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Poverty as We Are Told It Is

Income growth, especially for developing countries, is a means to an end: survival, ''basic needs'' satisfied. The World Bank's slogan is not ''go for growth'' but ''our dream is a world free of poverty.'' Industrialized societies can afford the luxury of going for growth. Their political concern is with the middle class; this change from concern for the poor to concern for the middle class is a change from developing-country status to industrialized-country status. All the formerly poor countries in the world are not there yet; hence, reduction of poverty must be the number one goal of policy for developing countries.

As many have pointed out, ''poverty'' is a multidimensional concept. It means not only a lack of income, but also a lack of the basic necessities for a decent life—equality of opportunity, health care, education, sanitation, and democratic and human rights. All this makes the job of research and policy difficult. Though all these goals should be achieved, is there an optimal sequence of policies? And is there any ranking of priorities; that is, does it make more sense to spend public money on reducing adult illiteracy so that, via the mother's health, infant mortality rates will decline more quickly? Does it make more sense to educate the female child, especially since research (and common sense) shows that a mother's education affects child welfare much more than does a father's—or even father's income?

These questions are meant to emphasize the fact that there are no shortcuts to knowledge, or to appropriate policy, in the dream of removing poverty. But policymakers do not have the luxury of nuances; decisions

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must be made now. Thus, shortcuts are mandatory for good policy formulation. Further, there is the practical knowledge that money income, though imperfect, is the best proxy for human welfare. This income measure of poverty will lead to type I errors (those defined as poor but who are not) and type II errors (those defined as nonpoor but who are actually poor). But cannot there be an index (e.g., life expectancy, infant mortality, adult illiteracy, schooling enrollments, access to clean water, sanitation, human rights, empowerment—the list is only limited by one's imagination) that does not also involve type I and type II errors?

So the search should be for an index that minimizes errors, and most have converged on a poverty index based on income. For three common-sense reasons, this choice is the right one. First, income allows one to purchase the goods needed to reduce poverty. Second, income is highly correlated with access to public goods that reduce poverty. Third, income is highly correlated with the ability to bribe, and therefore to buy ''public'' goods that—in most developing countries—are not free but are supposed to be free.

The rest of this book (except briefly in chapter 12) will concentrate on just one measure of poverty: the head count ratio (HCR). This measure is the choice of most academics, institutions, and politicians. It is catchy; it quantifies the proportion (hence the ratio in its name) of a population whose incomes are estimated to be below a certain absolute level of consumption. It is also likely that HCR works better than any other index in capturing poverty.

Having chosen an index of poverty, it is a simple matter to compute HCR (computationally cumbersome, but simple conceptually). It is even simpler to count the number of poor people in the world (given by the multiple of HCR with population). There should really be no controversy on the methods used to generate either HCR or the number of poor people—especially once a poverty line has been chosen and accepted. Alas, that is not the reality. Without understatement, HCR has been used, misused, and abused more than any other index of poverty.

This chapter first discusses the origins of national and international poverty lines. The pioneering role of the World Bank in research and policy is acknowledged. The first international poverty line was defined to be an *income* level at purchasing power parity (PPP) of $200 per capita per year, at 1970 prices,[1] or $1.53 a day at 1985 PPP prices. The initial experiment with a nonincome poverty line (e.g., caloric intake) is discussed, and the convergence toward accepting a poverty line equal to $1 a day in consumption (at 1985 PPP prices)[2] is documented.

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1. Ahluwalia, Carter, and Chenery (1979).

2. Ravallion, Datt, and van de Walle (1991).

Although it might appear that the poverty line got reduced by a third (from $1.53 to $1), it is shown that the associated changes in definition (income vs. consumption) and methods of estimation (national accounts vs. surveys) cause the two international poverty lines (offered 12 years apart) to be virtually identical! The chapter concludes by reporting estimates of HCR, and the number of poor people in the world, for selected years since 1960.

Defining and Measuring Absolute Poverty

No matter what the starting point, all roads, and policies, legitimately reach the goal of reducing poverty, especially when large islands of poverty coexist amid a sea of plenty. It is not surprising that academic studies, and policy concern, on poverty first arose in India in the early 1960s.[3] And there the first absolute poverty line was developed. Rath (1996), one of the pioneers (along with Dandekar[4]), describes what happened in those early years:

> A Working Group consisting of nine distinguished economists and social workers, set up by a Seminar on Planning, organized by the Indian Planning Commission, recommended in July 1962 that the national minimum per capita consumer expenditure in India should be Rs. 20 (at 1960-61 prices). . . . The Planning Commission noted that on the basis of available data on distribution of population according to per capita expenditure, nearly half the Indian population in 1960-61 was below this national minimum level of Rs. 20 per capita per month, and the Commission called them poor. But in the absence of any details about the basis of this national minimum the discussion did not proceed further. (Rath 1996, 76)

