Poverty and Income Distribution in India

Praise for the Book

'Those of us who work on poverty today need to pause more often to recognize our debt to the cohort of Indian researchers, working in the 1960s and 1970s, who laid the conceptual foundations for poverty measurement and struggled to make sense of the data. This book achieves a dual role; it recognizes these giants of the past, and through editing and the inclusion of new papers, provides a bridge to and a handbook for the future.' Angus Deaton, winner of the Nobel Prize in Economics

'Dante famously said that there is no greater sorrow than to recall happiness in times of misery. Reading this book evokes that sense acutely because of the contrast between the dazzling past and mediocre present. This volume is a collection of reprinted essays from over four decades ago by a roll-call of luminaries, professors and practitioners, with some important updates. It shows that India was not at but was the frontier in conceptualizing, measuring, and analysing the range of issues related to income, poverty, and inequality. That we have fallen behind makes it even more important to read this treasure trove, and to act to restore the lost pre-eminence, especially of the institutions and practices of data collection and measurement. A frightening lot is at stake.' Arvind Subramanian

'As a first-year graduate student, I was foolish enough to ask my professor whether I could really aspire to be a development economist since I was not from India. This remarkable book will make clear why: the vision of development economics was largely laid down by a group of Indian economists and statisticians, led by Mahalanobis, who, in the 1960s and 1970s, seamlessly navigated the most nitty gritty measurement issues (what if surveyors lie?), the deepest philosophical problems (what is poverty?), the most fundamental statistical contributions (what is the optimal sampling method?), and the most innovative thinking on economic theory (what is a poverty trap?). Reading this book from cover to cover, you will learn not only content, but also a mode of thinking and reasoning which is economics at its best, from a group of Indian economists and statisticians who are truly the godfathers of development economics. The more recent essays show that this is not just nostalgia: it remains possible, and necessary, to embrace the problems of poverty in this versatile, non-dogmatic way.' Esther Duflo

'The previous edition of this book inspired generations of students and scholars concerned with poverty and income distribution in India. Much of it, alas, has been forgotten. This new edition, aside from refreshing our memory, takes the literature forward with a valuable set of new essays by some of India's best economists. It is a sterling contribution to the history of economic ideas as well as a robust foundation for future research in this crucial field.' Jean Drèze

'The revised edition of *Poverty and Income Distribution in India*, published in 1974, is a celebration of intellectual history and scholarship. With sample surveys now the standard method for estimating poverty, it is often forgotten that some of the pioneering work on this was done in India. The original book, a tribute to Pitambar Pant, and based on Mahalanobis's visionary work on sampling, documents the history of poverty measurement in India, with influence around the world, including the World Bank, which is now the global hub of poverty measurement. The five new chapters in this edition describe some of the work done in this field since the seventies, and makes the book stand out as a contribution to scholarship.' Kaushik Basu

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Poverty and Income Distribution in India

Revised Edition

Edited by

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To the memory of a wonderful generation of researchers on poverty, represented in this book but no longer with us, our friends, mentors and inspiration



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Preface

The re-editing of this book, originally published in 1974, is in part an act of nostalgia. The India of 1974 seems miles from the India of today. There is poverty today, but not the same sense of drowning in a rising flood of the poor. The paper by Pranab Bardhan in this volume tells us that, between 1960–61 and 1968–69, the fraction of rural population under the poverty line went up from 38 per cent to 54 per cent, that is, from 135 million people to about 230 million people.

On the other hand, which intellectual debates in India today, at least in economics, have the richness and sheer quality of the discussion that we find in this book? It is impossible not to be struck by the absence of ideological posturing and political rent-seeking in a conversation as political as one about poverty and inequality, especially from a group of people who were clearly the front-line scholars in India at that time, very much at the gates of political power, if not inside. The inevitable dryness of the material notwithstanding, the candour, the lack of pomposity, the intellectual verve and acuity, all make it a very worthwhile proposition to go back to this volume.

At the same time, it is also worth emphasizing the contemporary relevance of the book. At a time when those in power talk blithely about alternative facts and social media makes its own reality, it is extraordinarily important to underscore the value of objective and careful measurement. When, as in India these days, the representatives of the government are forced to voice their scepticism about the numbers their own statistical apparatus is producing on things as

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basic as the GDP, policymaking turns into a journey without maps and it becomes an imperative to try to recapture the spirit of a time when the best and the brightest were willing to devote themselves to the task of generating better data.

