

TECHNICAL REPORT

# Poverty in India Since 1974

A Country Case Study



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# Poverty in India Since 1974

From 1951 to 1974, India's first quarter-century of independence, the percentage of its population living in poverty rose from 47 to 56 percent. During the next quarter-century, that rate fell sharply, reaching 26 percent by 1999–2000.<sup>1</sup> Between 1974 and 1999–2000, the poverty rate fell by 53%, exceeding the millennium development goal of a 50% reduction over a 25-year period. In headcount terms, the number of poor people rose steadily from 171 million in 1951 to a 321 million in 1974, before falling to 260 million in 1999–2000. In this paper, we review and analyze the experience since 1974 with poverty reduction, identify trend factors, examine the quality of the poverty estimates, and place the post-1974 period outcome in the longer term perspective of poverty trends in India. We first provide background on Indian poverty measurement and on trends in the period before the decline in Indian poverty. We then present poverty trends during the period studied, as described by official statistics; report experts' conclusions on the reasons behind the trends; examine state-by-state analyses for insights into the determinants of poverty reduction; ask whether the quality of India's poverty data is sufficient to build confidence that the data reflect underlying conditions; and discuss controversies over data quality.

India presents a particularly interesting case for analysis of poverty trends because the relatively high quality of its statistics permits two different kinds of analysis. First, we can study trends for the country over time. But we can also undertake cross-section state-by-state analysis because some policies and institutions vary across India's states. (Half of India's states have more than 30 million people, larger populations than most countries. Uttar Pradesh alone has more people than Brazil.)

## Background

India has more poor people than any other country. By the World Bank standard of \$1 per day per capita, India's 458 million poor, or 52.5 percent of its population, accounted for 35 percent of the

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<sup>1</sup> This paper uses the percent of the population in poverty, or headcount poverty. Two other measures, the poverty gap and the squared poverty gap, are frequently used to measure the depth of poverty. In the case of India, both of these measures track headcount poverty. That is, they both rose over the 1951–1974 period, and fell sharply during the next 25 years. Consequently, headcount poverty seems an adequate proxy for all three measures.

world total in 1992—far more poor people than all of sub-Saharan Africa.<sup>2</sup> If the total number of people living in poverty in the world is to be reduced, India is the obvious place to begin.

India has an unusually extensive statistical base for a poor country. Since the early 1950s, it has conducted the National Sample Survey (NSS), which tracks consumption by a representative sample of the population. Often conducted annually, the survey has used consistent poverty lines (49 rupees for rural areas, and 57 rupees, both in terms of 1973-1974 prices). The poverty lines were described by the survey designers as permitting a caloric intake of 2,400 calories in rural areas and 2,100 calories in urban areas.<sup>3</sup> The NSS provides national and state-by-state data on average consumption, share of the population in poverty, and the distribution of consumption among the population, in the form of a Gini coefficient. In sum, India is far better than most developing countries as a place to track poverty over time and relate it to policy and other variables. Most annual samples are relatively small; large samples are surveyed at approximately five-year intervals. These large or “thick” surveys are considered more reliable than “thin” annual surveys.

India’s high level of poverty persists despite a half-century during which “the overarching objective of India’s development strategy has always been the eradication of mass poverty” (Srinivasan 1999). In his inaugural speech at Independence in 1947, Nehru endorsed Gandhi’s goal of removing “every tear from every eye.” Two decades later, Nehru’s daughter successfully campaigned for prime minister under the slogan “Remove Poverty.” Throughout most of the period since Independence, government policy operated to favor the poor by limiting the freedom of the private sector in numerous ways. In the rural sector, limits were placed on the size of farms, and numerous other actions were taken to limit the power of larger farmers. Poor farmers were strongly encouraged to form cooperatives. Significant parts of the industrial sector were reserved for small and micro business, and the state controlled large parts of industry so that the profits would benefit the whole society, not just wealthy owners of capital. In addition, a wide variety of subsidies, food distribution, and employment programs were aimed at the poor. In recent decades, many of these policies and programs have been eliminated because they have been ineffective or counterproductive in reducing poverty.

## Trends in Poverty, 1950 to 1974

During the first 25 years of Indian independence, India’s efforts to reduce poverty produced retrogression. The trend in the share of the population in poverty from 1951 to 1974 is shown in Figure 1. The observation points on the chart show the NSS observations, which were frequently annual.