The minimum level of expenditure of the poor, the poverty line, was calculated on the basis of a ''physical volume of commodities,'' and implicit in the document is the assumption that these commodities primarily relate to food. It was also noted (though not published until 1974; see Rath 1996, n. 1, 106) that because of higher prices, the urban poverty line

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3. British sociologists, economists, and journalists have long journeyed into the realm of poverty definition, and in that important sense the Indian definition of poverty was by no means the first. Rowntree had defined an absolute poverty line as early as 1901; also see Townsend (1954) for an early attempt at the definition of a relative poverty line. Himmelfarb (1984) contains an excellent account of the origins of poverty discussion going back to the Scriptures (e.g., ''Ye have the poor always with you''). She quotes Samuel Johnson, who very likely originated the first definition of the poverty line in 1770: ''A decent provision for the poor is the true test of civilization. . . . The condition of the lower orders, the poor especially, was the true mark of national discrimination.'' It is likely, however, that the Indian definition of an absolute poverty line was the first such attempt in the postwar period.

4. V.M. Dandekar and N. Rath, ''Poverty in India: Dimensions and Trends,'' *Economic and Political Weekly*, January 2-9, 1977, 25-46.

should be 25 percent higher, at Rs25 a month. This was the estimate of the Planning Commission. In their classic study, Dandekar and Rath defined the poor in terms of an average consumption of 2,250 calories per capita per day (not much different from the current ''norm'' of 2,100); this yielded a figure of Rs15 for rural areas and Rs22.50 for urban areas, both at 1960-61 prices.[5]

This definition became *the* poverty line for academic studies in India and around the world. In 1979, the Planning Commission of India set up another task force to measure the ''exact'' poverty line; by aggregating in terms of age and sex specific calorie consumption criteria, the task force came out with a recommendation of a higher poverty line—2,435 calories for rural areas and 2,095 calories for urban areas. Using the 1973-74 National Sample Survey as a base, the task force concluded that the monetary equivalent of these calories was Rs49.09 and Rs56.64 for rural and urban areas, respectively, per capita per month, at 1973-74 prices. Curiously, this higher caloric line is the same in terms of average purchasing power—Rs15.3 and Rs21, at 1960-61 prices, per capita per month.

These two values (Rs15.3 and Rs21), with an urbanization rate of 18 percent and a purchasing power parity (PPP) exchange rate of 1.96 (1985 base), yield an Indian poverty line of PPP (current) $8.27 a month in 1960. The PPP 1985 inflation deflator (i.e., equal to 100 in 1985) was 27.77 in 1960-61. Thus, the 1960-61 Indian poverty line (obviously as well as the equivalent 1973-74 line) was equal to PPP $29.80 a month, or $0.98 a day, at 1985 PPP prices. HCR, according to the $1-a-day poverty line in India in the 1960s, was about 45 percent (see Ahluwalia 1977[6]).

This 1960-61 Indian poverty line became, by adoption and definition, the ''World Bank I'' international poverty line (of Ahluwalia, Carter, Chenery 1979), as well as the ''World Bank II'' international (absolute) poverty line (of Ravallion, Datt, and van de Walle 1991). Few possibly recognize these international lines of different vintages as the original Indian poverty line.

Poverty in the United States

It is an intriguing coincidence that, at almost the same time as these developments in India, a War on Poverty was being launched in the richest country in the world, the United States. The execution of this war, led by US President Lyndon Johnson, required targeting the enemy: poor people. In what was to be the first in a series of papers, Orshansky (1965)

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5. Dandekar and Rath, ''Poverty in India.'' *Op. cit.*

6. Among several good studies on poverty that have been published over the years, this is a classic. It was able to correctly anticipate virtually all shades of the debate that would take place over the next 25 years.

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developed the first US absolute poverty line, just a year or two before President Johnson's commitment. As Fisher (1997) described it:

> Orshansky knew from the Department of Agriculture's 1955 Household Food Consumption Survey (the latest available such survey at the time) that families of three or more persons spent about one-third of their after-tax money income on food in 1955. Accordingly, she calculated poverty thresholds for families of three or more persons by taking the dollar costs of the economy food plan for families of those sizes and multiplying the costs by a factor of three—the "multiplier." In effect, she took a hypothetical average family spending one third of its income on food, and assumed that it had to cut back on its expenditures sharply. She assumed that expenditures for food and non-food would be cut back at the same rate. When the food expenditures of the hypothetical family reached the cost of the economy food plan, she assumed that the amount the family would then be spending on non-food items would also be minimal but adequate. (6-7)

The proportion of the population found to be poor using Orshansky's poverty line was about 20 percent.[7] This level dropped rapidly, to about 12 percent, by 1968. But strangely, it has hovered at about this level for the past three decades.[8]

Thus, in about the early 1960s, in both the richest and poorest countries in the world, absolute poverty was a major concern. As perhaps befitted the different levels of development, the rich country had a poverty line approximately equal to the *income* of PPP $10.40 a day, at 1993 prices,[9] and the poor country had a *consumption* poverty line about one-seventh that of the rich one, $1.54 per capita per day in 1964. The rich country had approximately 20 percent poor people, and the poor country about 45 percent poor people. Per capita per day consumption in the United States was $26.65 in 1964, and Indians were considerably poorer at $2.40 a day.

