty years, so fast that the MDG of poverty reduction for 2015 was reached in 2000; and nearly reached in 2002 by even the (flawed) World Bank method of estimating absolute poverty. In other words, there is zero basis today for contending that poverty in the poor world is above 15 percent. Indeed, properly measured, it is close to 10 percent. Section 5 is devoted to “smell and duck tests” conducted on some of the favorite data, hypotheses, and results emanating from the international organizations. Section 6 concludes, and discusses how, and why, the biggest development miracle (removal of more than a billion people from poverty) was missed by the scorekeepers of global poverty.

Section 2: **Growth**

Did globalization allow poor countries to achieve a faster growth rate? Did globalization allow poor countries to grow faster than the rich countries? Two separate questions, with different welfare implications. If neither is true, then it can be asserted without ambiguity that the 1980-00 period was not good for developing countries. If both are true, then the reality would constitute the best of all possible worlds – the poor becoming better off, and at a faster pace than the rich. Both are true - this **is** *the reality of the globalization period. In contrast, the conventional wisdom is that the poor countries grew at a significantly slower rate.*

The most popular of all economics data are those reflecting the GDP statistics on growth. Whether the concern is with poverty reduction or stock markets, analysis of GDP figures are mandatory. These figures tell nothing about the *distribution* of growth, but they do inform on the increase in aggregate output. If there is such an increase, there can be a possibility of poverty reduction; with declining aggregate output, the poor can only be helped by massive redistribution, something that may not be politically feasible. So growth is necessary to achieve poverty reduction; whether it is sufficient depends on the likelihood that inequality will worsen by a magnitude greater than economic growth – something that is theoretically possible, but to date not experienced.[4] Note that inequality can worsen with a decline in incomes (e.g. countries of the former Soviet Union). What is being asserted is that it is unlikely that the magnitude of inequality increase is greater than the magnitude of positive growth i.e. growth accompanied by inequality is not expected to lead to a decline in absolute levels of living.

Table 1 presents the results. The rich and the poor world (the rich constituting the OECD countries plus Japan, and the poor world the rest) *diverged* during 1960-80 and *converged* 1980-2000. In the planning period, the industrialized world grew at a 1 percentage point higher (3.4 percent versus 2.2 percent per annum), but the situation

[4] If a population is organized into distinct income groups, then the (log) income change of each group is equal to the (log) change in average income plus the (log) change in the share of total income of the group. The latter is a measure of inequality. Over the last five decades, the average 20 year change in income has been more than 35 times the average change in income of the bottom 20 or bottom 40 percent of the population. If only positive 20 year growth episodes are considered, then the ratio becomes upwards of 90! In other words, the probability that income inequality change is a large fraction of total income change over any sustained period is highly unlikely, and especially unlikely when positive growth episodes are considered.

Table 1: Income growth rates (national accounts data, local currency)

Region	Number of Countries	Population (millions) 1960	1980	2000	Annualized per-capita growth Planning 1960-80	Globalization 1980-00
Non industrialized World						
Sub-Saharan Africa	34	188	320	549	1.13	-0.09
Eastern Europe	21	287	340	401	4.08	-1.29
Latin America	25	206	345	497	3.15	0.44
NIW excl. Asia	90	779	1166	1702	2.82	0.06
China + India	2	1102	1669	2280	1.63	5.99
Asia	19	1482	2288	3191	1.86	5.15
World						
Poor World	109	2261	3454	4893	2.18	3.43
Rich World	22	630	752	850	3.42	2.01
World	131	2891	4206	5743	2.41	3.21

Source : World Bank, World Development Indicators, CD Rom, 2003. Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

reversed in the globalization period with the poor world now growing at 3.4 percent vs. only 2 percent per annum for the rich world. For the past 40 years, there is mild convergence - residents of the developing world increased their per capita incomes by 207 percent in comparison to a marginally lower 197 percent increase for the rich world.

These growth rates are based on population-weighted national accounts data (World Bank, *World Development Indicators*, CD Rom). These simple computations point to a simple fact – on an average basis, it is *not* the case that the poor countries have grown at a lower rate than the rich countries over the last forty years, and especially not the case for the last twenty years. If this is the simple reality, then how come the angst about the poor countries growing at a slower rate?

Possible problems with the simple conclusion that poor countries grew faster in the era of globalization, 1980-2000.

It is often said, and sometimes true, that statistics lie and averages hide more than they reveal. The above conclusion will be subjected to several tests below; anticipating the results, there is no basis for the oft-cited QGO conclusion that per capita income in poor countries has grown slower than the rich countries.

Growth rates measured in PPP rather than local currency – still the convergence result. Using 1993 PPP data, convergence during 1980-2000 is still observed: faster growth in developing countries, and faster by 1.4 percent per annum. For 1996 PPP data, the convergence rate (excess growth in poor countries) is a bit lower at 0.9 percent per annum. The same exercise was repeated with PPP 1985 data adjusted for years after 1992 to the 1993 PPP series; the same convergence result is observed (Table 4).

Convergence if incomes measured from household surveys? Yes

There is yet another caveat to the conclusion that globalization growth has been especially beneficial to the poor. This objection arises from the legitimate concern that the growth rates are based on national accounts data (whether local currency or PPP) and that such data are inappropriate for considerations of human welfare, especially the welfare of the poor. The argument is that national accounts (NA) include inappropriate data (for welfare) like corporate profits. Analogously, the national accounts for consumption include inappropriate data on consumption of institutions (e.g. prisons,

Table 2 : Regional per-capita annual income, 1960-2002; 1993 PPP $

2a: 1993 PPP data, national accounts

Region	1960	1980	2000	2002
Non industrialized World				
Sub-Saharan Africa	1343	1872	1555	1424
Eastern Europe	3665	8286	6110	6544
Latin America	3566	6512	6552	6256
NIW excl. Asia	2880	5431	4493	4577
China + India	690	905	2851	3139
Asia	774	1205	3139	3285
World				
Poor World	1500	2632	3610	3723
Rich World	9632	17724	24455	24539
World	3274	5329	6698	6855

2b: 1993 PPP data, household survey

Region	1960	1980	2000	2002
Non industrialized World				
Sub-Saharan Africa	1121	1555	1361	1267
Eastern Europe	3121	7019	4183	4497
Latin America	2566	4650	3760	3632
NIW excl. Asia	2296	4278	2902	2967
China + India	453	584	1296	1409
Asia	522	796	1621	1664
World				
Poor World	1132	1971	2066	2106
Rich World	5030	8833	11625	11651
World	1982	3197	3482	3541

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes: 1. Poor world is the same as the non-industrialized world(NIW) and is defined as all non-OECD countries(the rich world); Eastern Europe includes countries of the former Soviet Union; Japan is not in Asia but in the rich world.

hospitals, churches), other non-governmental bodies (NGOs), and other data (imputed rents, consumption of interest etc). The advocates of the survey data only approach (e.g. Ravallion(2003a), Deaton(2003)) contend that for welfare considerations, survey data is the "correct" data and should not be contaminated by mixing such data with national accounts data.[5]

In addition to national accounts data, Tables 2-4 document income levels and growth rates for different regions based on household survey data[6]. *The result is the same as with the NA data* – poor countries grew faster than rich countries. The survey growth rates are lower than NA growth rates by a full percentage point for the developing countries (2 vs. 3 percent) and only marginally lower for the rich countries (1.4 vs. 1.6 percent). Use of household survey data attenuates the convergence result, but does not eliminate it. The fact that there is considerably more "missing income" in developing countries is discussed in more detail in the section on poverty; what deserves emphasis here is that the convergence conclusion remains intact - relative position of poor countries has improved in the last twenty years.

These growth results constitute the all important piece of evidence documenting the golden nature of development in the eighties and nineties. The dis-aggregated picture, however, is not one of *universal* improvement in the lives of the poor. Two continents – sub-Saharan Africa and Latin America – did not witness any increase in incomes over twenty years i.e. the average incomes in these countries in 2000 was equal to the average income prevailing twenty years earlier. This was obviously not the golden era for them. However, two points are worthy of note. First, the average income in both these regions was considerably higher than the average Asian income in 1980. Second, the number of people residing in these two continents was approximately the same as just the population of India. In other words, the average bottom 40 percent individual in

[5] The survey vs. national accounts data debate becomes serious for calculations of trends in absolute poverty (Section 4). What needs to be emphasized is that the survey only approach is never exclusive; except for the US, annual household surveys are not conducted in most countries. Consequently, both the survey and NA data advocates use growth rates as recorded by NA data for estimating mean income (or consumption) in non-survey years.

[6] The survey income mean for any year is the measured survey mean, or if a survey was not conducted, then the survey mean is calculated as the previous survey mean with the NA growth rate grafted onto that mean. For countries that have never had an income survey, the survey capture from the consumption survey is used i.e. it is assumed that the survey/NA ratio for income is the same as the measured survey/NA ratio for consumption.

Table 3 : Population weighted growth rates, 1960-80 and 1980-00

Cumulative growth in average per-capita income

	Planning		Globalization	
	NA	Survey	NA	Survey
Region	**1960-80**	**1960-80**	**1980-00**	**1980-00**
Non industrialized World				
Sub-Saharan Africa	33.2	32.8	-18.6	-13.3
Eastern Europe	81.6	81.1	-30.5	-51.8
Latin America	60.2	59.5	0.6	-21.3
NIW excl. Asia	63.4	62.2	-19.0	-38.8
China + India	27.2	25.5	114.7	79.7
Asia	44.3	42.2	95.8	71.1
World				
Poor World	56.2	55.5	31.6	4.7
Rich World	61.0	56.3	32.2	27.5
World	48.7	47.8	22.9	8.5

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Table 4: Annual growth, different PPP series

National Accounts Data

1960-80	Poor World	Rich World	World
Local Currency	2.2	3.4	2.4
PPP 93	2.3	3.3	2.5
PPP 96	2.4	3.5	2.6
PPP 85	2.5	3.4	2.6

1980-00	Poor World	Rich World	World
Local currency	3.4	2.0	3.2
PPP 93	3.0	1.6	2.8
PPP 96	3.0	2.1	2.9
PPP 85	2.6	1.7	2.4

Source : World Bank, World Development Indicators, CD Rom, 2003,Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

the non-growing regions was considerably less poor than her Indian counterpart. Eastern Europe and the former Soviet Union also did not grow 1980-2000; indeed, because of the large structural change involved, mean incomes in these countries declined by about a third. However, by the traditional $ a day criterion, these countries had very few poor people.

Peculiar definition of convergence – ratio of growth of richest and poorest country
There is a view that the faster aggregate population-weighted growth of poor countries noted above, does *not* reflect convergence. (Pritchett, Zettelmeyer(2003)). According to the practitioners of this minority view there has not only been divergence, but big-time divergence. This is demonstrated by comparing the growth in income of the *richest* (single) country (the US) with the growth in income of the *poorest* (single) country (Yemen in 1960 with a population of 5.2 million, Tanzania in 1980 with a population of 19 million).[7] This definition is structurally flawed because a "permanent" country (the one that is rich) is being compared with a "temporary" poor country (which maybe the poorest in a particular year due to transient reasons like a severe drought, civil war etc.)

This faulty view of convergence was modified by the World Bank in its 2000/01 WDR *Attacking Poverty*, when instead of making a one-on-one comparison, a 20/20 comparison is made. The 2000/01 WDR finds that if it conducts the comparison in terms of the richest 20 and poorest 20 countries (with the latter explicitly excluding the large and fast growing China) , it does obtain the "correct" divergence conclusion.