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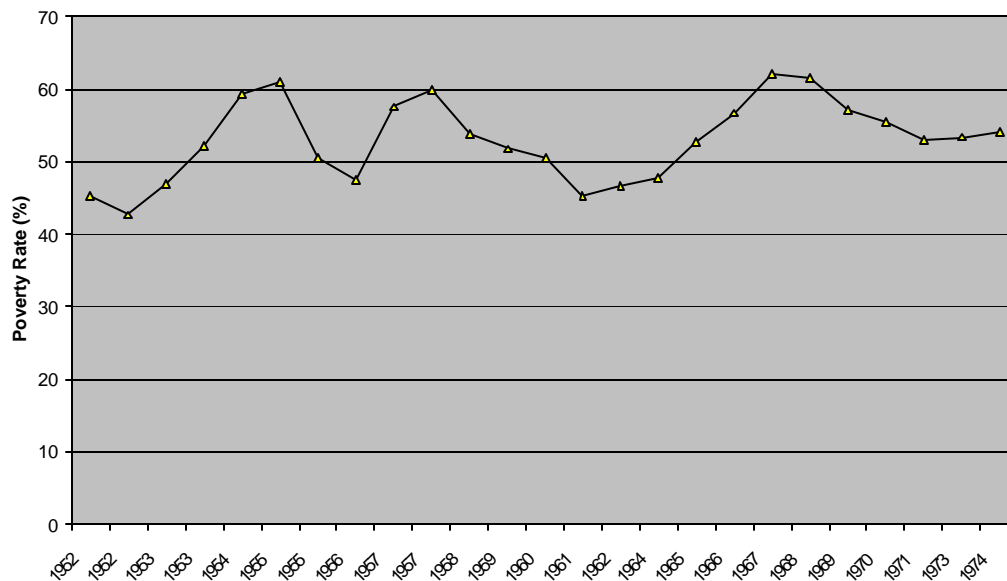
<sup>2</sup> These statistics come from the World Bank, *World Development Indicators, 1998*. The dubious precision of such statistics is illustrated by comparing Figure 1a in this World Bank report with Table 2.7 in the same report (to which the reader is directed by notes to Figure 1a). The figure gives the share of India’s population below \$1/day at 36 percent, while the table reports 52.5 percent. For China, the corresponding figures are 62 percent and 22 percent.

<sup>3</sup> Actually, Deaton (1996, 155) suggests that the required number of calories would cost much less—perhaps 30 rupees.

Between 1952 and 1974, the share of the population in poverty moved up and down cyclically, most importantly in response to good or bad monsoons, but there seems to have been an upward trend. The slow economic growth between 1950 and the mid 1970s (averaging only 1.4 percent per capita) has been blamed for this poor performance. More important for poverty reduction—because the great majority of poor people live in rural areas—growth in agricultural production per capita was a miniscule 0.06 percent per year.

The available data indicate that the distribution of consumption among the population became more equal over the period. The Gini coefficient fell from .34 in 1957 to .29 in 1974 for consumption, as measured by the NSS.<sup>4</sup> Because average consumption did rise over the period, this increased equality appears inconsistent with the increase in the poverty rate. It suggests that the redistribution did not favor those near the poverty line.

Figure 1  
*Poverty Rate in India, 1951–1974*



SOURCE Datt, 1998.