If the US and Indian estimates of poverty are taken to be representative, then one approximation is that poverty levels are likely to be somewhere between 20 and 50 percent of the population in rich and poor countries, respectively. These two (Indian and US) poverty lines provide the "original poverty lines" estimate of the elasticity of the absolute poverty line with respect to consumption, about 0.59.[10] A simple regression of the

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7. See Fisher (1996a, 1996b, 1997), Plotnick et al. (1998), and Burtless and Smeeding (2000) for discussions about measurement of poverty in the United States.

8. But see chapter 7 for possible explanations and resolution of the paradox of so much improvement in the living standards of the poor in the United States and no change in conventionally measured poverty levels.

9. This is derived on the basis of an income poverty line equal to $13,003 for a family of three, at 1998 prices (Burtless and Smeeding 2000, 4).

10. The US poverty line of $10.40 is converted into a consumption line of PPP $6.40 a day, using the ratio (0.62) of consumption to income observed in 1964.

51 poverty lines on per capita consumption (1993 PPP) for 1964 yields the following:

log (poverty line) = 0.18 + 0.63*(log per capita consumption, national accounts)

with the standard error on log (consumption) being 0.07 and R^2 equal to 0.61. For 1993, the regression result is:

log (poverty line) = 0.04 + 0.54*(log per capita consumption, national accounts)

The three elasticities—0.59, 0.63, and 0.54—are strikingly close; the 1993 estimate of elasticity is used in chapter 11 to advocate a new poverty line.

The World Bank Enters the Poverty Arena

In the early 1970s, the World Bank's study of absolute poverty received a major impetus—perhaps initiated by the World Bank president, Robert McNamara, at a speech in Nairobi in October 1973. Until then, the bank had been mostly a source for financing infrastructure projects in developing countries. By directing the bank's extensive resources toward the study of poverty, and by leveraging funds to study poverty in other institutions and countries, McNamara created a ''natural monopoly'' of intellectual leadership, in-house research, and funding for research outside the bank.

The availability of resources meant that front-line concern with poverty became de rigueur for all economies and development economists, regardless of their political or ideological orientation. There was now almost a universal concern with the development practitioner's ''triad''—the search was on to find the relationship between poverty, inequality, and growth. And the search was on to find policies that would both remove poverty and result in higher growth—and create more equal economies.

Not long after McNamara's 1973 speech, the first of several World Bank studies on income inequality and poverty appeared. That study—which was written by economists at the World Bank, and had a title that revealed its ideological moorings, *Redistribution with Growth* (Chenery et al. 1974)—was launched not only as a new book but also as a new tool for development policy. The *Redistribution with Growth* model was only a departure in the issue it examined, but was *not* a departure from the existing philosophy of development, a philosophy almost universal at quasi-governmental organizations and at leading centers of learning in the United States and the United Kingdom.

This philosophy, or ideology, gave considerably more weight to the power of governments, and considerably more respect for their abilities, than was perhaps justified. (This was the mid-1970s, before globalization,

before Margaret Thatcher, and before anyone knew that there was an alternative, let alone a Hayekian one.) The core McNamara model was one of loco parentis: The state and its instruments knew better. But the captains were asked to change the emphasis from import substitution for industry to ''poverty alleviation policies'' by the government.

Any similarity between the ''new'' and ''old'' development models, and between these models and the Marxian-socialist view of the world, was not coincidental. In the 1970s and 1980s, several of the recommended policies of international institutions (import substitution, central planning, a larger role of the state—not to mention computable general equilibrium models) were implemented. Less than a decade later, it was observed that most of these policies had failed.

How successful was the new *Redistribution with Growth* strategy? It depends on what poverty levels were at the beginning of the 1970s, on what poverty levels are today, whether these levels are correctly measured, and on whether the observed reduction in poverty can be attributed to direct policies of poverty alleviation or the indirect effects of economic growth—a debate equally in vogue in the mid-1970s when Bhagwati (1988) originated the discussion on direct and indirect effects of growth. For a discussion of these issues, see chapter 10.

First Absolute Poverty Line, Estimates, and Forecasts

This centralized international concern with poverty alleviation, and therefore its measurement, led to the search for an *absolute* poverty line. Note that both the United States and India were concerned with poverty, and policymakers in both countries came up with poverty lines appropriate for their respective economies. But if international monies had to be allocated for poverty reduction—regardless of caste, color, creed, sex, or nationality—then an objective standard of poverty was necessary. Should poor people in Malaysia obtain poverty reduction grants, or those in South Korea, or those in Brazil, or those in India? There was no objective way of evaluation other than to construct, and estimate, an absolute poverty line—a line not only absolute within an economy, but across countries and across time.