"Excluding China, the relative income of the richest *twenty* countries, compared to 20 poorest countries, was higher in 2000 than in 1960.Such figures indicate that income inequality between countries has increased sharply over the last 40 years" (World Bank, WDR 2001, p.51).

In *Imagine*, and Bhalla(2003b), it is documented that *with or without China*, and for a wide range of country groups (e.g. top and bottom 15 or 16 or 20 countries) there was convergence during the sub-period 1980-2000 i.e. the poor countries grew at a faster

[7] Both for the 20 year period 1960-80 and the 40 year period 1960-2000, the per capita growth rate (1993 PPP$) in the poorest country, Yemen, (4.3 percent and 2.7 percent per annum) is faster than that which occurred in the US (2.2 and 1.9 percent per annum, respectively). So, even by the wrong yardstick, the divergence result is not reached for the 1960-2000 period.

rate in the era of globalization. *Only when the inequality increasing planning period is inappropriately mixed with the inequality reducing globalization period is there even a hint of divergence.*

*Countries should **not** be weighted by population size*

There are only two assumptions which can yield the result that inequality has worsened with globalization. The first method argues that since policy is made at a country level, the country should be the unit of analysis, and that country growth rates, unweighted by population, should be used. This assertion is correct – unweighted, the poor countries "grew" at 0.61 percent per annum , 1980-2000 compared to 2.1 percent per annum for the developed world. However, it is not clear how meaningful is this calculation. Several poor countries are very very small; for example, it takes an aggregation of 67 countries to reach a size of 100 million, and an aggregation of 137 countries (ranked from lowest to highest population) to reach the size of 1 billion. If growth data for China and India and Indonesia and Bangladesh and Vietnam and Pakistan were reported in terms of state or province growth, "unweighted" growth rates would also yield the convergence result. Very few people, and certainly not any economists, should take the concept of unweighted growth rates seriously.

*Income inequality should be measured in terms of **absolute** deviations of income*

Equally meaningless is another contention (e.g. Milanovic(2003), Ravallion(2003)) that inequality has worsened when the calculation is done on an absolute basis e.g. if a rich country with per capita income of $ 30,000 grows at 1 percent (increase in absolute terms of $ 300) then this is inequality increasing if in comparison, a poor country, with a per capita income of only 500, grows at the phenomenal rate of 50 percent (a lower annual increase in income of $ 250).

No matter what the definition (local currency or PPP) or source (NA or surveys) of data, incomes grew at a faster rate in the poor countries during 1980-2000. Several attempts at showing that this was not the case were shown to rest on either shaky foundations (e.g. use of unweighted data) or "faulty" computations (e.g. reporting data for the period 1960-2000 but not for the globalization sub-period 1980-2000).

Convergence and Asia is the major story about world growth and inequality in the last twenty years. The largest continent, Asia, grew at a rapid rate, 5 percent per annum for more than 20 years. Household surveys reveal a lower, but still an absolutely high average growth rate of 3.6 percent per annum, a rate which results in a more than doubling of per capita income over 20 years. Asia has 19 major countries and a population of 3.2 billion (excluding Japan which is considered for these calculations as part of the industrialized world). The other 100 plus countries in the world account for a lower population – about 2.5 billion. Asia was also the poorest region of the world in 1960 and 1980. In 1960, its per capita per day income was 2.1, considerably lower than the PPP$ 3.7 observed for Africa. In 1980, the gap had narrowed only slightly. Today (in 2002) per capita incomes in Asia are more than twice observed in Africa – PPP$ 9.0 versus PPP$ 3.9. Asia has almost caught up with average incomes in the non-industrialized world; the present 33 percent gap is expected to be eliminated by 2010. *That* is the story of development during the era of globalization for the largest concentration of humanity, especially the poor.

The unambiguous picture which emerges is that the real beneficiaries of development during the last 20 years were the absolute poor, (three-fourths of whom resided in booming Asia). This conclusion is indicated by results at three levels of analysis: at a first level, the poor countries grew faster than the rich countries; at a second level, *within* the poor countries, the poorer countries of Asia grew faster than the not-so-poor countries of Eastern Europe, Latin America and sub-Saharan Africa. And within Asia, the poorer people registered higher growth. Knowledge of the growth performance of just two formerly very poor countries, China and India, abundantly makes clear that the poor countries, and the poor, did grow faster than rich countries, and the rich.

Section 3: **Inequality**

Debate: Notwithstanding the abundant evidence of faster growth in poor countries, the early conclusion on world inequality was that it had worsened during the era of globalization. All of the "new" research points to the reality that the last two decades were the best for world inequality, and best for the last 200 years.

There are some who consider trends in inequality, even in the context of a growing economy, as an important aspect of utility; others describe the study of inequality as the "economics" of envy. The fact remains that inequality is a much talked about, and even more researched, subject. Inequality is the relationship between the average income accruing to a group, and the average income in the economy as a whole. There are various indices which compress the "distribution of income" into a single statistic – the Gini is the most popular. Its value ranges between 0 and 1 (or 0 and 100) with 0 signifying perfect equality (all groups have the same average income) and 100 signifying complete inequality (just 1 person has the entire income). There are other indices as well e.g. Theil, log variance etc. Most research is concentrated on the Gini index, a practice followed here as well.

Table 5 documents the trend in inequality in different regions of the world for the period 1960-2002. Today, with a Gini level of 64.3, world inequality is at its lowest for the last 100 years (inequality results prior to 1950 are taken from Bourguignon-Morrisson). The decline since 1980 – 4.4 percentage points – is enormous; as shown in *Imagine*, each 1 percentage point difference in the growth rates of the rich and poor world leads to a 0.18 percentage point decline in the world Gini. In other words, for a decline in Gini of 4.4 points, the developing world had to have shown a positive *excess*[8] growth of 24 percent, or 1 percent per year – not coincidentally, approximately equal to the excess growth documented previously.

The poor world shows an even larger 10 percentage points decline in inequality – from a peak of 63.6 in 1980 to 53.6 in 2002. In contrast, the industrialized world shows a flat trend, and at a considerably lower level of inequality, for the last 20 odd years. If 1996 PPP data are used, the level of world inequality is even lower – a Gini of 63.6 in 2002.

[8] Excess is the gap between the per capita annual growth rate of the poor and rich countries.

Table 5: Regional inequality index for per-capita income (Gini),1960-2002

5a: 1993 PPP data, national accounts

Region	Gini 1960	1980	2000	2002	(Log) Growth Planning 1960-80	Globalization 1980-00
Non industrialized World						
Sub-Saharan Africa	67.6	68.8	67.5	67.2	-1.8	1.9
Eastern Europe	28.6	27.9	40.8	42.1	2.4	-38.0
Latin America	55.9	56.2	54.0	53.9	-0.6	4.1
NIW excl. Asia	52.6	56.3	60.0	59.7	-6.9	-6.3
China + India	39.2	35.0	41.7	42.7	11.2	-17.5
Asia	42.3	46.6	49.1	48.0	-9.6	-5.3
World						
Poor World	58.1	63.6	54.6	53.6	-9.1	15.2
Rich World	41.4	36.3	37.7	37.8	13.0	-3.8
World	66.7	68.7	65.1	64.3	-3.0	5.5

5b: 1993 PPP data, household surveys

Region	Gini 1960	1980	2000	2002	(Log) Growth Planning 1960-80	Globalization 1980-00
Non industrialized World						
Sub-Saharan Africa	61.2	61.8	61.8	61.0	-1.0	0.0
Eastern Europe	32.4	31.8	44.5	46.1	2.0	-33.5
Latin America	56.5	57.9	55.3	55.6	-2.6	4.7
NIW excl. Asia	52.6	56.7	58.5	58.7	-7.5	-3.0
China + India	42.9	37.3	39.9	40.0	13.9	-6.8
Asia	44.9	47.7	50.5	48.2	-6.0	-5.7
World						
Poor World	60.9	65.8	56.1	54.9	-7.8	16.0
Rich World	43.0	37.2	37.1	37.3	14.3	0.3
World	64.3	66.3	63.7	62.9	-3.2	4.0

Source : World Bank, World Development Indicators, CD Rom, 2003.Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes:1. Negative sign in Gini growth implies increase in inequality. This is done to keep parity with quintle share sign implication.

The trend, however, remains intact irrespective of which PPP series (1985,1993 or 1996) is used. (Table 6).

Possible problems with the simple conclusion that world inequality declined in the era of globalization, 1980-2000.

Inequality indices are a single value reflection of an entire distribution and thus it can be argued that they hide more than they reveal. Also, overall inequality indices are not easy to comprehend and have internal biases e.g. the Gini weights people in the middle of the distribution more, the Theil index weights upper incomes more. Consequently, what has been calculated for each region, in addition to the Gini, is the change in the share of income (or consumption) accruing to the *bottom 40 percent* of the population.

The choice of 40 is not entirely arbitrary – it reflects closely the approximate magnitude of the poor population in 1960. Given this correspondence between the bottom two quintiles and poverty, the "excess" growth in incomes of this "group" can serve as an inequality index. If the excess is positive, then inequality has declined – and the magnitude of the excess indicates the magnitude of inequality change. For the non-industrialized world, the bottom 40 percent (dubbed poor40) are the absolute poor; for the rich world, they constitute the relative poor.

This "share index" of inequality shows the same trend – the share declines and inequality worsens considerably (a decline of (log) 17 percent) in the planning period, and improves substantially in the subsequent 20 years (an increase of 37 percent). In terms of conventional elasticities, what the numbers imply is that for each 10 percent growth in average incomes, the incomes of the poor increased by a five times larger amount - i.e. a large elasticity equal to 5, surely, a very pro-poor development.

All inequality indices are built up from the statistics pertaining to the shares of income accruing to different percentiles or sectors of the population. The quintile results reported above are basic to any measure of inequality; these show an unambiguous improvement. The incontrovertible conclusion, not contingent on source of data (survey or national accounts): inequality improved in the developing world 1980 to 2000. And in striking contrast, no matter what the data source or inequality index, inequality worsened in the previous 20 years of planning.

Table 6: World inequality according to different PPP series.

Region	Gini						
	1950	1960	1970	1980	1990	2000	2002
Poor world							
1985 PPP	49.9	50.8	54.3	56.4	54.7	52.9	52
1993 PPP	58.8	58.1	61.4	63.6	58.5	54.6	53.6
1996 PPP	54.5	55.6	58.6	60.5	56.7	53.9	52.9
Industrialized world							
1985 PPP	48.9	42.9	40.5	37.2	38	38.2	38.3
1993 PPP	47.3	41.4	39.5	36.4	37.7	37.8	37.8
1996 PPP	46.1	41	39.3	36.6	37.9	38.2	38.3
World							
1985 PPP	67.8	64.7	66.5	65.6	65.8	63.3	62.4
1993 PPP	68.8	66.7	68.9	68.7	67.5	65.1	64.3
1996 PPP	65.2	64.4	66.5	66.9	66.2	64.4	63.6

Source : World Bank, World Development Indicators, CD Rom, 2003.
Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003),
www.pwt.econ.upenn.edu

Standard errors on inequality estimates are small

Given the extent of estimation involved (distribution data for each country, PPP exchange rates etc.) what kind of confidence can be placed in this estimate of a trend decline (and unprecedented for the last 150 years) in world inequality? Bourguignon-Morrisson, who have conducted the estimation for the 1820-1992 period, present standard errors - these standard errors are very very small, and less than 1 percent. Hence, the inequality improving result reported above is robust.