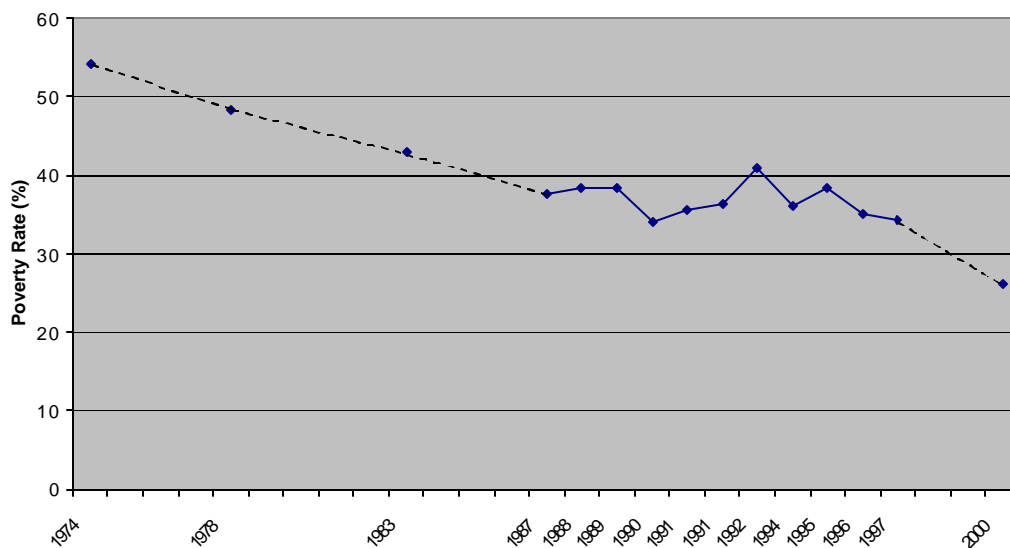
## Trends in Poverty, 1974 to 2000

After 1974, Indian economic growth began to accelerate. In the agricultural sector, pricing reforms and new technologies (the “green revolution”) led to faster growth in production and less vulnerability to fluctuations in monsoon rains. Between 1974 and 1990, GDP per capita grew at an annual rate of 2.4 percent, and agricultural output also grew faster, at 3.0 percent. After an economic crisis in 1990-1991, GDP per capita grew even faster during the 1990s, averaging 4.2

<sup>4</sup> The Gini coefficient is a widely used measure of inequality. It varies from zero, which indicates that all households have equal incomes or consumption, to 1, which indicates that one household has all the income or consumption. A Gini coefficient below 0.4 is generally considered to reflect relative equality, while a coefficient above 0.5 shows high inequality.

percent between 1991 and 2001. During this period, the overall poverty rate fell sharply, from 54 percent in 1974 to 26 percent in 1999-2000. The trend of this period is shown in Figure 2. As indicated in the figure, NSS surveys provided only a few observations until 1986, when more frequent sampling resumed.

Figure 2  
*Poverty Rate in India, 1974–2000*



SOURCE World Bank, 2000, and Indian Economic Survey, 2001.

Table 1 provides more detail on poverty trends, but includes only the large surveys. As indicated by the table, both rural and urban poverty have tended to decline together. India is still a predominantly rural country, with more than 70 percent of the population living in rural areas in 2000. As indicated by the table, the absolute number of poor Indians did not decline between 1974 and 1994. The fall in the poverty rate was counterbalanced by a rise in total population. Between 1994 and 2000, however, the number of poor people began to fall sharply—by 60 million people over the six-year period.

Table 1  
*India: Poverty Rate and Numbers in Poverty, 1974–2000*

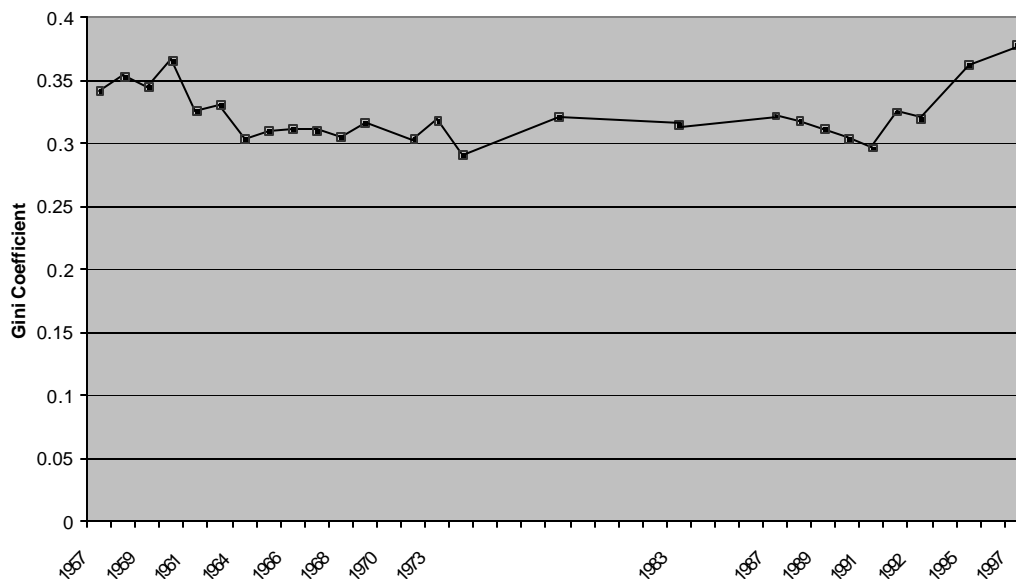
Year	Head Count Poverty Rate (%)			Number in Poverty (millions)		
	Combined	Rural	Urban	Total	Rural	Urban
1973/74	54.9	56.4	49.0	321	261	60
1977/78	51.3	53.1	45.2	329	264	65
1983	44.5	45.7	40.8	323	252	71
1987/88	38.9	39.1	38.2	307	232	75
1993/94	36.0	37.3	32.4	320	244	76
1999/2000	26.1	27.1	23.6	260	193	67

SOURCE Indian Economic Survey, 2001-2002.