Given that only two poverty lines existed (those of India and the United States), it was not surprising that the first definition of an international poor-country poverty line should rely overwhelmingly on an Indian poverty line. In an important paper published in 1979, ''Growth and Poverty in Developing Countries,'' Ahluwalia, Carter, and Chenery laid much of the groundwork for the poverty research that was to follow for the next two decades. Issues pertaining to definition, measurement, and forecasts (for 2000) were discussed in detail.

Regarding the poverty line, Ahluwalia and his colleagues explicitly rejected a calorie consumption approach and opted for a monetary poverty line; and lack of data on consumption survey data for several developing countries made them reluctantly opt for an income rather than a consumption poverty line. The poverty line chosen was $200 per capita per year (according to the International Comparison Programme, later to be named PPP), at 1970 prices. The authors tagged this poverty line to be the income of the 45th percentile of the Indian income distribution for 1975.

But Ahluwalia and his colleagues did not have an income distribution for India. The 45th percentile of the *consumption* distribution yields a level of PPP $1.25 per capita per day, at 1985 prices, and $1.67 a day, at 1993 prices. (The corresponding *income* levels for the 45th percentile are $1.79 [1985 base] and $2.39 [1993 base].) All of these levels are on the basis of national accounts data. In the early to mid-1970s, household surveys in India were capturing about 80 percent of national accounts consumption. Thus, the first international poverty line, the line of Ahluwalia and his colleagues, if *benchmarked on the basis of a lower level of mean survey consumption, yields a lower poverty line of $1 a day ($1.25 multiplied by 0.8), at 1985 PPP prices.*

The publication of this first *international* poverty line by Ahluwalia et al. set off a flurry of research on the dimensions of world and regional poverty.[11] In the context of what was to develop only a decade later (a ''new'' poverty line), the methodology used by researchers needs to be understood. The four-step method is not complicated at all. The first step involved the creation of an income distribution for all countries; this was done through the use of the consumption or income distribution for each country.[12]

The second step involved a consistency transformation (i.e., the survey *means* were transformed into the corresponding national accounts means by multiplying all values in the distribution by the ratio of incomes as revealed by the survey and national accounts).[13] The third step involved the use of PPP exchange rates rather than dollar exchange rates. The fourth step was a simple counting of the heads below the poverty line.

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11. E.g., see Fields (1980, 1989); Berry, Bourguignon, and Morrisson (1981); and Yoto-poulos (1989).

12. All distributions were transformed into an income distribution by Ahluwalia, Carter, and Chenery (1979). So if only a consumption distribution was available (e.g., India) this distribution was ''converted'' into an income distribution by dividing the mean by one minus the savings rate.

13. Ahluwalia, Carter, and Chenery (1979) realized that the appropriate match was with per capita personal incomes, but the choice was ''dictated by the absence of data on the personal component of GNP.'' This absence is present today as well, for most developing countries.

The researchers arrived at two main findings. First, excluding China (for which data were not available), 38 percent of the world's population was living in poverty. Second, most poor people (three-fourths) resided in South Asia, Indonesia, and sub-Saharan Africa; the researchers estimated the poverty rate in the developing world at 50.9 percent in 1960, 38.0 percent in 1975, and a "base case projection" of 16.3 percent in 2000. These projections, again, exclude China for lack of data; also, the projection for 2000 is very close to the United Nations Millennium Declaration Goal of 15 percent poor people for 15 years *later* in 2015.

The Search for an *Absolute* Absolute Measure

No sooner had the Ahluwalia, Carter, and Chenery (1979) poverty line appeared in print than it was rejected. This very reasonable absolute poverty line was considered not absolute enough. Part of the reasoning might have been that the poverty line was dependent on PPP estimates, and these estimates were just that—estimates of the unknown purchasing power. The PPP project had only started in 1968, and it was highly unclear that an acceptable measure of incomes would be available anytime soon. And income estimates based on a dollar exchange rate were no good, because such exchange-rate-based conversions did not yield comparable values. Hence, the search for an absolute *non*-income-based poverty line was launched.

If no comparable measure of income was available, how could poverty levels based on incomes be generated? This was a case of "If there is no bamboo, there can be no flute." An intensive search for the bamboo was on. The absolute item of choice became the consumption of calories, and not the food that was used to consume these calories. (The developers of the original poverty line, Ahluwalia et al., had explicitly warned against the beguiling calorie trap, but their warnings were not heeded.) Food shares were dispensed with because it was felt that they were not volatile enough for a precise measure of absolute poverty. Engel ratios were not useful in distinguishing Mexican poor people from Korean poor people (both had food consumption Engel ratios at the height of the 1960s).

Caloric consumption seemed the most appropriate reference point (for comparing poverty). Food was a major component of the consumption basket of the poor, and survival instincts all pointed toward first removing hunger, before shelter or clothing. The reason that shelter and clothing were not considered relevant to the first stage of poverty removal was that most poverty was concentrated in tropical areas, where clothing and shelter were not as necessary as food for survival.