*Why inequality **has** to have declined 1980-2000*

There is a simple heuristic argument as to why world inequality *has to have declined* in the last twenty years. For this conclusion, one needs to only interpret the data for India and China, and four "assumptions": first that these two countries are highly populated and with 2.3 billion people, contain almost 40 percent of the world's population. Second, that these were very poor countries, at least in 1980. Third, that the rich countries grew at a significantly lower rate than these two countries (see Tables 1 and 2) between 1980 and 2000. Fourth, one can even add to this mixture worsening inequality in both India and China[9]. The inevitable result is incontrovertible – world individual inequality has to have declined between 1980 and 2000. Why? Because the *non-poor* in these two large poor countries constitute a large fraction of the world's *poor*.

What about the World Bank result of a large increase in inequality?

Given the reality of decreasing inequality – whether measured by survey or NA data or any PPP (1985,1993 or 1996) data – how did the World Bank (e.g. Milanovic) achieve the result of significantly worsening inequality? By use of the highly original and unusual method of mixing survey means of *consumption* with survey means of *income* i.e. for countries for which Milanovic did not have access to survey data on income distribution, Milanovic used the survey data on consumption.

Use of India and US data illustrates the consequences of the Milanovic mix-up. Indexing US GDP per capita to be a 100 in 1988, Indian GDP registers at 6.8 i.e. the ratio of per-capita incomes, as measured by national accounts, is a large 14.7. For the US Milanovic has an income survey estimate; for India, he has only consumption survey data. If

[9] As shown later, there is no evidence (at least from official distribution data) of a worsening trend in inequality in India, 1983-2000 while there is considerable evidence of such worsening in China.

consumption is approximately 70 percent of income, then a consumption proxy for Indian incomes will make such incomes artificially lower. So Indian income a la Milanovic is not 6.8 but 30 percent lower at 4.8; the index of inequality, ratio of incomes for the two countries, becomes 20.8. In other words, mixing up consumption levels from a poor country with income levels from a rich country, leads to inequality being 40 percent higher (20.8 rather than 14.7) than reality.

The mixed-up Milanovic method results in several other strange results. For example, South Korea emerges richer than the United Kingdom in 1993!, and Ethiopia richer than India , and Tanzania richer than Indonesia, and Kenya richer than China – the list of "smell test" anomalies is literally endless.

These mix-ups all refer to the level of inequality, not its change. The major Milanovic result (reproduced in various intellectual forums, most famously by Robert Wade in the *Economist*, 2000) pertained to the unprecedented pace of *increase* in inequality. The latter is affected by another Milanovic (and World Bank) assumption i.e. exclusive use of survey data, which implies that survey growth rates (when available) supersede the information on growth obtained from national accounts. Ordinarily, and till the mid-eighties, the trend growth revealed by survey means was near equal to the trend growth revealed by national accounts. This occurred because surveys continued to "capture" the same fraction of national income (or consumption) in different years. However, as documented in detail in *Imagine* (Chapter 7, p. 103-28), and now echoed by Ravallion(2003b) and Deaton(2003), the growth rates post 1985 were considerably below the NA growth rates. Further, the *decline* in the survey-capture ratio is much larger for developing than developed economies. This result occurs because poor countries in Asia and Africa have mainly consumption surveys, and rich countries have mainly income surveys; why consumption surveys should show a greater decline in the S/NA ratio than income surveys is a subject of on-going research. In any case, what the data imply is that the survey method used by Ravallion, Milanovic and Deaton is biased towards showing a relatively lower than actual increase in the average incomes of poor nations i.e. biased towards showing an increase in inequality.

Divergence if calculation done not in terms of countries, but individuals ?

There are two important ways in which the above inference of inequality improvement can be misleading. The growth calculations are for increases in average income, where

it is implicitly assumed that each person in the population has the average income prevailing in the country. A correct inference on inequality change has to be based not on growth rates in average country incomes, but on the growth rates in incomes of the different individuals *within* each region. It could be the case that most of the growth in the poor countries came about due to faster growth among only the rich segments of the population. The higher poor country growth (relative to average rich country growth) observed earlier could just be documenting increasing inequality. This is another way of stating that inequality within the poor countries worsened with high growth, a proposition for which there is some supporting evidence in the form of growing inequality within China.

World individual income inequality (W3i)

A proper analysis of what happened to the incomes of different segments of the world population requires the construction of a *world* distribution of income; a distribution based on the assumption that there is no single country, only one world (*Imagine there's no country*). The average growth rates emerging from such a construction are different than the population weighted growth rates. This can be illustrated as follows: assume two countries in the world, both with equal population. The rich country has an income of 100 while the poor country has an income of 10. The average per person world income is 55. Now assume that the incomes of all the individuals in the poor country increase by 10 percent and the income of all the individuals in the rich country increases by only 1 percent. The new average income of the world is (11 + 101)/2 or 56, reflecting an average growth of close to 2 percent. The alternative population weighted growth rate is a much higher 5.5 percent. Since both calculations are population weighted, what is the difference? The difference is that in the former instance, levels of country income are first aggregated to obtain world or regional income and then the growth rate of this world mean obtained (*individual weights*), while in the latter case the population weighting is done on country growth rates (*country weights*).

Table 7a reports on growth rates of individual weighted incomes in different regions of the world. Individual incomes in both worlds (rich and poor) grew at near equal rates during 1960-80 – 2.8 percent per annum vs. 3.0 percent (rich world). The two worlds expanded at the same rate in the globalization period, but this rate – 1.6 percent per annum – was lower than that recorded in the earlier planning period.

Table 7: Comparison Between country and individual weighted average annual growth rates.

7a: 1993 PPP, national accounts

	Growth in Average Per Capita Income			
	Planning(1960-80)		Globalization(1980-00)	
Region	**Country Weight**	**Individual Weight**	**Country Weight**	**Individual Weight**
Non industrialized World				
Sub-Saharan Africa	1.6	1.7	-0.5	-0.9
Eastern Europe	4.1	4.1	-1.5	-1.5
Latin America	3.3	3.0	0.0	0.0
NIW excl. Asia	3.1	3.2	-0.4	-0.9
China + India	1.6	1.4	5.6	5.7
Asia	1.9	2.2	4.8	4.8
World				
Poor World	2.3	2.8	3.0	1.6
Rich World	3.3	3.0	1.6	1.6
World	2.5	2.4	2.8	1.1

7b: 1993 PPP, household surveys

	Growth in Average Per Capita Income			
	Planning(1960-80)		Globalization(1980-00)	
Region	**Country Weight**	**Individual Weight**	**Country Weight**	**Individual Weight**
Non industrialized World				
Sub-Saharan Africa	1.7	1.6	-0.5	-0.7
Eastern Europe	4.1	4.1	-2.4	-2.6
Latin America	3.1	3.0	-0.9	-1.1
NIW excl. Asia	3.1	3.1	-1.1	-1.9
China + India	1.6	1.3	4.1	4.0
Asia	1.9	2.1	3.5	3.6
World				
Poor World	2.3	2.8	2.0	0.2
Rich World	3.2	2.8	1.4	1.4
World	2.4	2.4	1.9	0.4

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes:

1. " Country weight" figures refer to population-weighted growth rates for the countries comprising each region.
2. "Individual weight" figures refer to the growth rate of per-capita consumption in each region i.e. first the figures for consumption are aggregated, and then the growth rate obtained. It is this growth that is appropriate for calculations of regional or world poverty.

Table 7b documents the trend in survey incomes[10] for different regions of the world. These are the only data to suggest that the poor world grew at a slower rate – at 0.2 percent per annum, 1980-00 compared to 1.4 percent per annum for the rich world. World individual income increased at the rate of only 0.4 percent per year. Given the fact that the national accounts based income growth rates were equal, this lower growth rate for the poor world is entirely due to the fact that the survey to national accounts ratio declined at a faster pace for the poor world.

These statistics provide a rationale for the concerns about the (presumed) inequality inducing effects of globalization. The poor world growing at a slower pace than the rich world (survey data) is a legitimate worry. But Table 8 reveals that this worry would be misplaced. These very same data showed that the share of income of the bottom 40 percent increased by (log) 43.7 percent between 1980-00. In other words, the poor in the world registered an average growth rate of 2.2 percent per annum compared to only 0.4 percent per annum (Table 7) for the average individual in the non-industrialized world.

For poverty calculations, the appropriate reference is the income of the individual in the bottom 40 percent of the population. And for these individuals, the ones that really matter, the globalization period was golden.

Thus, surprising as it may seem, there is *zero* evidence for the widespread conventional wisdom that world inequality had worsened in the globalization period. Indeed, the evidence is the opposite – poor countries, and poor individuals in poor countries, grew significantly faster than either the non-poor in their own countries, or the rich residing in the developed world.

[10] Only national household surveys are used. Since such surveys are not conducted annually, as per conventional practice, for missing survey years, the national accounts *growth* rate is grafted onto the previously obtained survey mean. This computation allows for the generation of a parallel survey mean series for all the countries and all the years and allows for generation of statistics for all years.

Table 8: Individual weighted growth rates, 1960-80 and 1980-00

Cumulative growth in income of poor40 (bottom 40% of the population)

Region	NA 1960-80	Survey 1960-80	NA 1980-00	Survey 1980-00
Non industrialized World				
Sub-Saharan Africa	31.9	33.8	-15.4	-16.8
Eastern Europe	83.4	84.4	-68.9	-89.6
Latin America	54.9	50.1	10.1	-6.9
NIW excl. Asia	35.7	38.9	-25.6	-29.4
China + India	36.4	40.1	95.2	70.7
Asia	36.6	40.2	82.4	61.8
World				
Poor World	35.5	38.4	59.9	45.7
Rich World	79.0	77.1	32.8	30.4
World	31.8	34.1	60.0	43.7

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes: 1.The income of the bottom 40% of the population, ***poor40***, is obtained as X*Y/40 where X is the share in income of the bottom 40%, and Y is per-capita income, 1993 PPP$.

Some common myths, or not so true conjectures

The major economic event contributing to inequality decline is convergence - convergence between the productivity and wage levels of the rich industrial North with the poor, populous South. There is a limit to how much education an individual can have – the industrialized West reached this asymptotic limit some time back (not everyone goes on, or will go on, to obtain a Ph. D). In the poor countries, education is expanding at a rapid pace, albeit from a poor base. But it is the change in assets that matter for change in inequality. During 1980-00, average educational attainment in the world increased by 30 percent (from 4.6 to 6 years); for the poor world, the increase was a much larger 54 percent (from 3.2 to 5 years). For middle school completion, the divergence is greater – 38 percent increase in the rich world, less than half of the 94 percent increase in the poor world.

There is a second, equally powerful effect at work. Thanks to globalization (and this is not a coincident factor but a direct causal influence) transaction, transportation and communication costs are rapidly decreasing. The records of a patient in the US are stored in a computer in Bangalore. Directory inquiry in the US is handled by a young woman in Haryana. This trend will not stop. Ditto for new manufacturing plants springing up now in Brazil, and even Argentina, now that the currencies of these countries are competitive. Latin America is likely to overturn the record of the lost last two decades. Globalization has a powerful influence in reducing the productivity wage gap i.e. in poor countries, the international productivity level is below the international wage level. "Arbitrage" will cause more of these individuals to be incorporated in global production – as this occurs, the relative wages rise in poor countries. Coupled with an increase also in human capital, world inequality declines – and will continue to decline.