> Abhijit Vinayak Banerjee Pranab Bardhan Rohini Somanathan T.N. Srinivasan

Introduction

Abhijit Vinayak Banerjee, Pranab Bardhan, Rohini Somanathan and T.N. Sriniyasan

Poverty and Income Distribution in India was originally published in 1974 by the Statistical Publishing Society, the publishing wing of the Indian Statistical Institute (ISI). The editors, T.N. Srinivasan and Pranab Bardhan, had brought together the who's who of poverty researchers working on India to honour Pitambar Pant, a remarkable intellectual and bureaucrat who had recently passed away.

The idea of this book came to us a few years ago, when our search for the original book revealed that it had essentially vanished; out of print and missing from most library collections around the world. We decided that it would be worth putting together an updated edition.

This edition serves two distinct purposes. In part it is a handy reference. It provides insights into the many conceptual and practical problems in poverty measurement that anyone working in this area still needs to confront. Perhaps more importantly, the volume also helps redress a bias in the intellectual history of modern social sciences, which is written as the history of western social science.

India was a pioneer in large multi-purpose sample surveys. While economists in the West were working on new theoretical paradigms, some of India's best minds were leading the way on questions of how to measure and reduce poverty. Their energy, intellectual brilliance and engagement with the Indian predicament is reflected in these essays, and taken together, this body of work represents one of the very few examples in the social sciences where the research community based in India led the world.

This early analysis of poverty was made possible in large part by the efforts of P.C. Mahalanobis and his associates. This happened first at the ISI which Mahalanobis founded in 1931 and then at the National Sample Survey Organisation (NSSO), which he helped set up after Independence. Mahalanobis recognized India's unique problems in measuring and fighting poverty, problems that were no longer important in the West where extreme poverty was not part of the contemporary experience.

Several aspects of the lives of the poor made measuring their living standards a challenge. Those at the very bottom of the income distribution routinely faced hunger for months on end and made do with scraps and donations. Their consumption fluctuated and could not be captured by their income, even if this could be measured. Second, most of the poor worked in the informal sector, with intermittent employment and no record of wage payments, or were self-employed and, as a result, not paid wages at all. Estimating their income was not straightforward either. Finally, there were concerns about the ability of illiterate respondents to understand survey questions and also about the capacity to monitor surveyors working in far-flung locations.

These concerns motivated research in survey methods that could address them. From the very beginning, the work of the NSS drew heavily on theoretical results and experiments initiated at the ISI during the 1930s and 1940s. In 1946, after being admitted to the Royal Statistical Society, Mahalanobis presented a paper at a specially convened meeting of the Society entitled 'Recent Experiments

in Statistical Sampling at the Indian Statistical Institute'. This provides a summary of many of these efforts until then and ultimately concludes that the most important considerations in survey design are 'time, cost and the human agency' which have to be balanced to keep errors within permissable margins (Mahalanobis 1946).

Numerous sampling experiments have been undertaken by the NSS over the years, often in collaboration with the survey statisticians at the ISI with the goal of empirically assessing the effectiveness of different approaches in collecting the same information.² One of the most important of these experiments examined how the reliability of the response varied with the length of the recall period.³ Others focused on developing methods for collecting data on morbidity on a large scale, and in the 19th Round of the NSS there was an experiment with collecting income, savings and investment data along with the consumption data that the NSS usually collects.

At a more theoretical level, Mahalanobis came up with the idea of interpenetrating subsamples to detect and correct for non-sampling errors (think unreliable surveyors). If data was collected from two or more independent subsamples in a population, each would provide a valid and independent estimate of the population characteristic being estimated and the divergence across subsample estimates would be a measure of the error arising from sampling as well as from biases in recording and coding survey responses (Mahalanobis 1946; Lahiri 1954). Many of the essays in this volume discuss the reliability of the NSS estimates based on these interpenetrating samples. The idea of bootstrapping standard errors, now common in empirical research, was also anticipated by some work at the ISI in this period.

¹ Mahalanobis (1946)

NSSO (2004) contains a critical review of the evolution of the NSS sample design from the first (1950–51) to the 55th Round.

³ This experiment was done several times. The latest was in 2000, and NSS Report 475 published at that time summarizes the results of earlier experiments (NSS Report 475, 2000).