Perhaps coincidentally, the mid-1970s was also a time for a big push forward by nutritionists to understand why Americans were overweight, and so there might have been a coincidence of interests in zeroing in on

Table 4.1 Calorie intake in the United States, 1971-74

Group	Mean	Percentile		Calorie requirement (KCal/day)		Percentage malnourished[a]	
		10th	90th	FAO	United States	FAO	United States
All							
Males	2,393	1,257	3,733	3,000	2,535	67	46
Females	1,618	852	2,469	2,200	1,870	80	70
Males							
White	2,428	1,298	3,778				
Black	2,141	1,098	3,350				
Females							
White	1,626	866	2,470				
Black	1,551	766	2,439				

FAO = UN Food and Agriculture Organization

a. Percentage malnourished are those below the stated requirement level.

Source: US Health and Nutrition Expenditure Survey, 1974; as quoted in Bhalla (1980).

calories. In very little time, the conventional wisdom became that poor Indians consumed too few calories, and rich Americans too many. Even after shocking revelations to the contrary (see table 4.1), the paradigm of calories as a measure of poverty has still not disappeared from the horizon of some economists.

Considerable research on caloric consumption levels was published. The search for the Holy Grail of an absolute poverty measure was on, and several economists joined the pilgrimage.[14] The Rome-based UN Food and Agriculture Organization took the lead in publishing estimates of country consumption of food and calories.

Economists were quick to recognize that the caloric method of estimating poverty suffered from major conceptual problems. For example, how is the caloric measure accurate if on becoming richer, a person moves from potatoes to meat, from a cheap to a rich source of calories? One answer to this objection was that the poor people being compared were not Tanzanians and Americans, but rather Tanzanians and Indians; that is, people for whom meat was not even an option, let alone a luxury. Although this answer silenced the objectors, it laid the groundwork for several false estimates of poverty decades hence. What was observed was that consumers were continually making choices among food items (e.g., cereals or vegetables), and that therefore the error in equating calories with poverty was continuing.

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14. See Reutlinger and Selowsky (1976). I myself was an eager participant in this search for the poverty grail; see Bhalla (1980).

It was not long, however, before serious doubts began to be raised about the reliability of *any* calorie-based measure of poverty. The likelihood of type II errors (people consuming few calories but otherwise rich) was large. Sukhatme (1977) documented that *intra*-individual variation in caloric consumption (people's varying metabolisms and physical activities lead to differences in their efficiency of digesting food) was large and swamped *inter*-individual variation. And a common caloric level for individuals was not really accurate since the sedentary lifestyle of an urbanite was not really comparable with the lifestyle of a person residing in the rural area.

Finally, careful measurements of caloric input data by the US Health and Nutrition Expenditure Survey for the period 1971-74 yielded the shocking result that, if Food and Agriculture Organization norms were used (3,000 calories for an adult male 25-34 years of age and 2,200 calories for an adult female in the same age range), then more than two-thirds of American males and 80 percent of American women were *malnourished* (see table 4.1).[15]

Rediscovering the $1-a-Day Poverty Line

The influence of the Indian poverty line, and the legitimacy it gained in being adopted by the World Bank, was considerable. Although the motivation may have been different, both Indian and US lines had an identical three-step methodology. First, decide, on whatever basis, a value for food consumption that is deemed to be a minimum. Second, for the group of people defined as poor, observe the share of nonfood consumption. Third, add average food consumption to average nonfood consumption and obtain the poverty line. The reference to calories was obligatory, but ultimately irrelevant.

Altimir (1981) set up poverty lines for the Economic Commission for Latin America and the Caribbean and used a vague nutritional basis to get at minimum food consumption (à la India) and then a multiplier of 2 to get at a minimum total consumption, à la the United States. (Recall that Orshansky used a multiplier of 3 for the United States.) Also, like Ahluwalia and his colleagues, Altimir preferred the national accounts means of income rather than survey means. He justified his procedure thus: "Estimating the incidence of poverty by applying independently valued poverty lines to income distributions that are subject to different degrees of income underestimation would not only result in exaggerating incidence but, even more important for our purposes, in *incomparable* estimates of poverty" (1996, 8; emphasis added).

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15. Again, it does not take rocket science measurement techniques to observe that most Americans are weight challenged the wrong way.

Throughout the 1980s, new lines were set up for individual developing economies, and the poverty line developed by Ahluwalia and his colleagues was used to calculate global poverty. But the feeling seemed to persist that the international poverty line of PPP $200 was too arbitrary and too dependent on the poverty line of just one country, India. Hence, the search for an absolute line that was not overly dependent on one country's line—albeit one that included most of the world's poor people (along with those in China)—continued.