Inter-regional inequality

Almost two-thirds of global inequality was contributed by differences in mean incomes across countries in 1950. (Table 9). The globalization trend discussed above has reduced such differences – today across country inequality contributes only two-thirds of the total. For the industrialized world, such differences account for only a trivial amount of individual inequality in the West – only 5.6 percent. In other words, per capita income levels in the North are very equal – and considerably more equal than 1950 or 1960, when such differences accounted for a fourth. In the poor world, cross-country

Table 9: Share of Across Countries or Inter-Country Inequality in Total Inequality , 1950-2000

National Accounts data

Year	Poor world %	Rich world %	World %
1950	55.6	37.5	71.3
1960	51.9	22.7	68.6
1970	55.3	8.7	68.9
1980	57.6	6.9	70.1
1990	49.2	5.9	67.8
2000	38.6	6.1	63.6
2002	36.1	5.6	62.6

Household Survey Data

Year	Poor world %	Rich world %	World %
1950	60.4	42.4	68.5
1960	56.9	29.2	65.2
1970	59.7	16.4	65.7
1980	61.6	11.7	66.3
1990	54.9	8.6	63.8
2000	43.2	5	61.1
2002	40.9	5.2	60.1

Source : World Bank, World Development Indicators, CD Rom, 2003.Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

differences in average levels of living accounted for more than a half of Third World inequality. Today, thanks to the exceptional high growth in India and China, this factor accounts for only 36 percent. This trend of lessening importance in inter-country income levels in the South is likely to continue, leading to further declines in overall world inequality.

Intra-regional inequality

The other half of this trend is the increase in the share of intra-country inequality i.e. inequality within countries is increasing. This has been the case for several countries in the industrialized West, for most if not all of the countries in Eastern Europe and the former Soviet Union, and for several countries in Asia e.g. China. However, most recent data suggests that this "step-function" increase in inequality has been arrested, and for some there is movement towards lesser inequality. In Latin America and sub-Saharan Africa, two continents with extremely high levels of inequality, the trend is towards increasing within country equality. Thus, there are few indicators suggesting a continuing increase in within country inequality.

Intra Country inequality

Until recently, the conventional wisdom (Deininger-Squire, Dollar-Kraay) was that income distribution in the *average country* did not deteriorate. While there were exceptions (e.g. UK, USA and China) the real trend was of no change. This view has been challenged by both Cornia and *Imagine*; both cite compelling evidence to suggest that on a country basis, inequality did worsen significantly in the 1980-00 period.

However, there has been one significant, and surprising, exception to the trend of worsening within country inequality – India. No existing household survey data set in India shows any sign of increasing inequality. Indeed, the large sample National sample Survey (NSS) of India shows equality to have marginally improved between 1983 and 1999-2000 – from a . Gini level of 32.5 in 1983 to a lower 32.0 level in 1999-2000. With separate price deflators for rural and urban areas, equality improved markedly – from a Gini of 34.4 to a Gini of 31.7 in 1999-2000.

Both Ravallion(2000) and Deaton-Dreze(2002) reach a very different conclusion for India. Both also use the official National Sample Survey data for their computations. How

are different results possible from the same data? Ravallion achieves his result by mixing the small sample NSS surveys with the large sample NSS surveys. If the mix-up is not done, his results also show no inequality change. Deaton-Dreze achieve their result by comparing an unadjusted (i.e. raw data) distribution for 1993-94 with an *adjusted* 1999-2000 distribution. The adjustments were deemed necessary as the 1999-2000 data had different recall periods for items of consumer expenditure e.g. food consumption was asked on both a 7 and 30 day recall period compared to only a 30 day recall period in the 1993-94 survey. In Bhalla(2003d) I attempt to replicate (and extend) the Deaton-Dreze inequality measurement for the 1987-88,1993-94 and 1999-2000 survey years. The result – no trend in inequality in the adjusted consumption series. Thus, the conclusion that inequality did not worsen in India between 1983-2000 is robust.

World Inequality Decline – the new conventional wisdom?

The first to document a flattening trend in world inequality was Schultz. His calculations were the crudest – he assumed a uniform distribution for the entire population i.e. each individual in the country received the per capita income .of that country. He used the 1985 PPP series. By definition, he ignored the large within country distributional changes that had occurred. (Increases in inequality in China, the US, UK, and all of the countries of the formerly Soviet Union). The results presented above pertain to three different PPP series – 1985, 1993 and 1996, and for both national accounts data and household survey data. Individual country distributions have been estimated, and rigorously incorporated into the analysis by three different authors – Bourguignon-Morrisson, Bhalla and Sala-I-Martin. The time-periods covered are different – 1812-1992, 1950-2000 and 1960-1998, respectively. The country selection is different – e.g. Sala-I-Martin excludes eastern Europe. *Yet the result remains the same*. World inequality worsened till the late seventies, and then stabilized, and then started improving at a rapid pace. The reason Bourguignon-Morrisson get a constant inequality result for 1980-1992 is because in that period, inequality was stable – both *Imagine* and Sala-I-Martin get similar results for 1980-92. It is highly unlikely that the Bourguignon-Morrisson method would yield a different than improving inequality result for the post 1992 period. Given that the “outlier” author, Milanovic, is also now obtaining an inequality improving result, one can consider this as the new conventional wisdom.

Section 4: **Poverty**

The controversy: The World Bank claims that the world is on track to meet the poverty reduction goal of less than 15 percent poor by 2015. Non World Bank estimates suggest that this goal was reached in 2000 if not soon thereafter, by all methods, including that of the World Bank. Since the estimates are so far apart, only one set can be correct. For public policy, and for deductions of what should be done to help Africa develop faster, it is imperative that a decision be reached as to whether the past observed growth process in developing countries was efficacious in reducing poverty or not.

Section 2 on growth documented that per capita incomes in the poor world had more than doubled in the last twenty years. Section 3 reported that individual income inequality had declined for the first time in close to 200 years. Poverty, no matter how measured, should have decreased by a considerable amount. But the official scorers of poverty, the World Bank, report that poverty reduction has been disappointingly slow – miniscule, actually, given the high growth observed. How can this low poverty reduction result be possible? It cannot. Why? Because the result is grossly inconsistent with the growth and inequality trends. These trends have been admitted to by virtually all scholars today. How such a state of (wrong) conclusion came to be universally accepted is the story of another paper (see Bhalla(2002b)). This section is devoted to an exhaustive documentation of the evidence on poverty.

Head Count Ratio – An Index of Poverty

The most popular measure of absolute poverty, the head-count ratio, documents the proportion of people whose consumption falls below a pre-defined level. This level is the poverty line, and it varies from country to country depending on the average standard of living. For example, the poverty line in India is close to a dollar a day, for most Latin American countries it is in the $2 to $4 a day, and for the US about $10.5 a day[11]. Since Ahluwalia-Carter-Chenery (1979) defined the (first) world poverty line as equal to the Indian poverty line, the QGOs have led the way with estimates of world poverty. The World bank World Development Report for 1990 introduced the $ a day definition of the poverty line (based on the 1985 PPP price series). A decade later, the WDR for 2000/01: *Attacking Poverty*, introduced the $ 1.08 a day poverty line, 1993 PPP price series. This

[11] All poverty lines in 1993 PPP prices.

new line, the World Bank contends, was equivalent in purchasing power to the old $ a day poverty line.

However, there is some debate regarding the equivalence of the two poverty lines. The World Bank contends that the 1993 line is only 8 percent higher thereby implying that *cumulative* international price increase between 1985 and 1993 was only 8 percent. In contrast, *Imagine* documents that the price increase was closer to 30 percent, 1985-93, and equal to 38 percent, 1985 to 1996.[12] Hence, the correct poverty lines for the three PPP years (1985, 1993 and 1996) *should* be $ 1.0, $ 1.3, and $1.38 per capita per day, respectively.

Imagine and Bhalla(2003b) report that for a variety of non World Bank methods, the head count ratio for the poor world declined sharply, and to a level below the MDG target set for fifteen years later. In contrast, all that the international aid community (led by the World Bank) is willing to commit itself to is the statement that poverty reduction is on "track" to achieve the goal of 15 percent poor by 2015. Which of the two estimates of poverty is right is the challenge for research, and the international development community.

Why such large differences in the poverty estimates ?

The two methods (World Bank and *Imagine*) differ on whether $ 1.08 or $ 1.30 is the appropriate poverty line – results for both lines are presented though most of the discussion centers on the lower poverty line (since the World Bank does not present estimates for the $ 1.3 poverty line). There are several other differences in the two methods, and their results.[13] Most have to do with "data"; Ravallion(2002, 2003) contends that the World Bank makes a special effort to use only representative data, primary sources of data, and does quality control on these data e.g. the Indian national household survey for 1998 is not used even though it fits all other non subjective quality control criteria. Thus, in order to concentrate the debate on substantive issues, uncluttered by data differences, the World Bank poverty data set for 75 countries

[12] See Bhalla(2003c) for an extended discussion about which estimate of international inflation is likely to be accurate; note that US inflation, and USA GDP deflator is the numeraire for PPP calculations, between 1985 and 1993 was 27 percent.

[13] See Zettelmeyer(2003), *World Bank versus Bhalla: An Outsider's Perspective*, for a survey of the *Imagine* and the World Bank methods of estimating poverty.

(posted on the website www.worldbank.org/research/povmonitor) were used for the comparative tabulations, These data were coded, and along with information made available in the World Bank's *World Development Indicators* CD-Rom, and a description of the method described in Chen-Ravallion(2000,2001), there is complete information for a *replication* of the World Bank model. In addition to replication efforts, poverty is also estimated on data assembled for *Imagine* and Bhalla et. al. (2003), the latter study emanating from an Asian Development Bank research project, *Building a Poverty Database*.

Briefly, the World Bank method utilizes data on distributions and means available for more than 200 surveys conducted in 75 countries over the last twenty years; this survey information contains information in local currency nominal expenditures; these are converted into real 1993 data using local CPI deflators, base 1993. This real consumption series is then converted into PPP data using a consumption PPP exchange rate for 1993. The *Imagine* method also utilizes survey distributions, but survey means are ignored and instead such means are proxied by national account means adjusted downward by 15 percent (NA means divided by 1.15) [14]. These means are then converted into a current PPP series using the income exchange rates provided in the WDI CD-Rom. This nominal PPP series is converted into a real 1993 PPP series by deflating by the US GDP deflator, the numeraire price series for the PPP calculations.

While seemingly radically different on several counts, there is only *one* major difference between the two methods.[15] This one difference swamps that swamps all other effects is the ***growth*** rate revealed by survey means (World Bank) and the growth rate revealed by national accounts (*Imagine*). Household surveys have over time been capturing less and less of the consumption levels indicated by national accounts. For example, for India in 1983, the survey to national account ratio (S/NA) was 70.5 i.e. the survey mean accounted for only 70.5 percent of NA consumption. The remaining 30 percent consumption was "missing" in the surveys. This missing fraction increased to 45 percent

[14] The original method of estimating world poverty via national accounts data (Government of India(1993, Ahluwalia-Carter-Chenery, Bourguignon-Morrisson, Sala-I-Martin) uses the national accounts mean without any downward adjustment.