The NSS provides statistics on the distribution of consumption among the population. (The survey requests information on household consumption rather than household income, as the former is considered more likely to elicit full cooperation. The distribution of consumption among the population is likely to be more equal than the distribution of income, since savings tends to be higher among higher-income households.)

Figure 3 shows the trend in India's Gini coefficient from 1957 to 1997. Inequality fell during the late 1950s, but remained quite stable until a rise in the mid-1990s. Even these changes are relatively modest. Nevertheless, the rise in inequality in the mid-1990s suggests a possible departure from the stable level. Gini coefficients from the 1999-2000 NSS have apparently not yet been published, but interpretation of the survey has generated controversy. Using other inequality measures Deaton and Dreze (2002, 3739-40) conclude that unadjusted survey data show little change in inequality. Adjusting the data for changes in methodology, however, they find a significant increase in inequality arising from widening rural-urban income gaps, and slower income growth in lower-income states than in higher-income ones. Bhalla (2002) uses an alternative approach to data adjustment to suggest that inequality has been quite stable, and that, moreover, poverty reduction in recent years has been faster than the official figures show.

Figure 3  
*India: Gini Coefficient, 1957–1997*



SOURCE: Datt, 1999.

## Explanations for Poverty Trends

The consensus in the economic literature is that India's faster economic growth in recent years is a major factor in explaining faster poverty reduction, and that slow economic growth before 1974 explained the poor performance on poverty in earlier years. Figure 4 shows per capita GDP growth rates since 1950. Growth was modest in the 1960s, very slow in the 1970s, and much more rapid afterwards. Except for a sharp contraction in 1990-1991, per capita growth has been relatively steady since 1985. It has also been rapid, averaging nearly 3.9 percent per year—which places it among the fastest growing in the world for the period. At this growth rate, per capita GDP doubles every 18 years. In contrast, at the average growth rate from 1960 to 1980 (1.1 percent per year) per capita income doubles every 62 years.

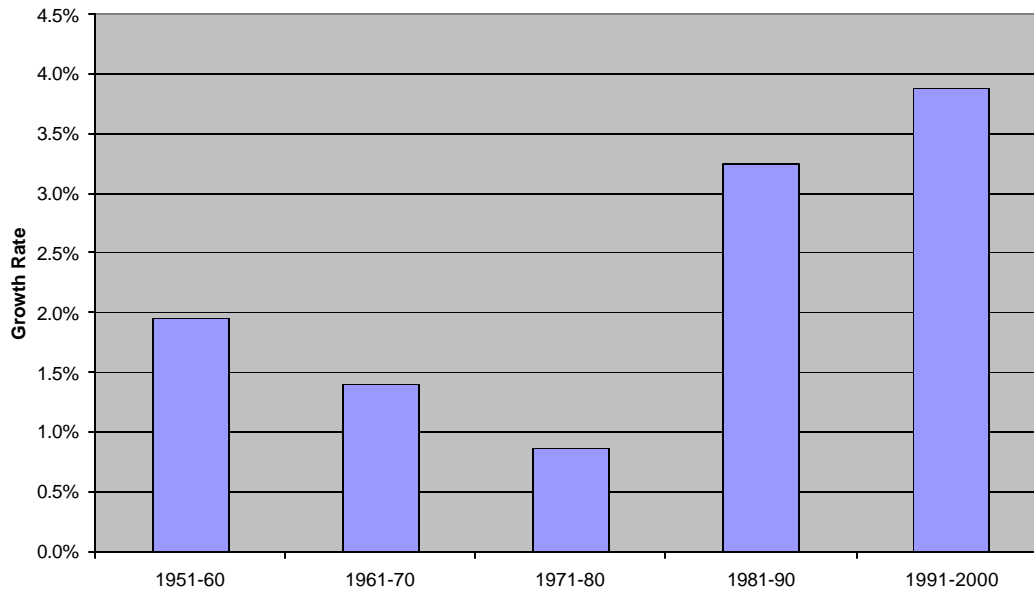
The data suggest a general correspondence between faster per capita growth and faster poverty reduction, but the relationship does not seem close for short periods of time. The poverty rate fell in the last half of the 1970s, though growth was very slow. And one would have expected some poverty reduction in the 1950s, when growth averaged nearly 2 percent, with income becoming more equally distributed.

Most attribute the rapid economic growth of the 1990s to liberalization of the economy—reduction in governmental controls, trade liberalization, and increased receptivity to foreign investment—that took place from 1991 to 1996. Though the stabilizing element of the 1991 economic reforms would have been expected to lead to a temporary rise in headcount poverty, most proponents of economic reform expected poverty to decline faster in the 1990s than NSS surveys before 1999-2000



reported. The link between policy reforms and faster growth is widely accepted, but the link between faster growth and poverty reduction is more contentious, as we shall see.