By the late 1980s, the poverty profession had come full circle. Calories were definitely out, but not food consumption (and rightly so). The search for an absolute poverty line ended with the second World Bank line, this time put forth by Ravallion, Datt, and van de Walle (1991). They had first published their estimate in *World Development Report 1990: Poverty and Development*. Since then, Ravallion has been associated (not unlike Ahluwalia before him) with several publications on the measurement of poverty. These two international poverty lines, and the methods used to develop them—more than just reflecting the work of the researchers who articulated them—bore the imprimatur of the World Bank. Hence, these lines are sometimes referred to as ''World Bank I'' and ''World Bank II.''

The World Bank II researchers correctly noted that the absolute poverty line in countries varied with the level of their per capita income; hence, the obvious choice for an absolute poverty line was the line in the *poorest* country. They also use a model relating the poverty line to per capita consumption, and from this model they derived the *predicted* poverty line for the poorest country:

> The lowest mean consumption amongst the 86 countries studied in the *World Development Report* is Somalia at $22 per person per month in 1985 PPP prices. At this point, equation (1) [the model] predicts a poverty line of $23, only slightly different from that of India. Thus, India's poverty line is very close to the poverty line we would predict for the poorest country, and as such, can be considered a reasonable lower bound to the range of admissible poverty lines for the developing world. (Ravallion, Datt, and van de Walle 1991, 348)

Ravallion and his colleagues note that whereas $23 is the lowest, the poverty lines for six of the poorest countries—Indonesia, Bangladesh, Nepal, Kenya, Tanzania, and Morocco—formed a cluster around $31 a month, and two other poverty lines—for the Philippines and Pakistan—were ''close to this figure.'' Given the (memory) appeal of such a value, the $1-a-day line, at 1985 prices, soon became *the* absolute poverty line.

Recall that the Indian poverty line at 1985 prices was almost exactly equal to $1 per capita per day, rather than what Ravallion and his colleagues indicate that it is—a poverty line close to $23 a month, or $0.76 a day. This divergence mirage occurs because Ravallion and his colleagues choose (for unknown reasons) to use the *rural* poverty line when available.[16] If the

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16. If the purpose was to develop a rural international poverty line, such a procedure might have been justified, though one might ask the purpose of such a line.

poverty line for all of India for the last survey year (1987-88) before the development of the World Bank II poverty line is chosen, then the Indian poverty line (at the national level) is observed to be $1.04 a day—almost (definitionally) identical to the $1-a-day line chosen by the World Bank I researchers and very close to the $1-a-day line popularized by the World Bank II researchers. In other words, the search for an alternative poverty line ended exactly where it had started, after more than 15 years of effort— 30 years, if one includes the effort of India's Planning Commission in 1962.[17]

The fact that the two seemingly different poverty lines are identical should not really be a surprise. Ahluwalia and his colleagues make their poverty line *equal* to the Indian poverty line, by assumption; though Ravallion and his colleagues do not do this by assumption, they do it de facto. It is interesting that the World Bank II researchers do not compare any of their results with those of the World Bank I researchers (or with the national Indian poverty line). Indeed, the trend-setting study by Ahluwalia and his colleagues is not even referred to by the World Bank II researchers (or by *World Development Report 1990*)—nor are several other studies on the development of poverty lines in the world, including Altimir's work on Latin America.[18]

The methods used by the two sets of World Bank researchers could not have been more different. Whereas one set literally adopted an existing line, the other identified the line through a ''model.''[19] The first set of researchers believed they had constructed an absolute poverty line, but they were also explicit about its arbitrary nature, and the fact that it was the Indian poverty line. The second set developed an involved method, and they believed they had discovered a new poverty line. If questionable assumptions (e.g., for countries where both rural and urban poverty lines were available, like India, they chose the rural poverty line) had not been made, the equivalence would have been noted by the second set themselves.

The Poverty Line Reduced

During the past few years, data on PPP incomes and exchange rates, based on a new set of ''base'' 1993 prices, have become available for a

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17. Or as T.S. Eliot wrote, ''We shall not cease from exploration / And the end of all our exploring / Will be to arrive where we started / And know the place for the first time.''

18. Some of the possible reasons for this occurrence (e.g., a research funding and research monopoly) are explored in Bhalla (2002b).

19. Although an actual model is presented (regressing the poverty line on per capita consumption), the results of the model are really not relevant—it is the cluster that decided, appropriately, what the poverty line should be.

large set of countries. These data are the outcome of the International Comparison Programme and have been released by the World Bank and made available to the international community via their prestigious data publication, *World Development Indicators*, and its associated CD-ROM.

There are two basic reasons why new PPP data are constructed: to involve additional countries (the 1993 data involved 110 countries vs. only 60 for the 1985 PPP series); and to incorporate the effects of changing relative prices, both within a country and for countries relative to international prices. (This is not unlike revisions that are undertaken with respect to national accounts within each country.)