[15] Bhalla(2003c) evaluates the contribution of each component (different PPP deflators, different price deflators, different distributions etc.) and finds that singly and jointly, the contribution of each of these factors is small.

in the 1999-2000 household survey. For China, the corresponding move was from 91.4 to 80.2 percent. For an average developing country, the move was from 78.6 to 71.0 (population weighted) and from 92.6 to 87.1 (not weighted). So no matter where or how one looks, the decline in survey capture is a near universal phenomenon of the nineties[16].

A modified World Bank/Imagine method for estimating poverty

In a report prepared for the Asian Development Bank, a "new" method (termed the ADB method[17]) of estimating poverty was offered. Since different countries have different statistical systems and different degrees of survey accuracy, the survey capture ratios in each country contain information which should not be ignored e.g. for India, it is 71 percent, Indonesia it is 58 percent etc. While the S/NA levels at a particular point in time contain useful information, the growth rates based on randomly changing levels have a very high "noise" component. It is also the case that survey ratios started declining in the nineties. These two facts are taken to construct an adjusted survey mean for each country i.e. it is assumed that the S/NA ratio stays fixed at its stable 1987 level for each country[18]. In other words, it is assumed that for all years, the S/NA ratio for India is fixed at 72.1, for Bangladesh at 100.5, for Indonesia at 58.0 etc. The growth rates revealed by this method are the NA growth rates; the levels are a function of what the S/NA ratio was in 1987.[19]

The Results

The first 3 rows of Table 10 report estimates of poverty according to the World Bank method. The first row presents the published estimates; these, as noted earlier, suggest a slow reduction in poverty, from 28.3 percent in 1987 to 24 percent in 1998 to 21.6 percent in 2000[20]. The second row documents our reproduction. For 2000,

[16] See Bhalla(2002) for an extended discussion and analysis.
[17] This does not imply that the ADB agrees with the method or the results; it is called the ADB method since the research was financed by them.
[18] For estimates of change in poverty, it really does not matter which year is chosen as the benchmark year; for level estimates, later years which have lower S/NA ratios, result in higher levels. (see Bhalla(2003))
[19] Choice of a different base year (say 1998) changes the level of poverty in any given year, but only marginally affects the estimates of the trend decline.
[20] Chen-Ravallion(2001) present updated estimates of world poverty till 1998 and the World Bank's website www.worldbank.org/research/povmonitor updates these estimates till 2000.

Table10: Poverty(Headcount ratio, %) in the non-industrialized world, 1960-2002

	1960	1980	1987	1990	1998	2000	2002
World Bank published			28.3	29	24	21.6	
World Bank reproduced	55.4	43	29.4	28.3	23.2	18.4	16.2
World Bank reproduced (own data for survey means)	47.2	36.5	25.5	21.9	23	17	14.8
***Imagine* method**	41.9	32.5	21.2	18.3	11.1	9.4	7.6
ADB method:							
PPP 1993	48.2	35	26.2	22.8	14.9	12.9	10.9
PPP 1996	52.3	34	24	21	12.7	10.9	9.4
PPP 1985	49.1	31.2	23.8	19.4	13.1	11.6	9.9

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes:
1. See Chen-Ravallion(2000,2001) for results on World Bank published.

2. See text for descriptions of the various methods.

approximately a 3 percentage point *lower* poverty estimate is obtained; for 2002, the poverty estimate is 16.2 percent, very close to the World Bank and QGO target for 2015. The third row is the World Bank method but using our own estimates of the S/NA ratio - this yields a poverty level of 14.8 percent in 2002. It needs emphasis that the MDG seems to have been reached by a method which yields the highest poverty count i.e. a method based on household survey means, consumption exchange rates, and consumer price indexes. *All* other methods and data yield significantly lower poverty estimates.

The next row documents poverty according to the *Imagine* method; the next three, document poverty according to the ADB method of estimating poverty for the three different PPP series. All these computations are based on an extended data set of 110 countries.[21] The new 1996 PPP series shows the lowest poverty levels; and all series show poverty to be below 13 percent, even by 2000.

Additional results based on the ADB method are reported in Tables 11 and 12. In Table 11, poverty in the poor world is reported according to both the 83 cents a day ($1.08 1993 poverty line) and the dollar a day ($1.30 in 1993) poverty line. Even according to the 20 percent higher poverty line, the MDG goal was reached in 2002.

Table 12 reports the results for both poverty lines in the different regions of the world in 2002. Out of the 525 million poor, 231 million or almost half (44 percent) are in Africa, and a marginally lower magnitude, 207 million, are in Asia, and India and China account for three-fourths of the Asian poor.

What happened to poverty, 2000-02

There are no survey based estimates for 2001 and 2002, so how are estimates of poverty possible for these years? When a country does not have a new survey (most countries do not have an annual or even a biannual household survey] it is reasonable and common to assume the same distribution as the *last* available survey distribution, and the mean is forecast to rise at the same rate as the NA mean of per capita

[21] Some important developing countries missed out by the World Bank data set are South Korea and Nigeria.

Table11: Poverty in the non-industrialized world, different PPP series, different poverty lines

	83 cents a day			$ a day		
		PPP base			PPP base	
Year	1985 (PL=$0.83)	**1993 (PL=$1.08)**	1996 (PL=$ 1.45)	1985 (PL=$1.00)	**1993 (PL=$1.30)**	1996 (PL=$1.38)
1960	49.1	**48.2**	52.3	59.5	**57.4**	62.5
1980	31.2	**35**	34	40.9	**45**	43.9
1987	23.8	**26.2**	24	32	**36.2**	34
1990	19.4	**22.8**	21	28	**31.3**	29.3
1998	13.1	**14.9**	12.7	19.2	**21.5**	19
2000	11.6	**12.9**	10.9	17.4	**19.3**	16.8
2002	9.9	**10.9**	9.4	15.1	**16.8**	14.6

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes:

1. 83c a day 1985 prices corresponds to $ 1.08 , 1993 PPP prices; $ a day, 1985 prices corresponds to $ 1.3 a day, 1993 PPP prices.
2. All the results are according to the ADB method, which keeps the survey to national accounts ratio fixed for each country at its 1987 level.

expenditures. This common procedure for updating is used for estimating poverty in 2001 and 2002.

During the period 2000-02, the average cumulative per capita consumption growth in developing countries was (log) 4.5 percent; the preceding two years, the increase was 3.2 percent.[22] Overall, during this four year period, growth was 7.7 percent. The pattern of growth during these years (poor countries in South Asia, and China, growing at an above average pace) caused the share in consumption of the poor to increase by 3.6 percent. This means that the growth in per capita incomes of the poor for this four year period was a large 11.3 percent. For the previous eleven years (1987-98), per capita consumption growth of the bottom 40 percent had increased by 20.4 percent. The poverty decline, 1987-98, 11.3 percentage points; the poverty decline 1998-02 a lower 4 percentage points. Given this high rate of growth in consumption of the poor (11.3 percent), poverty has to have declined by about half this amount[23]; Table 10 showed that for the World Bank method, the decline is about 7 percentage points.

There is little, if any, basis for the contention that the head count ratio of poverty is still some distance away from achievement of the MDG goals. Several different methods, different data, different PPP series, and a 20 percent larger than World Bank poverty line – all point to poverty being in the range of 9 to 16 percent in 2002. There are strong policy implications riding on what the World Bank believes is the poverty ratio, and what reproduction of the World Bank method, and other methods, suggest is actually the case. The development community needs to recognize that its major development goal for 2015, formulated just 2 years ago, has been reached, and most likely was reached at the time of formulation of the goals.

[22] All estimates according to the ADB model.
[23] Below, the exact relationship between consumption growth of the poor and the percentage point decline in the head count ratio is explored.

Table12: Headcount ratio, number of poor in the non-industrialized world, 2002

Region	$ 1.08 a day		$ 1.3 a day	
	Percent poor	Number of poor (millions)	Percent poor	Number of poor (millions)
SubSaharan Africa	44.4	231	51.6	268
Eastern Europe	4.1	16	6.5	25
Latin America	13.6	68	18.2	91
NIW excl. Asia	19.4	317	24.2	395
China India	6.6	152	13.8	321
Asia	6.5	207	13	414
Poor World	10.9	525	16.8	811

Source : World Bank, World Development Indicators, CD Rom, 2003, Various household surveys, Deininger-Squire(1996), WIDER(2002) & Bhalla et. al. (2003), www.pwt.econ.upenn.edu

Notes:

1. All the results are according to the ADB method, which keeps the survey to national accounts ratio fixed for each country at its 1987 level.

The importance of estimates of the growth rate in the means

The errors and implications involved in the use of the two major approaches (World Bank and *Imagine*/ADB) are evaluated below; while there are theoretical reasons for preferring surveys, all the empirical observations suggest that the exclusively survey method is deeply flawed, and unreliable for the generation of poverty estimates.

In 1987, the World Bank estimate of poverty – 28 percent – is close to alternative estimates. But in 1998 the World Bank estimate is a noticeable outlier. These differences arise from the simple reality that surveys in the nineties were capturing less and less of the mean consumption recorded by an alternative source, the national accounts. If less of the mean is recorded in the later years, less growth is recorded; if less growth is observed, more poverty is recorded.

This simple reality has been less emphasized in the literature; instead, the presumed "insurmountable" differences in the levels have commanded the most discussion. *Levels* of survey capture (defined as the ratio of mean from surveys to the corresponding mean from national accounts or S/NA) differ across countries, and inter-temporally within a country, for several reasons, but most importantly due to considerations of definition, coverage and compliance. Whether growth rates are significantly affected is an empirical matter; the average decline in survey capture in the nineties has little to do with plausible interpretations with what happened to levels.

Coverage and Compliance

Coverage

Coverage differences occur because surveys exclude consumption of institutions and NGOs. However, it is unlikely that the growth of mean consumption of prisons, political parties, charities, etc. is significantly higher than the growth in average consumption. Even if it were, it is likely that both the initial share, and the excess growth of the NGOs is too small to make a material difference to the growth in average all population consumption.[24]

[24] A simple example can illustrate. Assume the share of NGOs in total consumption is 5 percent and that such consumption grows at a 5 percent *faster* pace than average consumption. After 10 years, this will cause a difference in survey capture of only 2 to 3 percent. For most countries, the decline in survey capture has been significantly greater.

Deaton(2003) discusses the two most important coverage items included in national accounts but not in surveys – financial intermediation services (including profits of insurance companies) and consumptions of NGOs. He suggests that the former averaged about 2.5 percent in India in 1993/94, and the latter about 3.9 percent in UK in 2001, up from 2.1 percent in 1970. If survey means are adjusted to NA means then there is a tendency in such methods to overstate the consumption of the poor since the poor do not partake in the use of these items. Hence, it is argued, that poverty is over-estimated by methods other than the strict survey method a la the World Bank.

Given the above rough estimates, the joint share in consumption for these items in a poor developing country like India might have been around 5 percent in the eighties and perhaps about 7 percent today. If a proper estimate of the NA growth rate had been done without these items, it would have reduced such growth from 2.6 percent per capita to about 2.4 percent per capita – a miniscule reduction given that the survey and national account growth rates in India were 2.16 percent and 1.2 percent (surveys) between 1983 and 2000. In other words, use of the NA growth estimate does not bias the growth estimate in consumption of the poor.

Compliance

Compliance differences occur due to both errors of omission and errors of commission. The former (compliance I) because very rich households do not allow themselves to be interviewed – there are barricades, dogs etc to keep the interviewers away. The latter (compliance II) occurs because the rich sampled people have a tendency to understate their consumption to a greater degree than the rest of the population. Both factors affect the distribution of expenditures (the measured distribution is likely to be more equal than the true underlying distribution) and the mean (the measured mean is likely to be lower than the true mean).