It is clear that the ideas coming out of the NSSO and the ISI were a major influence on the spread of survey methods across the world after 1950, and this may be the most important single example of Indian influence on the social sciences. Several authors in this volume, including the original editors, were part of the Mahalanobis circle, the group of economists and statisticians who led this revolution. Many of them were also world leaders in the area of poverty measurement, and there is a clear sense of being part of a lively and sophisticated conversation with a community of like-minded scholars. This is part of the charm of these essays.

That community is now largely forgotten. Some of its members, of course, including Amartya Sen, C. Rangarajan and the two original editors, continue to be highly visible, but many others have passed on and their work is no longer read or even remembered, partly because intellectual fashions have shifted. This book tries to reclaim that proud moment in our intellectual history.

We decided not to publish all contributions to the previous volume to make room for some additional pieces. In order to stay true to the intellectual history, we ensured that the most prominent Indian scholars of poverty and inequality in that era were represented, and in cases where two essays by the same person were available, we usually chose one. For example, we decided to retain the light piece by Ashok Rudra, because he was a much-admired scholar from this period and also because it reflects his rather unique personal style. We omitted essays that discuss data or methodological issues that are remote in today's perspective. In some cases we also chose to shorten an article by leaving out a few pages. In terms of additions, the present group of editors contributed four new pieces, while Amartya Sen was kind enough to find time to provide the fifth. These reflect on the shifts in methods and policies that have taken place in the forty years that have gone by and point to some current issues that need urgent attention.

The intellectual context of this book was provided by the remarkable fifteen-year plan of the Perspective Planning Division, prepared in 1962 under the leadership of Pitambar Pant. This is excerpted in

the opening essay in the volume, 'Perspective for Development: 1961–1976'. The inspiration of that plan and the idea that everyone ought to be guaranteed a minimum level of living is older and goes back to the Report of the National Planning Committee of 1938, written by Nehru and others. But the integration of these ideas into the planning process put a new emphasis on measuring the many aspects of people's daily lives that influenced their well-being. Such measurement formed the basis of the first attempts at policy evaluation, some of which are contained in this volume.

The historical context was the 1971 *Garibi Hatao* (banish poverty) campaign announced by Prime Minister Indira Gandhi. Under this the Indian state, probably for the first time in modern Indian history, made an explicit set of political promises to the poor. This campaign, and the rhetoric that surrounded it, set the stage for the Minimum Needs Programme that was launched during the Fifth Five-Year Plan in the 1970s. Minimum needs were defined in terms of access to several government services and explicit norms were established for the maximum distance a household would have to travel for access.

It is in the shadow of these aspirations and events that many of the essays in this volume were written.

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The volume is divided in five sections. The first, on Perspectives, provides a historical and philosophical context for poverty measurement and anti-poverty policy more generally. The papers in this section capture an important shift in attention from growth to the distribution of incomes among the poor. The second, on Data and Measurement, takes us though the various methodological issues that came up when combining available data sources to arrive at an empirical distribution of income and measures of poverty. It gives us a sense of why measuring poverty and inequality is hard. The third is on the Nature of Poverty. The papers in this section are primarily

about the lives of the poor in terms of their occupations, assets and their diets. The fourth section is on Policy, and sets out many of the ways in which experts in the field at that time were thinking about ways to fight poverty. The final section, Poverty Research Forty Years Later, is entirely new. It describes the evolution of the literature on poverty measures and redistributive policy since that time. It asks where we stand on the issues that were being discussed in the early 1970s and also reflects on new perspectives, new problems and new insights.

The Perspectives section contains two pieces: the first, 'Perspective for Development: 1961-1976' is, as already mentioned, excerpted from a longer Planning Commission document prepared under the leadership of Pitambar Pant in 1962. It is the closest thing we have to the perspective of the state, an attempt to connect the planning process that guided state policy at that time, to the ideal of a minimum standard of living as envisaged by the National Planning Committee of 1938. Conceptually it divided the population into two groups—the top 80 per cent of income earners who were integrated well enough with the production process to benefit from higher growth, and the other 20 per cent who were inadequately connected for reasons specific to their personal circumstances (the proverbial widows and orphans, disabled and those living in remote areas) and need transfers to meet their minimum needs. The authors then asked what rates of GDP growth must be to allow the first group to meet their needs through higher incomes and the second group to receive transfers that provide an acceptable standard of living in 1976. The essay concludes that a 7 per cent growth rate would be necessary over the fifteen-year period.