The PPP data supplied by the World Bank consist essentially of one variable per country per year: the nominal PPP exchange rate. The division of variables, expressed in local currency, by this exchange rate yields PPP estimates at *current* international prices. For example, the 1998 GDP in local currency for India was reported as Rs17,600 billion, and the exchange rate (termed the ''conversion factor'') was given as 8.53. In PPP terms, therefore, the 1998 GDP for India, at then-current international prices, was Rs2,063 billion.

The conversion from current to constant international prices is done via the use of the numeraire; in this case, the GDP deflator for the United States.[20] Between 1985 and 1993, for example, the US deflator increased from 78.4 to 100. Thus, over these 8 years, international inflation was equal to 27.6 percent.[21] For each country, therefore, one would expect international inflation to be approximately 28 percent. Thus, given the $1-a-day poverty line in 1985, the equivalent poverty line at 1993 prices should be about 28 percent higher, or $1.28.

The first researchers to use the new PPP data were Chen and Ravallion (2000). They updated their earlier work on global poverty and produced a set of estimates for regional and global poverty for selected years from 1987 to 1998. They contended that the new, 1993-prices-based poverty line equal to $1 a day in purchasing power (at 1985 prices) was $1.08 a day. This is the third World Bank definition of an international poverty line (World Bank III). It was seen above that the first two international poverty lines were essentially equivalent; it remains to be determined whether this new poverty line is also the ''same'' in purchasing power terms.

Taken at face value, the equivalence of $1 a day at 1985 prices and $1.08 a day at 1993 prices suggests that the average *international inflation*

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20. On the *World Development Indicators 1998* CD-ROM, both nominal and real PPP income levels are published for all the years and all the countries. This World Bank document uses the US GDP deflator to convert nominal PPP to real PPP for all the countries and all the years; I am following the same procedure here.

21. Note that even the United States has a PPP exchange rate that is not necessarily equal to 1; for the 1993 PPP series, this varied between $0.905 and $1.06.

between the 2 years was only 8 percent and not about 28 percent, as was just suggested. The two estimated rates of international inflation (Chen and Ravallion 2000 for the developing world, and US inflation) do not appear to be close enough to be due to either relative price changes or relative currency appreciation.

Was international inflation really as low as 8 percent, or less than 1 percent a year, during the period 1985-93? US consumer price inflation averaged three times this rate, and most industrialized countries were not far behind. It is not possible, therefore, that international PPP inflation was only 8 percent. It cannot be, and it was not. Given this easy calculation, what is interesting to note is that there was not a single comment,[22] let alone disagreement, when this ''revisionist'' view on world inflation was first presented. Part of this deficiency was also rectified later by Deaton, who stated:

> Given world—and U.S.—inflation between 1985 and 1993, it is somewhat surprising that the international poverty line should have increased by only 8 percent, from $1 to $1.08. But the updating was carried out by going back to the country poverty lines, and converting back to international dollars, so that the modest increase comes, not from a failure to allow for world inflation, but because the PPP international dollar has strengthened relative to the currencies of the poor countries whose poverty lines are incorporated into the international line. (2001a, 4)

The hypothesis that the international PPP dollar has appreciated was tested, and found wanting (see below). Then what explains Chen and Ravallion's error? What they appear to have missed is that there are *two* adjustments to inflation when conversion is made from a domestic currency to international prices. The first is a ''depreciation'' with respect to an international exchange rate; the second is international inflation itself. The latter is expected to be the *same* for different countries, and indeed is what is needed to convert incomes (or consumption) from one base to another.

Table 4.2 documents that this is indeed the case. Two sets of inflation data are presented for various regions of the world, as well as for the poorest eight countries that constituted the sample in both studies by Ravallion and his colleagues on the international poverty line, 1991 and 2000.[23] Although there is some minor variation around the residual PPP

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22. This is not exactly true. I was one of the referees for *World Development Report 2000/2001: Attacking Poverty*, and had pointed out in June 2000 that international inflation was 27 percent. Later, in Bhalla (2000a), I stated: ''The most recent publication of the World Bank, however, reports a *new* international poverty line of $1.08 per capita per day, 1993 prices . . . i.e., the new line of $1.08, 1993 prices, is equivalent to $0.82, 1985 prices. The reasoning behind this large 18 percent reduction in the absolute poverty line is not transparent, and debatable'' (p. 1).

23. The two studies, again, are Ravallion, Datt, and van de Walle 1991 and Chen and Ravallion 2000. The 1991 study included two additional countries, Tanzania and Somalia; unfortunately, data for these two countries were not available for the 1993 base.