While compliance and coverage definitely affect the level of survey capture, the effect on growth rates is muted because such an impact is a twice removed and derived. For example, only if compliance I significantly increases, or compliance II significantly decreases, will there be a material difference between measured and actual growth rates.

The Imagine adjustment for bias

It was recognition of the importance of various possible biases that led to a downwardly adjusted NA mean in *Imagine*.[25] The traditional (Government of India(1993), Ahluwalia-Carter-Chenery(1979)) method of calculating poverty was to use survey distributions, and assume that the survey mean was equal to the national accounts mean. In order to err on the side of over-estimating poverty, *Imagine* reduced the mean NA consumption by 15 percent (i.e. the adjusted NA mean is the original mean divided by 1.15). One interpretation of this adjustment is that it attributes 15 percent of total output in the economy to accrue to the top 0.1 percent of the population i.e. it does not accrue even to the very rich surveyed population. Another interpretation is that this method increases the share of income (consumption) accruing to the top 20 percent of the population to about 60-65 percent i.e. the average country's distribution is assumed to be just as bad as that of the worst distribution e.g. Brazil. Stated yet differently, but equivalently, the average share of the bottom 20 percent of the population (the extreme poor) is assumed to be not 7 but 6 percent.

Compliance Estimates for US and India

Mistiaen-Ravallion(2003) set up an elegant model to measure the impact of compliance on estimated fractile means for the US for the 2001 Current Population Survey. They find that non-response can cause survey means to be understated and that the average ratio of the adjusted mean to the measured survey mean is 1.23. Further, that this ratio hovers around 1.05-1.12 for the bottom 80 percent of the population before reaching 1,18 and 1.45 for the ninth and tenth deciles respectively. If all incomes are adjusted to national accounts, (multiplied by the ratio 1.23), then the incomes of the poor (say the bottom 2 deciles) would clearly be overstated.

But the *Imagine* method specifically rules out a "blind" adjustment. The suggested adjustment is that the overall ratio (1.23) be adjusted downward by 1.15 i.e. all households per capita income is adjusted by (1.23/1.15) or only 1.07. Mistiaen-Ravallion calculations indicate that the incomes of the bottom 2 deciles should be increased by 1.06 percent! In other words, there is virtually zero error with the *Imagine* adjustment.

[25] Other authors (e.g. Ahluwalia-Carter-Chenery, Bourguignon-Morrisson and S-M) use NA means but do not make any downward adjustment.

By matching the survey and NA estimates of several individual consumption items for India for the 1993-94 national consumption survey, *Imagine* also found that the rich understated their consumption to a greater degree than the poor (compliance II). The average multiplier was 1.41 (reflecting a S/NA ratio of 70.9 percent), with the top decile, like the US significantly understating more than the bottom decile (multiplier of 1.5 and 1.3 respectively). If a decile by decile adjustment were used, then the consumption of the first decile would have to be adjusted upwards by 30 percent. But the *Imagine* method adjusts consumption for all deciles by (1.41/1.15) or 1.23 i.e. the consumption of the poor should have been adjusted upward by 1.3 but *Imagine adjusts it upward by a lower amount, 1.23.*

Which growth rate is accurate?

Imagine outlined in a detailed manner the problems with survey growth rates.

"The average S/NA ratio for developing countries declined from 85.4 to 76.5 percent, or 10 percent. This means that the per capita consumption of the poor would have to have increased by 10 percent for the poor to be thought of as having the same consumption as before" (*Imagine*, p.110).

A simple log-log regression for expenditure surveys (log survey mean and log national accounts mean) reveals the elasticity to be 0.59 for post eighties and 0.49 for the post nineties period. This means that surveys are capturing, on average, only half the growth that is actually taking place. Ravallion(2003) reports an elasticity of 0.51, and a derived elasticity based on Deaton(2003, Table 3) also indicates an elasticity of 0.5. The observation that household surveys in the nineties were capturing only *half* of the NA growth is therefore supported by all analysts.

The question remains - which of the two growth rates is correct? A simple calculation can show that the survey growth is grossly in error. Over the last 20 years, the poor world grew at an annual rate of 3 percent per annum, or a cumulative increase of 82 percent. The share of the bottom 20 percent was about 8 percent in the early eighties. If half the NA growth was realized by the poor, then the share of the bottom 20 percent would have collapsed to only 6 percent in 2000. A simple log-log regression of Gini change on the change in the share of the first quintile reveals the elasticity to be –0.5. If survey growth rates are accurate, then the consumption Gini would have to increase by

about 15 percent over 20 years. Bourguignon-Morrisson show that world inequality increased by this amount over 182 years – between 1820 and 1992!

These computations show that the major criticism against non-survey based methods of estimating poverty (e.g. *Imagine*) is simply the ***belief*** that the mean and the distribution should be taken from the same source. And since only household surveys provide both, the ***belief*** is that only survey data should be used in the estimation, *regardless of any errors involved*. These errors are substantial.

Other problems with World Bank poverty-growth conclusions – the Peter-Paul problem
Apart from reliance on survey growth rates, the World Bank method is flawed because in its discussion about the efficacy of growth in reducing poverty, it talks about not the lower survey growth rates which are "causing" this low decline in poverty, but the higher NA growth rates. This results in the obvious, and wrong, conclusion of "growth, growth everywhere and not much drop in poverty". And it results in erroneous inferences that the growth process did not work in the globalization period.

This kind of error was termed the Peter-Paul problem in *Imagine* i.e. what the World Bank method in effect was doing was taking Peter's income (NA growth rates) and attributing it to Paul's poverty (survey based levels and growth rates).

In the first global poverty article documenting the slow progress in the war against poverty, World Bank authors Chen-Ravallion(2000) commit the Peter-Paul error:

"All our measures suggest that the 1990s did not see much progress against consumption poverty…Yet this was a period of aggregate economic growth; the overall rate of growth in real per capita private consumption for the low and middle-income countries over 1990-1997 was 2.6% a year " (2000,p.18).

There are other wrong inferences that result from this Peter-Paul error. If the wrong combination of *survey poverty and NA growth* is jointly believed, then inequality in the non-industrialized world has to have worsened, and worsened considerably. And indeed this is what Chen-Ravallion(2000) state:

"The lack of any significant decline in world poverty despite record growth suggests that something was drastically wrong with the policies pursued over the last twenty years. What went wrong? Rising inequality was one factor. …There is now evidence of quite sharply rising inter-personal income inequality in the world during this period; Milanovic (1999) estimates that the world Gini index increased by 5% between 1988 and 1993 (from 0.63 to 0.66). This could easily wipe out the gains to the world's poor from global economic growth." Chen-Ravallion (2000,p.18).

Reproduction of the World Bank data suggests that far from declining, the share in consumption of the bottom 40 percent increased by a cumulative 7.3 percent, while average non-industrialized world growth rate was a low cumulative 5.5 percent. In other words, the inequality improving effects of higher growth in poorer countries like India and China resulted in a higher than average magnitude of growth, 12.8 percent for the poor40. In their revised paper, Chen-Ravallion(2001) now state that inequality improved in the developing world in the globalization period:

"There is a seemingly widespread view that rising income inequality between and within countries in the 1990s has been stifling the prospects for poverty reduction through economic growth….these results do not support the view that rising inter-personal inequality in the developing world (either within or between countries) has been putting a brake on the aggregate rate of poverty reduction. In short, the proximate cause of slow progress in reducing poverty in the aggregate was not worsening distribution but too little growth" (p. 16-17, Chen-Ravallion(2001)

Whether one's estimate of growth in consumption of the poor is based exclusively on survey means or not makes a difference of about 16 percentage points in the consumption growth of the poor (29 vs. 13 percent). This difference in growth results in approximately 6 to 8 percentage points difference in the reduction of poverty. And that explains the entire difference between the World Bank estimate of poverty and alternative estimates of poverty presented in *Imagine* and Table 10.

Other problems with World Bank poverty-growth analysis – the wrong inferences about initial inequality

The "observed" lack of any relationship between the high growth and low poverty reduction led World Bank analysts to search for pro-poor growth policies. This search ended with the "importance of initial inequality". The reasoning was straightforward – lower inequality meant a higher share of income, which meant a higher share of the

growth; this higher growth meant higher poverty reduction; hence, a more equal distribution of income was desirable for poverty reduction.

"High initial inequality reduces the poverty impact of a given rate economic growth. (World Bank(2000, p.56). Even when the distribution of income itself does not change with growth, countries, with similar rates of growth can have very different poverty outcomes, depending on their initial inequality. Others things being the same, growth leads to less poverty reduction in unequal societies than in egalitarian ones. If poor people get a small share of existing income and if inequality is unchanged, they will also get a small share of the new income generated by growth, muting the effects of growth on poverty. Evidence confirms this: when initial inequality is low, growth reduces poverty nearly twice as much as when inequality is high". (World Bank(2000, p55))

This false assertion is not new; interestingly, and this maybe due to political correctness, such conclusions have been present at least since the World Bank's *World Development Report* of 1990. Several documents have testified to this presumed importance of initial inequality in reducing future poverty.

WDR 1990, p.47: "A 10 percent increase in the incomes of the poor in Bangladesh and India would reduce the incidence of poverty by about 7 percentage points. *Where the distribution of income is more unequal*, as in Venezuela and Brazil, the corresponding figure would be only 3 percentage points" (emphasis added).

WDR 2000/01 (p.55): "If poor people get a small share of existing income and if inequality is unchanged, they will also get a small share of the new income generated by growth, muting the effects of growth on poverty"

Ravallion(2001, p. 15): "Even if inequality is not rising, a high initial level of inequality can stifle prospects for pro-poor growth".

Klasen(2001,p.3) "A given rate of pro-poor growth will lead to different rates of poverty reduction, *depending on the level of initial inequality*" (emphasis added)

A more equal distribution may be desirable for several reasons, but a higher impact on poverty reduction is *not* a valid reason. The above reasoning betrays a confusion between levels and changes. Regardless of initial inequality, the change in poverty is a function of the change in consumption. If inequality does not change (as assumed in the above quotes) then a 10 percent growth will result in a 10 percent increase in the consumption of the bottom 20 or bottom 40 percent i.e. not a differential increase as

presumed. So if a person consumed $ 1 a day per capita in 1987 in unequal Brazil or equal India, and if both societies experienced a 10 percent change in average consumption, then in both societies the person would be consuming $1.10 in 1998, and in both societies the person would be non-poor in 1998; i.e. initial inequality is *irrelevant* for conclusions about the impact on poverty of growth.

There is an additional reason the initial inequality argument is a false panacea. It is doubly false because even if it were the case that higher growth resulted from lower initial inequality, it may not be the case that all that a higher poverty reduction would follow. The conventional wisdom is manifestly wrong. What matters for poverty change is not average inequality but inequality *at the poverty line*. And the latter can, and does change, with income growth; and its value may have no relationship with overall inequality.

The following heuristic example is illustrative. Assume the poverty line is 100 and the mean income of the poor is 50 and the standard deviation is 10. An increase in mean consumption of 10 percent will have a zero impact on the head count ratio. Now assume that the mean income of the poor was 99. Now a 10 percent increase in mean consumption will lead to a very large decline in the head count ratio – so the elasticity has changed from zero to infinity with virtually no change in the underlying reality – except the change in the location of where the poverty line cuts the distribution of income.