The bluntness of the admission that the bottom two deciles were, at least for the time being, not in a position to benefit from growth, reflects a political climate in which such candour was possible. It is a sharp contrast with the position of growth advocates in the more recent era who predict benefits for all. Most policy shifts create winners and losers, at least in relative terms, and being able to talk

about that openly has to be an advantage, since it acknowledges the need to compensate losers.

Interestingly, the essay is silent on norms and obligations for public service delivery. These became a central part of plan documents starting in the mid-1970s. The one exception to this is education, which is acknowledged as a right for the 6–14 age group and should be universally provided. Beyond this level, education is treated as an investment, to be provided based on the demands for skills that emerge from the growth experience. There is no mention of health care or other investments in human capital. This is another contrast with the later discourse.

Yet, the general idea of thinking about health and particularly nutrition as an investment is very much a part of the conversation. For several scholars in this volume, consumption at the poverty line must allow an individual access to sufficient calories and other inputs for high productivity performance. This pushes towards poverty as an objective fact. But there are others represented here who are keenly aware of the subjectivity and essential arbitrariness of any definition of who is poor. For the former group, the actual level of poverty informs our potential to be productive. For the latter the poverty line is just a tool that allows welfare comparisons across locations and time. The difference between these two perspectives and the occasional conflicts between them are very much part of the interest of this book.

The essay by Amartya Sen, 'Poverty, Inequality and Unemployment: Some Conceptual Issues with Measurement,' examines the justifications behind the use of standard poverty measures within the general welfare approach. He starts by asking whether inequality can be an index of welfare, or more specifically the conditions under which the Gini coefficient of income can be interpreted as a measure of welfare. The connection with growth is explicitly suppressed, since the comparison is of two economies with the same per capita GDP.

The logic behind the welfare interpretation of the Gini coefficient, which involves assigning higher values to an additional rupee at lower

levels of income, leads quite naturally to a welfare-based model of poverty, where any income growth for those already above the poverty line is not valued at all. That measure, also discussed here, turns out to be the hugely influential Sen P measure.

Finally, the essay also hints at a thought that Sen went on to develop over the next decade, the idea that well-being is ultimately about freedom and not about income per se. Many desirable outcomes, like access to education and good health, are not valued in standard measures of income. These ideas obviously have a close connection to the conceptual frame behind the Minimum Needs Programme.

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The opening piece of the section on Data and Measurement, by Pranab Bardhan, brings together his thinking about the various challenges in the measurement of poverty. In the process he reacts to the ongoing work of many authors in this book, but also summarizes his own research in the area and highlights some of his positions at that time. Not surprisingly, what we say in this brief introductory essay tends to be heavily influenced by Bardhan's much longer and more detailed piece.

Bardhan starts with a discussion of disaggregated income data, but he clearly favours consumption data for poverty measurement. There are three main issues with using consumption data—the quality of the original consumption data, the appropriate prices for turning the raw consumption data (so much of rice, so much of potatoes, etc.) into amounts of money, and the right notion of a poverty line.

His first concern with the fact that the two main consumption data sources from the NSSO and the National Council of Applied Economic Research (NCAER) don't match up with each other; he suggests two reasons why this might be the case. First, the NCAER deliberately oversamples the rich in order to compensate for the difficulties of getting the rich to respond to surveys. So the NSS is missing more of the rich, though he observes that even the NCAER

survey does not capture the ultra-rich at the time (those with annual incomes greater than Rs 1,00,000). Second, the NSS distinguishes cash purchases and consumption out of own production, and uses the actual local prices for the former but the farm wholesale prices for the latter, while the NCAER uses the wholesale prices for all consumption. Since the first issue does not affect poverty outcomes and the NSS seems to have the better methodology for the prices, this supports favouring the NSS, which is also the larger and more representative survey.