Figure 4  
*India: Per Capita GDP Growth*



SOURCE Reserve Bank of India, 2001.

Baghwati (1993, 20-35) is clearest in his claim that rapid economic growth is the only feasible means for major reductions in poverty in India, and in linking poor economic policies to India's historically slow growth. Drèze and Sen (1995) assign less importance to economic growth, though they see a need for "reasonable" rates of economic growth. They identify the low level of social indicators in India as a factor in the country's poor performance in the past. They note that literacy in India in the early 1990s was about on a par with sub-Saharan Africa. And India shared with only a few countries outside sub-Saharan Africa and south Asia the distinction of a life expectancy of under 60 years. They agree, however, that social indicators cannot offer a complete explanation, as evidenced by the poor economic performance of Indian states that come close to the standards of developed countries for literacy and infant mortality:

The relevant failures include not only the social backwardness of many states (such as Uttar Pradesh), but also the failure of Kerala to achieve reasonable economic growth, despite a remarkably high performance in terms of many aspects of the quality of life. (35)

Drèze and Sen are not explicit, however, about policies needed to achieve "reasonable economic growth."

Joshi and Little (1996) agree with Drèze and Sen that the failure to promote basic education during the first several decades after Independence was a serious mistake. Nevertheless, like Baghwati,

they blame slow progress in poverty reduction mainly on government policy, which—often in the name of fighting poverty—creates conditions and incentives that prevent reductions. The main burden is on policies that encourage capital-intensive production methods (a closed economy, subsidies for agricultural inputs such as machinery, electricity, and fertilizer) that limit demand for unskilled labor. Particularly in agriculture, they consider that government policy lowers the demand for labor.

The Joshi–Little model would predict that poverty reduction would be faster in the 1990s than in previous decades because the government removed some of the obstacles to labor absorption during the liberalization of 1990–1991 and later. Nevertheless, this was not evident in the NSS surveys carried out during most of the decade.

## Poverty Reduction Across India

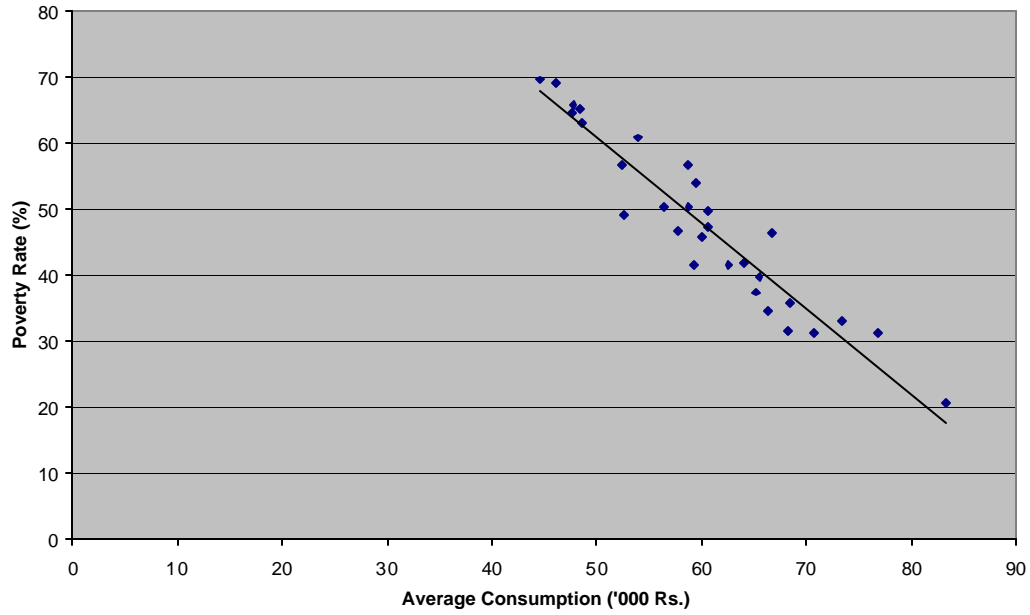
The existence of state-level information on poverty and income trends provides a second way to look at the question of poverty and income. Is poverty lower in states that have higher average incomes or average consumption? If so, how strong is the relationship? Scatter diagrams for average consumption levels at the state level and the poverty level for that state are presented in Figures 5 and 6. The data are drawn from Tables 3 and 4 in Datt (1998). The data are pooled estimates for 15 states for 2 time periods—the late 1950s and the early 1990s—and the average consumption levels are measured in terms of 1973/74 prices.