Table 4.2 What is the $1-a-day poverty line at 1993 prices: $1.08 (World Bank) or $1.30 (simple accounting procedure)? (median percentage)

Region	Depreciation of PPP exchange rate, 1985-93	"Residual" PPP inflation, 1985-93[a]	Domestic inflation, 1985-93[b]	Domestic food inflation, 1985-93[c] (percent)
Asia	33.1	28.4	61.5	62.7
Sub-Saharan Africa	42.2	32.3	74.5	101.0
Latin America	116.2	15.2	131.4	182.6
Developing world	41.6	27.7	69.3	105.2
Developing world, excluding China and India	43.4	25.9	69.3	105.9
Eastern Europe	327.6	−3.6	324.0	566.4
Industrialized countries	−2.8	29.7	26.9	28.3
World	**37.5**	**24.0**	**61.5**	**88.7**
World, excluding Eastern Europe	**26.2**	**27.8**	**54.2**	**67.5**
Poorest eight countries				
India	41.0	30.6	71.6	74.7
Bangladesh	22.6	26.4	49.0	52.6
Indonesia	37.2	26.7	64.0	68.2
Kenya	42.2	34.7	76.9	
Morocco	13.2	29.2	42.3	47.7
Nepal	64.7	29.3	94.0	95.3
Pakistan	26.1	35.4	61.5	66.7
Philippines	44.5	25.2	69.7	63.0
Overall	**39.1**	**29.2**	**66.9**	**66.7**

PPP = purchasing power parity

a. Data are available for domestic inflation (measured by the GDP deflator) and exchange rate depreciation with respect to international prices. The PPP inflation for each region is derived from the above two estimates.

b. By definition, overall domestic inflation is equal to the depreciation of the PPP exchange rate plus international inflation.

c. Domestic food inflation figures (food consumer price index) are from World Bank, *World Development Indicators*.

Note: The $1-a-day, 1985-prices poverty line was based on the 10 poorest countries in 1985. This set included Tanzania and Somalia, two countries for which complete data are not available.

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

inflation amount (residual because it is the difference between observed domestic inflation and assigned depreciation), it is comforting to note that the PPP method is exactly as advertised—international inflation is (approximately) the same for all countries. All the regions, as well as the poorest countries, show a median PPP inflation of about 30 percent.

What about the possibility that food, which is a major consumption item of poor people, had a different, and lower, inflation rate than nonfood

items? This does not appear to be the case because, on average, food prices seem to have increased at a faster pace, by about 5 percent for all of the poorest developing countries—though they rose at the same rate as overall inflation for the selected poorest countries listed in table 4.2.

Another statistic that easily reveals that world inflation was indeed 30 percent during the eight years from 1985 to 1993 is to look at average world income in 1985 for 151 countries for which both 1985 and 1993 base data are available. The result: Average daily income at 1985 prices was $10.72; at 1993 prices, it was $13.99—a difference of 30.5 percent. Given international inflation of 30 percent between 1985 and 1993, the line of $1.08 is nothing but a *reduction* in the absolute poverty line by 17 percent. *The equivalent to $1 a day at 1985 prices is $1.30 a day at 1993 prices, and not $1.08 a day.*

The computation of the poverty line has a bearing on how many poor people there are in the world, and the aid effort needed to eliminate poverty. The higher the poverty line, the more poor people; the lower the line, the fewer, and the smaller the aid effort required. By reducing the poverty line, it would appear that the World Bank is understating the number of poor people in the world. That this is not the reality— indeed, that poverty is considerably lower than the World Bank estimate based on a reduced poverty line—is documented in chapter 9.

Poverty lines are expected to rise through time and with development— not to fall so radically (17 percent) during the 8 years (1985-93) when income per capita in the developing world increased by close to 30 percent. The level of the absolute line does not matter for the interpretation of trends, as long as the level is kept constant in real terms. If the level is changed, and it is stated that it has actually remained the same, the best that one can hope for is a vast amount of confusion—and possibly yet more input for "theories of development" that have little to do with the underlying reality.

Evolving World Bank Definitions of Poverty

Given the fortuitous coincidence of the equivalence of the *national-accounts, income-mean*-based World Bank I poverty line (PPP $200 per capita per year, at 1970 prices) and the *survey-consumption-mean*-based World Bank II poverty line (PPP $1 a day, at 1985 prices), the stage is set for a comparison of world poverty trends since 1960.

According to the Ahluwalia, Carter, and Chenery study (1979), poverty in the developing world (excluding China) declined by 13 percentage points during the 15 preglobalization years 1960-75. For this same period, the present study finds (using national accounts data and 1993 PPP prices; also for the developing world, excluding China) the decline to be only 7 percent. For the 13 years 1987-2000, this study finds that poverty declined

by a slightly larger amount, 8 percentage points. Whether this decline was less or more than what should have been expected is something examined in detail in subsequent chapters. Per capita consumption during the period 1960-75 (again, excluding China) increased by 34 percent; from 1987 to 2000, per capita consumption only increased by a considerably lower 13 percent. The yield (the decline in HCR per unit of increase in income) was 0.21 during the period 1960-75, and it tripled, to 0.62, during the globalization period 1987-2000.

A priori, this yield suggests that growth during the recent period was fantastically propoor, and/or that inequality in the developing world (excluding China) improved considerably during the globalization period. This is the second major hint that analysts and commentators have missed about the golden age of the poor—the so-called globalization period from 1980 to 2000.