Even unequal societies like Brazil can have “zones” where equality is not so unequal. For example, the bottom 20 percent may have only 5 percent of total income, but all these 20 percent could have the same income; and when such incomes are close to the poverty line, the clustering will cause the poverty reducing potency of growth (the elasticity) to be very large.

In Brazil in the late sixties, 10 percent growth led to a poverty decline (in percentage points) of 3.1 percent; in the nineties, if the same growth had occurred, and with no change in inequality, the poverty decline would have been only 2.2 percentage points. In India, in the early eighties, each 10 percent growth led to 8 percentage points decline in

poverty; in the late nineties, the expected decline, *ceteris paribus*, was also 8 percentage points.

With a Gini of 27.8, China was a very equal economy in the early eighties. At that time, each 10 percent increase in incomes led to a 5.9 percent decline in the HCR. A decade later, income distribution in China became more unequal; but the same amount of growth now led to a larger decline in the HCR, 7.6 percent, (because the distribution *around the poverty line* was now more equal) . China is more equal than Brazil, yet in the late nineties, and with the national poverty line, China would need higher growth to bring down poverty by an equivalent amount.

In other words, the *same* amount of economic growth, in the *same* or different countries, for the *same* or different poverty lines, for the *same* or different initial inequality levels, and for the same or different "quality" of growth, can lead to similar or different poverty declines.

Elasticity of poverty reduction – a formal approach

In the literature, growth poverty elasticity has generally been discussed, and estimated, on only a reduced form basis. For example, Datt-Ravallion(1992) state the following identity:

(1) Poverty Reduction = Poverty reduction due to income growth +
Poverty reduction due to improvement in inequality

The first term is the contribution of growth, and the second is the contribution of distribution. But how is the impact of each to be measured? The recommended (but incorrect) method is to measure all variables (poverty, consumption, inequality) in log changes and obtain an elasticity of poverty reduction. If the regression is estimated only between poverty and growth, then an *average* elasticity is obtained. This average elasticity has been estimated to be around 2 by Collier-Dollar[26] i.e. for each 10 percent of (log) growth in per capita expenditures, the (log) change in the head count ratio is predicted to be 20 percent.

[26] Collier-Dollar(2001) assume this number for forecasting aid needs for poverty reduction.

The elasticity of poverty reduction is theoretically[27] given by:

(2) $(H' / Y') = -(SDE_{t-1}/Ho)$

where H and Y represent the head count ratio and per capita consumption of individuals close to the poverty line, P; the primes represent log changes, Ho is poverty in the initial time period, and SDE is the "shape of the distribution elasticity" i.e. it measures congestion of people at the poverty line and is equal to the arithmetic difference in the head-count ratio brought about by each 1 percent growth in consumption of people close to the poverty line. Mathematically, the SDE is equal to f(Y)*P where f(Y) is the density of the distribution close to the poverty line P.

The consumption change Y' is, by definition, equal to the sum of Y_m' and X_p' where Y_m' is the growth in average consumption, and X_p' is the (log) percentage change in the *share* of consumption of those close to the poverty line.

Knowledge of SDE can help translate income *and* inequality changes (without a residual term as in Datt-Ravallion) into expected changes in poverty, via the following formula:

(3) $dH = (Y_m' + X_p')*SDE_{t-1}$

For non-small changes, equation (3) does not hold exactly, for the simple reason that the large changes in income most likely traverse a large portion of the Lorenz curve and the arc elasticity estimated by SDE is an average of several "arcs"; however, the approximation for large changes is reasonably close.

The conventionally estimated growth-poverty elasticity (elasticity of log change in the head-count ratio with respect to average change in consumption) is provided by the formula:

(4) $\hat{a} = (SDE_{t-1}/Ho)* (1 + (X_p'/ Y_m'))$

[27] See Imagine, Bhalla(2003) and Bhalla et. al(2003) for derivation and discussions.

Equation (4) can be used to verify claims about the determinants of the growth-poverty elasticity. This elasticity is equal to the "conventional" elasticity when change in inequality *at the poverty line,* X_p', is zero. Note that SDE is the "shape of distribution" elasticity in the *prior* period, as is the initial poverty level Ho. Thus, the poverty elasticity is known *ex-ante.*

It is this elasticity which is assumed by authors like Ravallion and Collier-Dollar to be –2. Note the determinants of this elasticity – the distribution of people close to the poverty line in the initial period, the poverty line itself, and the initial head-count ratio. It is tempting to conclude that this elasticity is a positive function of poverty line P and a negative function of the initial value of poverty Ho. But this conclusion is erroneous because each of these variables also affects the value of the density function at the poverty line P, f(P).

As equation (4) makes clear, initial inequality has no role to play in the determination of poverty reduction; it is the change in inequality of the poor (not overall) that can affect å; the level of initial inequality does enter through the density, f(P), but it is *inequality of the cluster of individuals at the poverty line* ; and it is unclear *a priori* what its effect can be – it can be positive or negative, it all depends. Thus, *the magnitude of the growth poverty elasticity is not a monotonic function of either the poverty line or initial aggregate inequality.*

Forecasting poverty decline given knowledge of growth and inequality

Equation (3) is very useful for forecasting and assessing claims about the growth-poverty relationship. It no longer involves hand waving and "it depends". Now if it is asserted that growth in the non-industrialized world (1987-1998) was (log) 10 percent, and inequality improved[28] by 5.1 percent, and the SDE was 0.52 in 1987[29], then the reported poverty decline should be close to 0.52*(10+5.1) or 7.9 percentage points. The reported level by the World Bank for the period 1987 to 1998 is 4.8 percentage points or only 60 percent of what the decline should be given data on growth, inequality change and the initial distribution of world consumption, and the congestion of people close to the poverty line in 1987.

[28] Defined as the increase in the (log) share of expenditures of the 28 percent poor in 1987.
[29] These numbers are for the World Bank distribution and mean data (see Bhalla(2003b)).

Knowledge about the value of SDE can also help in evaluating the impact of the declining S/NA ratio on poverty. An *average* value for SDE for the non-industrialized world is 0.5;for India, it is close to 0.8. The average change in the S/NA ratio between the mid-eighties and late nineties was close to 11 percent. Thus, if it is assumed that *inequality around the poverty line stays constant or is equal to zero* , then this change in the S/NA ratio leads to an *over-estimate* of poverty of around 5.5 percentage points (11 multiplied by 0.5) in the late nineties. Given that the "actual" decline observed by the World Bank was less than 5 percentage points between 1987-1998, it means that the *missed* poverty decline due to the statistical artifact of a declining S/NA ratio was greater than that observed! Further, that instead of 23.5 percent poor, there were only 18 percent poor in 1998. Between 1998 and 2000, average per capita expenditure growth was close to 5 percent, and with an initial value of SDE of 0.4, this would mean almost exactly the reaching of the MDG of 2015 in precisely the year of formulation of the goals, 2000.

As is obvious from equation 3, growth can, and does, affect poverty *differentially* i.e. the same amount of growth can often lead to a higher, or lower, reduction in poverty after holding the level of inequality constant. This fact has not been appreciated enough and has led many to conclude from "normal" differences in growth yield (defined as the ratio of the decline in poverty in percentage points and economic growth) that what is required is a change in policy and/or that non-growth instruments are needed. Several World Bank documents highlight the important role of "initial conditions", "initial inequality", non-farm growth, infrastructure investments etc. to explain why the growth poverty relationship has been observed to be weak. Indeed, the "explanation for all seasons" is that it wasn't growth that did it – it was the "catch-all" initial differences! As the above equations demonstrate, there is no room for these variables in SDE which is entirely a statistical property.

Thus, the theoretical, empirical and policy related consequences of deriving the head-count elasticity *without* accounting for the variation and/or magnitude in the SDE are enormous. Indeed, it is generally the case that if the impact of growth is assessed via the "mediation" of SDE, then the correct growth-poverty elasticity is often 50 to 100 percent larger than one which has been conventionally estimated. In the next few years it might

be the case that the SDE for India declines from 0.8 to 0.6. A 10 percent rate of growth would accordingly lead to a six percentage point decline in the HCR (10 percent multiplied by 0.6), rather than an 8 percentage point decline, as would have been the case previously. If one does not take into account SDE, one would therefore be led to conclude erroneously that the importance of growth in decreasing poverty has severely diminished in India. And some might even attribute this lack of decline to economic reforms!

Section 5: **Smell Tests for QGO conclusions**

The previous sections documented how it was very likely that the World Bank inequality and poverty calculations were in error. These estimates of global poverty remain the official estimates. This section is an attempt to look at the "bricks and mortar" of the poverty calculations that are generally accepted as "fact".

On Data:

The data on which the World Bank poverty estimates are based are posted on the World Bank website. These represent 220 surveys, for 75 countries. Estimates of mean consumption and the head count ratio are presented for each survey year. Credibility questions plague the use of these survey means.

Brazil:

The website reports the per capita survey mean for Brazil to have increased, in real terms, by 27 percent - in just one year. Further, the income share of the poorest quintile is reported to have increased by 40 percent – from 2.5 percent to 3.5 percent. These two statistics taken together suggest that the incomes of the poor increased by (log) 60 percent in just one year, having not increased by that amount in thirty previous years taken together! In contrast, the growth rate for mean consumption revealed by Brazil's national accounts is a much more credible figure of 3.3 percent.

Cambodia:

The World Bank household survey "data quality bloopers" do not end with Brazil. Another wild survey estimate is for Cambodia, also for 1997. Mean consumption of PPP$ 6.25 per capita per day makes Cambodia the 14th richest developing country, richer than Turkey, Russia and almost equal to Poland. Further, this per capita level made the average Cambodian 120 percent richer than the average Chinese. In contrast, according to national accounts estimates, Cambodia was the 33rd poorest country in 1997, more than twice as poor as China and five times poorer than Poland. While NA means may suffer from problems, the errors are nowhere as extreme.

China:

Between 1996 and 2000, poverty in China, according to the World Bank, has been stuck around 17 percent. Per capita income and consumption growth has averaged 5

percent per annum. This implies a 20 percent increase in consumption of the poor, but the World Bank method states that such an increase is close to zero. If poverty has not declined, then the share of income of the poor (bottom 20 percent) must have plummeted. But all statistics from China state that the distribution has stabilized. So the World Bank calculations on poverty in China do not pass the smell test. Our own reproduction of the World Bank method for 2002 suggests a poverty level of less than half that stated by the World Bank.

India:

The World Bank data for average consumption in India is reported to be 44.2 per capita per month in 1989 (1993 PPP $). This was the year before India's biggest financial crisis. In 1997 (the last year for which the World Bank has posted the data on its website) the reported figure is 45.02 – a miniscule cumulative 1.9 percent increase. National accounts data for the same period suggest a cumulative 35 percent increase or an increase of 3.7 percent a year.

India, again:

In *Imagine*, I had documented how the 1997 mean consumption estimate for India, projected backwards to 1950 using NA growth rates, would have implied an average per capita consumption of 11.4 cents a day, 1993 PPP prices. This average level is only a quarter of the worst average observed among all countries in the post World War II period. The World Bank figures are not just wrong, they are manifestly wrong. The World Bank's consumption estimates for India for the nineties fail the smell test several times over.