Despite the different time periods and wide variations among the states in a variety of characteristics, including income inequality, the relationship between a state's average consumption level and its poverty level is quite regular.<sup>5</sup> For urban areas, a rise in average consumption from 50 rupees per person per month (at 1973/74 prices) to 80 rupees would be expected to be associated with a decline in the poverty rate from 60 percent to 31 percent. For rural areas, the same rise in average consumption would lower rural poverty from 61 percent to 22 percent.

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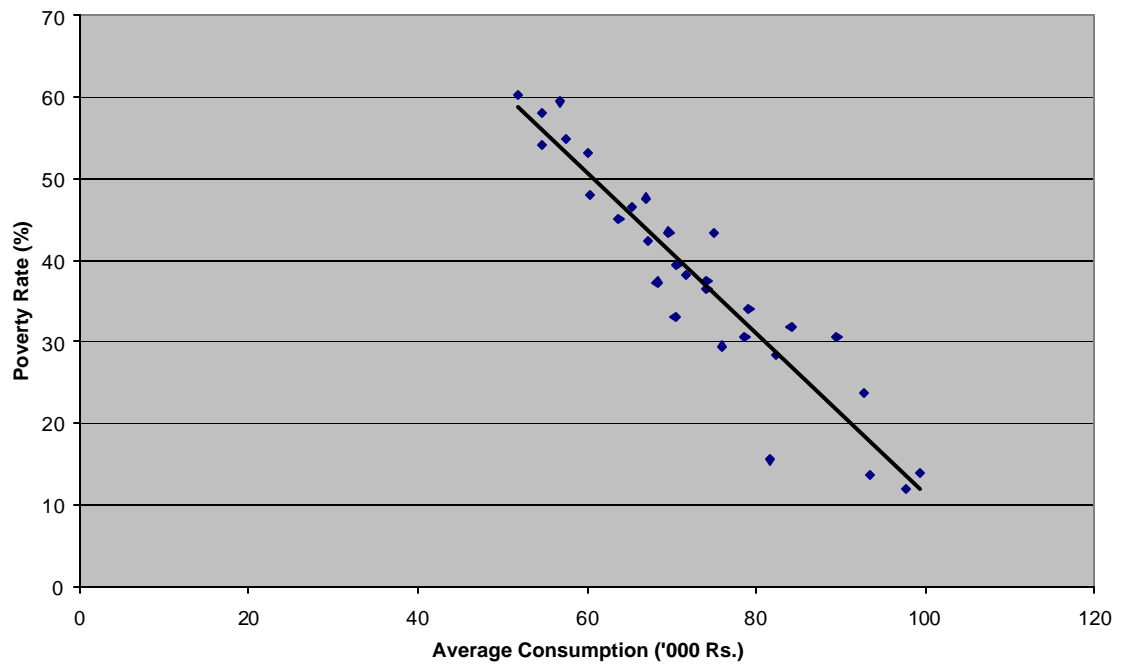
<sup>5</sup> The Gini coefficient varies widely across Indian states. For rural consumption, it varied in the cases shown from 0.221 to 0.384. The corresponding range for urban consumption was from 0.193 to 0.367. As noted earlier in the paper, the Gini coefficient for India as a whole stayed within a much narrower range.

Figure 5  
*State Rural Poverty Rate and Average Consumption*



SOURCE Datt, 1998

Figure 6  
*State Urban Poverty Rate and Average Consumption*



SOURCE Datt, 1998

A considerable amount of literature uses state-by-state data for regressions or modeling to draw stronger conclusions about the impact of poverty reduction strategies in India. For example, the World Bank led a project to study poverty and growth using state-level data from the 1951 to 1994 NSS surveys. A number of project papers examined national trends and regional variations in growth and poverty reduction. The Bank's broad conclusion is that growth and poverty reduction went hand in hand: "By and large, the same variables determining rates of progress in reducing poverty mattered to growth in average consumption. There is no sign of trade-offs between growth and pro-poor distributional outcomes" (World Bank, 2002). They go further to suggest (more speculatively) that agricultural growth is more poverty-reducing than urban-based growth, and that migration to urban areas contributes little to reducing rural poverty. Such a finding is unsurprising, given that more than 75 percent of India's people lived in rural areas during the period studied.