The more difficult issue is the divergence between consumption aggregates constructed from the Central Statistical Organisation's (CSO) National Accounts and the NSS. At this time the divergence was about 12 per cent. Bardhan makes a number of points that are similar to those made in the next piece by M. Mukherjee and G.S. Chatterjee which is directly focused on the data divergence issue. In fact this is a project that they had initiated in a previous work that they are updating here. As they point out, there are many arbitrary assumptions that go into each of these constructs, so it is not clear how much either of them can validate the other. Indeed, the CSO itself used to put two alternative series for aggregate consumption (one original and one revised) that have a margin of error comparable to that between the National Accounts and the NSS. In particular NSS consumption includes neither imputed rental incomes from real estate, nor government consumption. However, even after making (ad hoc) adjustments for these, the match between the two series is imperfect, with the NSS being somewhat lower starting in the early 1960s.

Mukherjee and Chatterjee suggest that one possible source of the difference may lie in the fact that the NSS data comes from consumption which typically lags behind production, which is what the CSO data comes from. Lagging the CSO data by six months behind the NSS data does help in closing the gap, though one worries that this is somewhat mechanical given that we are comparing two series that are both going up.

The paper by T.N. Srinivasan, P.N. Radhakrishnan and A. Vaidyanathan is also about this divergence. They take it as a fact that these two series are more or less the same at the aggregate level, to make the point that this similarity masks many sharp inconsistencies at the more micro level and that it is not clear why they should wash out. For example, in 1957–58 cereal consumption, which is a large part of the budget of most people, was 16 per cent higher in the NSS than in the CSO data on availability, but meat, fish and eggs were 10 per cent lower, and milk was an unbelievable 52 per cent lower. The same kinds of differences show up in other years as well.

One possible reaction to this kind of evidence is to dismiss the NSS as a useful data source. For example, two prominent researchers from this period, V.M. Dandekar and N. Rath, argued for rejecting the 1967–68 NSS data on the grounds that it shows that both per capita consumption and the consumption of the rich fell between 1960–61 and 1967–68. Srinivasan, Radhakrishnan and Vaidyanathan point out that the fall in average consumption is in fact also in the GDP data and the only reason Dandekar and Rath don't find it is because they use the GDP deflator, which also includes prices of investment goods, rather than a consumption-focused price index. On the claim about the consumption of the rich, the authors take the view that it is unreasonable to privilege, as Dandekar and Rath seem to be doing, a theoretical claim about the inevitability of increases in inequality over what the data is actually saying.

Bardhan agrees and goes a step further by emphasizing that the GDP data itself is often based on large amounts of pure guesswork and therefore there is no reason to assume that the problem lies with the NSS.

The second issue that Bardhan takes on is the question of the appropriate price index. He argues strongly for using the Consumer Price Index for Agricultural Labourers (CPIAL) for rural consumers and the Consumer Price Index for Industrial Workers (CPIIW) for the urban population, at least for the purposes of poverty measurement. This is in part a result of his own research where he

compares the trends in the CPIAL with the retail prices reported in the NSS as well as the all-India wholesale price series and finds a comforting degree of similarity.

The final measurement issue has to do with the choice of the poverty line. Bardhan is very clear that we do need a poverty line and inequality per se is not the only metric of interest. But he is somewhat sceptical of our ability to come up with an objective poverty line. In particular he observes that even if we could agree on some minimum expenditure level that would allow a family to sustain a specific nutritionally acceptable level of consumption, there is no guarantee that people will actually purchase the recommended package. Would it therefore make sense to make an allowance in the calculation, for the possibility of this kind of human errors? This is reminiscent of the recent discussion of how to do welfare economics when consumers make mistakes or behave inconsistently.

Given his position that all poverty lines are more or less arbitrary, Bardhan, in a paper in the *Economic & Political Weekly* (3 February 1973), which is briefly summarized in this essay, constructs a relatively low poverty line of Rs 14 per capita per month, based on the recommendations of the Central Government Employees Pay Commission. The point in part is to demonstrate that even with such a low poverty line, poverty went up during the 1960–61 to 1968–69 period.

However, many scholars, including Ashok Rudra, who was in fact a friend and collaborator of both Bardhan and Srinivasan, felt that such a low poverty line was morally and politically unacceptable, even to make a debating point, because it ends up normalizing starvation. The piece by Rudra in this volume on 'Minimum Level of Living: A Statistical Examination' argues that norms by N.V. Patwardhan (2,100 calories and 55 grams of protein) that went into the Pay Commission recommendation used by Bardhan are simply too low. He argues for using the substantially higher calorie and protein consumption norms developed by Sukhatme (2,370 calories a day and 65 grams of protein) in 1965.