World Inflation:

Normally, conversion from one PPP base to another (like conversion from a 1990 price series to a 2000 base price series) is straightforward. One links the two series in the overlapping year, and obtains new estimates. World inflation between 1985 and 1993 averaged close to 30 percent; consequently, the 1985 $ a day poverty line should be equal to $ 1.3 in 1993 prices. According to a projection of the World Bank method, this correctly higher poverty line yields a poverty level of 31.7 percent in 1998. If this estimate had been published by the World Bank, it would have been questioned for its

error – no change in poverty after 10 years of growth. This “smell test” suggests that the World Bank poverty line of 83 cents a day is lower than it should be.

Consumption growth:

As noted several times, the major difference in the conclusion of whether the MDG goal for 2015 has already been reached is the difference in the estimates of consumption growth. Like *Imagine* and Ravallion, Deaton(2003) documents the trend growth according to surveys and (PPP) national accounts. Deaton also provides a graph of per year mean consumption according to different assumptions (consumption surveys only, national accounts only etc.). Reading off his Figure 3, it appears that all the growth in the poor world, and more, (according to the World Bank preferred survey method), took place in just three years, 1990 to 1993; that 1993 was the peak year in terms of the level of consumption; the next local peak was in 1998, a year when the largest continent, Asia, was in deep crisis; and that the level of per capita consumption in the world in 2000 was some (log) 25 percent below the peak level achieved in 1993. In other words, per capita consumption declined by a massive 3.5 percent a year for close to 5 billion people, and did so for seven continuous years!

These per capita consumption figures are also inconsistent with the poverty figures produced by the same method; negative aggregate growth and such a large decline in world poverty (about four percentage points between 1993 and 2000). Deaton’s computations are not in error; it is the survey mean method which is questionable. One legitimate conclusion is that the survey growth figures do not pass the “smell” test.

Inequality:

The inequality worsening conclusion offered by Milanovic and so casually accepted by the QGOs should have been tested for smell. Such a large inequality change for some 5.5 billion people in such a short period of time – if it happens, it is not a miracle, but most extraordinary. World inequality just cannot change so rapidly.

The elasticity of the share of the first quintile with respect to the Gini is a largish 1.6 i.e. a 5 percent change in overall inequality is consistent with a 8 percent decline in the share of expenditures of the first quintile. (The elasticity for the first two quintiles together is 1.3). What are the forces causing such a large change in the shares? India and China

growing substantially below world means is one possibility – but that happened in the planning period. If two fifths of the world, and more than two-thirds of its poor, is galloping ahead at 5 percent per annum growth, and if the rich world can manage only about a 2 percent growth, an increase in share of the poor is the real possibility, not a decrease. This observation does not involve rocket-science – a back of the napkin will do. Any contrary conclusion is smelly.

Poverty calculations:

Several empirical estimates of the poverty growth elasticity, and estimates made by World Bank authors, suggested that this elasticity was upwards of 2. Consumption in the poor world averaged more than 3 percent per annum for the eleven years 1987-98, the average consumption increase in the developing world should have been about 44 percent. An elasticity of 2 should have meant that poverty in 1998 of 13.8 percent, given an initial estimate of poverty of 28.3 percent. If poverty was not higher, then inequality must have worsened considerably. But inequality could not have, did not, worsen – indeed, inequality in the developing world improved substantially. Maybe the elasticity was a lot lower than 2 in absolute terms – but that cannot be since the estimate was based on the same data that was used to develop the poverty estimates. And even if the elasticity was lower, it could not possibly be one-fourth the empirically estimated level of –2. So the only conclusion – the World Bank poverty estimates for the nineties are in error – they do not pass the smell test.

Aid Policy:

Based on the low decline in poverty, the World Bank led aid consortium has argued for a doubling of aid from the present $ 60 billion a year levels. The argument is that the rich countries should do more to help the poor of the world – and that the best way to help them is to channel money via the World Bank and UN. But if the World Bank has been a major player and adviser to the poor world for the last forty years, and if it made possible such high growth, and economic reforms, then how come its past aid efforts were not efficacious? Why should the world trust the World Bank to now perform miracles, when even a natural occurrence has not occurred? The World Bank-UN request for more aid clearly does not pass the smell test.

Section 6: **Conclusion**

Development is not about the increase in incomes of the elite. Development policy should be, and is, about increase in incomes of the poor. This is of primary interest, and one of the major findings in *Imagine* was that the last twenty years constituted the golden age for the poor. Poverty had been reduced by 23 percentage points between 1980 and 2000, and this had been made possible by "only" an increase of 24 percent in per capita incomes. In stark contrast, the twenty years of planning had led to a large increase in per capita incomes in the developing world, 43 percent, but only a miniscule reduction in absolute poverty, 4.6 percentage points. If the "yield" of growth is defined as the percentage point reduction in poverty for each 10 percent of growth, then the yield level of 9.8 observed for the globalization period was more than eight times the level observed for the planning decades. Indeed, the growth yield during the last twenty years was the highest observed over the last 200 years, and the highest by a factor of 2. The next best time-period for poverty reduction were the pre-depression years, 1910-29.[30]

It is extraordinary that this miracle has not been recognized, or appreciated. To be sure, the continent of Africa has been left behind, and it should now be the number one priority. But appropriate policies for African development can only be designed if an appropriate understanding is available on what made Asia prosper, and on what made Asia remove more than a billion people from the disaster of poverty. For the given dollar a day poverty line, less than 10 percent of Asia today is poor. Indeed, in Bhalla(2003d) I argue for a raising of the poverty line to acknowledge the reality that for most of the developing world, the $ a day poverty line is too low.

Growth is sufficient

Monetary poverty is about the raising of incomes. At one level, it is tautological that economic growth is necessary, and sufficient, to decrease poverty. But income growth for the poor can be brought about by either increasing productivity *or* redistribution. The growth process itself can be skewed in favor of the rich. This will mean that growth will lead to inequality increases, and may even completely by-pass the poor. In other words, growth maybe nowhere close to being sufficient.

[30] All data from *Imagine*; the results for the years 1820-1950 are from Bourguignon-Morrisson (2002).

It is this fear, and reasoning, that has led many to argue (from Amartya Sen to the UNDP to the World Bank) that the search should be for the types of growth which are "super-growth" i.e. high growth and at least constant, if not improving, inequality.

This document (and *Imagine*) has stressed the importance of facts in this otherwise ideologically charged debate on growth and poverty. The data show that there are very, very, few examples of growth with an improvement in intra-country inequality, but a number of countries do show high growth with relatively constant inequality e.g. Korea, India.[31] There are many examples of growth with a deterioration in inequality; in these instances, the positive growth effect on the incomes of the poor is many times greater than the negative inequality worsening effect. There are examples of low and/or negative growth with both an improvement (e.g. countries in Latin America) or deterioration in inequality (countries belonging to the former Soviet Union). In these instances where there is a lack of growth, the appropriate question is obviously what will bring about growth, not what will bring about asset redistribution.

One reason for the belief in the powers of redistribution was the belief in the supposed reality that a better initial distribution of income leads to faster poverty reduction, *ceteris paribus*. This belief was shown to be in error, both theoretically and empirically.

Pro-poor growth is growth, period. Even if inequality worsens, the advocates of distribution should apply the "veil of ignorance" proposition. Would the poor prefer a faster growth for themselves, and a deterioration in inequality (e.g. China) , or prefer an overall decline in incomes, or even a relatively small increase, but accompanied by an improvement in inequality ? Except for those indulging in the "economics of envy", most of us would opt for higher growth in our personal incomes, regardless of whether the Jones's had more. In other words, for most of us, growth is sufficient.

Factual basis for worry

In three parts of the world (Africa, Latin America and Eastern Europe), the globalization and economic reform package has *not* been associated with growth and prosperity. And

[31] See Bhalla(2003d) for details. This paper was prepared for the UN Human Development Report, 2003, a report which, unfortunately, did not acknowledge the documentation of the uncommon, but not rare, possibilities of high growth without worsening inequality.

in exactly these same regions, there was significant growth in the earlier, non-globalization period. This correlation has meant many to suspect the weakening of the invisible hand of causation i.e. the old wisdom of growth, and growth only, being good for *monetary* poverty reduction needs to be re-examined.[32]

Is this suspicion valid? Forgotten by the critics is the simple fact that during the globalization period, the largest continent in the world, Asia, home to over half the world's population, witnessed unprecedented progress – and that the industrialized world, after a significant slowing down between 1973 and 1985, again saw prosperity. The two populations together account for over 4 billion people. Also not paid enough attention to is the simple fact that the total population in Africa and Latin America is less than the population of China. Also forgotten is the fact that the large Asian continent was given up as lost just four decades ago. In 1960, the average Asian's income was slightly more than *half* that of an African; today, it is more than double. There are precious few Chinese, or even Vietnamese, who are today asking for a relook at the relationship between growth and poverty.

The ideology of aid

It is tempting to conclude that the UN-World Bank result of increased inequality gained credibility because of "moral hazard" i.e. the organizations stating that world inequality had worsened stood to gain (as bureaucracies) if the world accepted these (inherently faulty) findings[33]. Was the fiction of inequality worsening *necessary* for the case being made by the aid organizations for more aid to fight poverty and help bring about development for the poor? Why were nakedly obvious poverty reduction phenomena ignored? The aggregate growth record was obvious to everyone – development in China and India could not possibly have been missed or ignored.

[32] The emphasis on monetary is important and deliberate. It is well recognized that non-monetary poverty e.g. health, education, growth policies alone may not be sufficient. Regarding "new" non-monetary attributes like voice and empowerment, the question is not that these are not components of welfare, but rather whether monetary incomes and monetary wealth are not strong determinants of non-monetary welfare. For a different view, see World Bank (2000).

[33] The inequality worsening results were widely circulated, and gained respectability by appearing in every flagship report of the QGOs- development reports of the World Bank (World Development Report 2000), IMF World Economic Outlook and every UN Human Development Report since 2000, including the latest 2003 offering.

Given the high growth that occurred during the globalization period (not questioned by anyone), and assuming that world equality had stayed the same, then world poverty (including those in India and China, home to three-fourths of the poor in 1980) would have declined by a large proportion. But if world inequality had worsened, and worsened a lot (the UN-World Bank-IMF millennium summit conclusion in 2000) then the decline in poverty would be less. And if inequality had worsened by "enough", there would have been little growth for the poor and therefore more aid to fight poverty reduction would have been justified. It was sufficient that there be *doubt* on the magnitude of inequality decline; this doubt would reinforce the politically correct slogan of the rich are getting richer and doing so (obviously) at the expense of the poor. The fig leaf of constant world poverty at 1.2 billion could be maintained. For most queries on the trend in world poverty, the answer could be that "it depends".

Now assume that world inequality did not worsen in the globalization period (as indeed every statistic and measure shows). The aid consortium, led by the World Bank, would have been in danger of becoming a much smaller consortium (only 500 million poor versus 1200 million poor).

If the poor are obviously better off, why the angst about globalization?
If a development miracle has occurred (at least in the populous continent of Asia) then why all the angst about globalization? Could it be that the angst is not in the poor world which is gaining but the rich world which is (relatively) losing? There are several decades left before complete catch-up is a reality. Until then, it is near inevitable that the rich world will continue to lose, again, in relative terms. As it loses, anti-globalization efforts will gather steam, protectionists will gain courage and even chutzpah. But likely to little effect. It is a brave new world today, a world which forces multinationals (who belong to no country – imagine there's no country) to search for lower costs to survive. And the lower costs are in the poor world. If the poor are the concern, then the miracle years are only two decades old – more miracles for the poor will occur. And the next poverty the world will talk about is the lower growth rate of the rich countries, especially the high wage (relative to productivity levels) bloated rich economies of Western Europe.

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