Drèze and Srinivasen (2000) provide an even more disaggregated study, examining trends in rural incomes between the 1972–1973 and 1987–1988 NSS for 50 regions, mostly subdivisions of states. They come to the same broad conclusion that the decline in poverty over the period "is primarily driven by the expansion of APCE [average per-capita expenditure], with no systematic increase or decrease in inequality" (35). They also find a remarkable stability in inequality among regions over the period. While growth and intraregional inequality varied considerably, the general pattern of inequality was "remarkably stable" (39).

Drèze and Srinivasen also find several regularities in comparisons over time. Poorer regions tended to grow faster. Regions with lower initial inequality tended to grow faster than regions with high inequality—though fast-growing regions also tended to experience increasing inequality. And regions with high female labor force participation (which also tend to be poorer) also grew faster than others. On the other hand, the initial literacy rate did not correlate with growth.<sup>6</sup>

Sachs, et al. (2002) also examine state-level patterns of growth, searching for patterns to explain the geographical distribution of economic growth, though they do not link it directly to poverty reduction. They identify heavily urban areas, particularly near the coast, as the likely centers for the fastest future growth, and expect income growth to be slower in the interior and in states with poor policy or political environments. They identify Kerala, for example, as unlikely to benefit from its good educational levels and coastal location because of poor labor relations for large businesses.

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<sup>6</sup> This finding conflicts with recent intercountry research suggesting that educational inequality, rather than income inequality, provides a robust predictor of slow economic growth. See Castelló and Doménech (2002).

## Are the Poverty Data Correct?

While the poverty estimates presented here are very encouraging, we must ask whether the survey results reflect what ordinary people in India face every day. Has their material condition improved? Indian poverty statistics, in fact, have generated a number of controversies in recent years. Some would question the 1999–2000 NSS on methodological issues, arguing that it understates poverty. Others have claimed that the NSS overstates poverty for any of several reasons—because price changes are overstated, or because the survey basket has not been updated for decades, or because other evidence calls NSS results into question.<sup>7</sup> In this section we examine these issues.

### **CALORIC INTAKE**

Our first step is to compare poverty trends with another independent estimate of well-being. The most widely available statistic of this sort comes from the UN Food and Agricultural Organization (FAO). The FAO annually estimates average caloric and protein intake in all countries, based on production, trade, and inventory change estimates for all major food products. Particularly for poor countries, average caloric intake appears to be a good proxy for poverty, as the distribution of caloric intake tends to be much more equal than income or total consumption.

Figure 7 presents FAO estimates for India's caloric intake. Broadly, these estimates tell the same story as the poverty estimates. Caloric intake stagnated, or declined slightly, during the 1960s at a very low level of about 2,000 calories. Intake improved in the 1970s, experienced a sustained rise after 1980, and reached nearly 2,500 calories by the late 1990s.

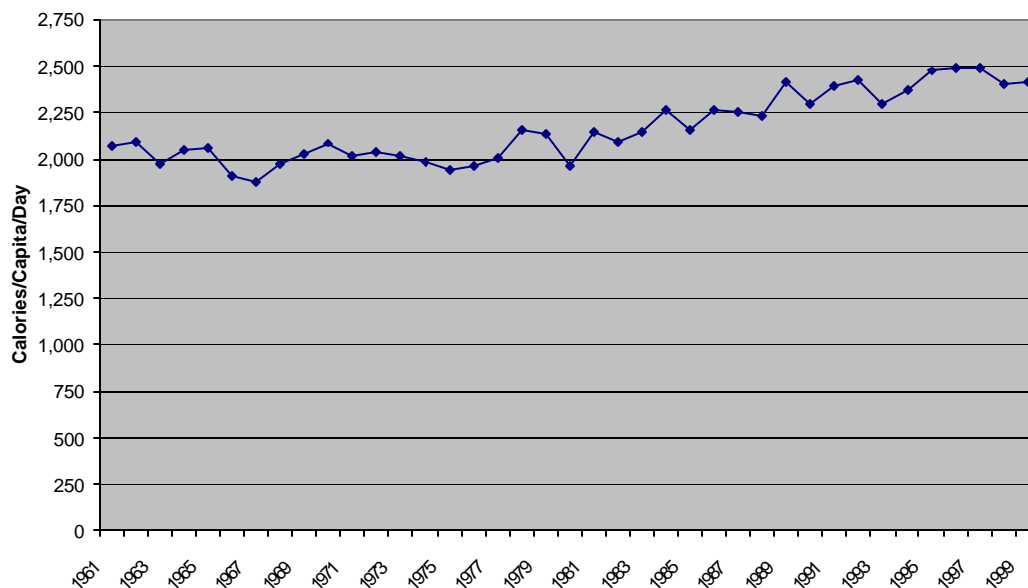
### **CONSISTENCY WITH NATIONAL ACCOUNTS OR OTHER SURVEYS**

National consumption levels implied by the NSS and estimates of consumption that come from Indian national accounts statistics have been diverging significantly in recent years. The two estimates corresponded closely in the 1950s, but consumption measured by the NSS has been steadily declining as a share of the national accounts estimate, falling to 80 percent in 1987 and to less than 50 percent in 1998. This has set off a search for the “missing” consumption or for errors in the national accounts statistics. Some of the divergence can be explained by conceptual differences, or by the tendency of the NSS to miss some consumption by the highest income households, but explanations for this discrepancy are still being sought. Another survey carried out annually by the National Centre for Applied Economic Research (NCAER) covers some of the same products as the NSS, but its results are much closer to those in the national accounts statistics (Lal, et al., 2001).

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<sup>7</sup> Much of what follows draws on papers presented at a World Bank and Indian National Planning Commission conference convened in early 2002 to analyze the statistical issues surrounding the NSS.

Figure 7  
*India: Average Caloric Intake, 1961-1999*



SOURCE FAO

## CHANGES IN CONSUMPTION PATTERNS

To ensure comparability with later surveys, the NSS has tried to maintain consistency in the basket of goods used to measure consumption and poverty. Unfortunately, this leads to a second problem: the basket of goods tends to become less representative of consumption by the poor. Over time, relative prices of different products change, and consumers change their consumption patterns in response. Such substitutions mean that price change measured with a fixed basket of goods will gradually overstate the cost of maintaining a given real level of well-being (Deaton 2000). The appearance of new goods poses an even more difficult problem.

## PRICE CHANGES

Deaton (2001) has also argued that the price series used to convert current into constant values overstates the degree of price change, particularly during the 1990s. Sen (2000) has argued the opposite, though less persuasively than Deaton.

## CHANGES IN SURVEY DESIGN

The NSS has traditionally used a “30-day recall” for most consumption items. That is, interviewees were expected to report their consumption over the past 30 days to the surveyor. Most other countries use shorter recall periods, typically 7 days. It has been established, both in India and elsewhere, that shorter recall periods produce higher estimates of consumption. More accurate recall might help reconcile the NSS estimates with those from the national accounts. The 1999-2000 NSS sought to begin addressing this concern by querying interviewees about 7-day and 30-day

consumption. It seems probable that many interviewees, faced with inconsistencies between the two estimates, reported higher 30-day consumption and lower 7-day consumption than they would have if they had been asked to report either separately. The result was a much narrower gap between the 7-day consumption and 30-day consumption than usually arose when these were surveyed separately. At present the balance of professional opinion seems to be that the conclusion of a fall in poverty from the 1999-2000 survey is correct, but that the magnitude of the decline is less than the official report.

## **SUSTAINABILITY OF POVERTY LEVELS**

A final measurement issue relates to the sustainability of the government policies at any given point in time. Governments frequently follow expansionary fiscal and monetary policies that bring temporary prosperity—and reductions in poverty—then lead to retrenchments, recessions, and increases in poverty. In the case of India, fiscal deficits became large in the last half of the 1980s. Most observers agree that the crisis of 1991 was the consequence of these policies (Bajpai 2002, 1). It can thus be argued that the measured poverty in the late 1980s was lower than “real” (or sustainable) poverty, and the higher poverty rates in the early 1990s were the price that eventually had to be paid. Obviously, such considerations make judgments about poverty trends less certain.

## Concluding Remarks

To reiterate, India’s surveys are considered of high quality for a developing country. They have been carried out for a long enough time and with enough regularity to rid them of the managerial and logistical problems that typically plague such work. Even so, poverty measurement raises numerous conundrums and presents many ambiguities. It seems clear that (1) measuring poverty over time is difficult; and that (2) poverty measurement may be too imprecise for it to be used to link poverty outcomes closely to governmental initiatives or policies in the short or medium term.

These issues of data quality imply that more attention should be paid to long-term trends than to the results of individual surveys. On this point, India’s data provide a fairly clear picture. Poverty fell little during the slow-growth period from Independence to 1974. During the faster growth periods of the 1980s and 1990s, poverty fell substantially. Statistics on average caloric intake corroborate these trends. Also, Figures 5 and 6 indicate a very strong relationship at the state level in India between average consumption and poverty. Poor states have a higher poverty rate. Finally, the myriad policies and programs in the first decades after Independence that sought to address poverty directly—by promoting small-scale agriculture and industry through regulation, or by limiting international trade to ensure adequate domestic supplies—were quite ineffective in achieving their stated purposes.

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